

QC157.L37 1980x
C. I

LASL SHOCK HUGONIOT DATA

SCANNED JAN 29 1999

LOS ALAMOS NATIONAL LABORATORY



3 9338 00328 8650

LOS ALAMOS SERIES ON DYNAMIC MATERIAL PROPERTIES

LASL DATA CENTER FOR DYNAMIC MATERIAL PROPERTIES

TECHNICAL COMMITTEE

Charles L. Mader	Program Manager
Terry R. Gibbs	Explosive Data Editor
John W. Hopson, Jr.	Shock Wave Profile Editor
Stanley P. Marsh	Equation of State Editor
Alphonse Popolato	Explosive Data Editor
Martha S. Hoyt	Computer Applications Analyst
Kasha V. Thayer	Technical Editor

John F. Barnes
Bobby G. Craig
William E. Deal, Jr.
Richard D. Dick
James N. Johnson
Elizabeth Marshall
Charles E. Morris
Timothy R. Neal
Suzanne W. Peterson
Raymond N. Rogers
Melvin T. Thieme
Jerry D. Wackerle
John M. Walsh



LASL SHOCK HUGONIOT DATA

Stanley P. Marsh
Editor

UNIVERSITY OF CALIFORNIA PRESS
Berkeley · Los Angeles · London

University of California Press
Berkeley and Los Angeles, California

University of California Press, Ltd.
London, England

Copyright © 1980 by
The Regents of the University of California

ISBN 0-520-04008-2
Series ISBN: 0-520-04007-4
Library of Congress Catalog Card Number: 79-65760
Printed in the United States of America

1 2 3 4 5 6 7 8 9

CONTENTS

INTRODUCTION	1
REFERENCES	6
ELEMENTS	13
ANTIMONY	14
ANTIMONY, fine-grain, chill-cast	15
ARGON, liquid	16
ARGON, liquid, Reflected-shock data	17
ARGON, solid, $T_0 = 75$ K	18
BARIUM	19
BERYLLIUM, sintered	21
BISMUTH	23
BORON	24
CADMIUM	25
CALCIUM	26
CARBON, diamond, pressed	28
CARBON, fibers woven three-dimensionally	29
CARBON, foamed, $\rho_0 = 0.56$ g/cm ³	30
CARBON, foamed, $\rho_0 = 0.48$ g/cm ³	32
CARBON, foamed, $\rho_0 = 0.32$ g/cm ³	33
CARBON, foamed, $\rho_0 = 0.29$ g/cm ³	34
CARBON, foamed, $\rho_0 = 0.27$ g/cm ³	35
CARBON, graphite, powdered, unpressed	36
CARBON, graphite, pyrolytic, $\rho_0 = 2.21$ g/cm ³	37
CARBON, graphite, pressed, $\rho_0 = 2.13$ g/cm ³	39
CARBON, graphite, pressed, $\rho_0 = 2.03$ g/cm ³	40
CARBON, graphite, ZTA, $\rho_0 = 1.95$ g/cm ³	41

CONTENTS

CARBON, graphite, pressed, $\rho_0 = 1.93 \text{ g/cm}^3$	43
CARBON, graphite, pressed, $\rho_0 = 1.88 \text{ g/cm}^3$	44
CARBON, graphite, ATJ, $\rho_0 = 1.77 \text{ g/cm}^3$	45
CARBON, graphite, PT 0178, $\rho_0 = 1.54 \text{ g/cm}^3$	47
CARBON, graphite, $\rho_0 = 1.0 \text{ g/cm}^3$	48
CARBON, vitreous	50
CERIUM	52
CESIUM	54
CHROMIUM	55
COBALT	56
COPPER	57
COPPER, powdered, unpressed	61
COPPER, sintered, $\rho_0 = 7.9 \text{ g/cm}^3$	62
COPPER, sintered, $\rho_0 = 7.3 \text{ g/cm}^3$	63
COPPER, sintered, $\rho_0 = 6.3 \text{ g/cm}^3$	64
COPPER, sintered, $\rho_0 = 5.7 \text{ g/cm}^3$	65
COPPER, sintered, $\rho_0 = 4.5 \text{ g/cm}^3$	66
DEUTERIUM, liquid, $T_0 = 20 \text{ K}$	67
DEUTERIUM, liquid, $T_0 = 20 \text{ K}$, Reflected-shock data	68
DYSPROSIUM	69
ERBIUM	71
ERBIUM, cold-pressed, $\rho_0 = 8.3 \text{ g/cm}^3$	73
ERBIUM, cold-pressed, $\rho_0 = 7.8 \text{ g/cm}^3$	74
ERBIUM, cold-pressed, $\rho_0 = 7.2 \text{ g/cm}^3$	75
EUROPIUM	76
GADOLINIUM	77
GERMANIUM	79
GOLD	81
HAFNIUM	82
HOLMIUM	84
HYDROGEN, liquid, $T_0 = 20 \text{ K}$	85
HYDROGEN, liquid, $T_0 = 20 \text{ K}$, Reflected-shock data	86
INDIUM	87
IRIDIUM	88
IRON	89
IRON, sintered, $\rho_0 = 7.0 \text{ g/cm}^3$	93
IRON, sintered, $\rho_0 = 6.0 \text{ g/cm}^3$	95
IRON, sintered, $\rho_0 = 4.7 \text{ g/cm}^3$	96
IRON, sintered, $\rho_0 = 3.4 \text{ g/cm}^3$	97
LANTHANUM	98
LEAD	100
LEAD, powdered, unpressed	103

CONTENTS

LITHIUM	104
MAGNESIUM	105
MERCURY	107
MOLYBDENUM	108
NEODYMIUM	110
NICKEL	111
NIOBIUM	112
NITROGEN, liquid, $T_0 = 75$ K	113
OXYGEN, liquid	115
OXYGEN, liquid, Reflected-shock data	116
PALLADIUM	118
PLATINUM	119
POTASSIUM	121
PRASEODYMIUM	122
RHENIUM, $\rho_0 = 21.0$ g/cm ³	124
RHENIUM, $\rho_0 = 20.5$ g/cm ³	125
RHODIUM	126
RUBIDIUM	127
SAMARIUM	128
SCANDIUM	130
SILVER	131
SODIUM	132
STRONTIUM	133
SULFUR, rhombic	135
TANTALUM	136
TERBIUM	137
THALLIUM	138
THORIUM	139
THULIUM	140
TIN	141
TITANIUM	143
TUNGSTEN, $\rho_0 = 19.2$ g/cm ³	145
TUNGSTEN, $\rho_0 = 18.7$ g/cm ³	147
URANIUM	148
VANADIUM	152
YTTERBIUM	153
YTTRIUM	155
ZINC	156
ZIRCONIUM	158
 ALLOYS	 161
ALUMINUM, 921T	162
ALUMINUM, 1100	165

CONTENTS

ALUMINUM, 2024	166
ALUMINUM, 2024, sintered, $\rho_0 = 2.6 \text{ g/cm}^3$	173
ALUMINUM, 2024, sintered, $\rho_0 = 2.2 \text{ g/cm}^3$	175
ALUMINUM, 2024, sintered, $\rho_0 = 2.0 \text{ g/cm}^3$	177
ALUMINUM, 2024, sintered, $\rho_0 = 1.7 \text{ g/cm}^3$	179
ALUMINUM, 3003	181
ALUMINUM, 6061	182
ALUMINUM, 7075	184
BRASS, free-machining, high-leaded	
61.5/36.0/2.5 wt% Cu/Zn/Pb	186
BRASS, muntz metal	
60.6/39.3 wt% Cu/Zn	188
GOLD-5.8 wt% GERMANIUM	189
GOLD-7.9 wt% GERMANIUM	190
GOLD-9.3 wt% GERMANIUM	191
GOLD-20.6 wt% LEAD	192
GOLD-33.5 wt% LEAD	193
IRON, cast	194
IRON-40.0 wt% COBALT	195
IRON-10.0 wt% NICKEL	197
IRON-17.9 wt% NICKEL	198
IRON-26.2 wt% NICKEL	199
IRON-2.9 wt% SILICON	200
IRON-3.8 wt% SILICON	201
IRON-4.6 wt% SILICON	202
IRON-6.9 wt% SILICON	203
IRON-20 wt% SILICON	204
IRON-25 wt% SILICON	205
IRON-10.0 wt% VANADIUM	206
MAGNESIUM, AZ31B	208
MAGNESIUM-14 wt% Li-1 wt% Al	211
STEEL, 304	212
STEEL, 304, ferritic phase	213
STEEL, 304L	214
STEEL, 347	215
STEEL, 348	217
STEEL, maraging, Almar	218
STEEL, maraging, HP 9-4-20	219
STEEL, maraging, Vascomax 250	220
STEEL, maraging, Vascomax 300	221
TUNGSTEN CARBIDE-5 wt% COBALT	222
URANIUM-2.0 wt% MOLYBDENUM	223
URANIUM-3.0 wt% MOLYBDENUM	224
URANIUM-8.3 wt% MOLYBDENUM	227

CONTENTS

URANIUM-4.7 wt% NIOBIUM	228
URANIUM-6.0 wt% NIOBIUM	229
URANIUM-1.0 wt% RHODIUM	230
URANIUM-5.4 wt% RHODIUM	232
URANIUM-13.4 wt% RHODIUM	233
URANIUM-0.6 wt% TITANIUM	235
URANIUM-2.5 wt% Nb-1.3 wt% Ti	236
 MINERALS AND COMPOUNDS	 237
ANDALUSITE, chiastolite, South Australia	238
ANTHRACENE, reagent-grade, polycrystalline, pressed	239
BARIUM TITANATE	240
BERYLLIUM OXIDE, $\rho_0 = 3.0 \text{ g/cm}^3$	241
BERYLLIUM OXIDE, $\rho_0 = 2.8 \text{ g/cm}^3$	242
BERYLLIUM OXIDE, $\rho_0 = 2.4 \text{ g/cm}^3$	243
BORIC ACID	244
BORON CARBIDE, $\rho_0 = 2.4 \text{ g/cm}^3$	245
BORON CARBIDE, $\rho_0 = 1.9 \text{ g/cm}^3$	246
BORON NITRIDE, pressed, $\rho_0 = 2.15 \text{ g/cm}^3$	247
BORON NITRIDE, pressed, $\rho_0 = 2.12 \text{ g/cm}^3$	248
BORON NITRIDE, pressed, $\rho_0 = 2.08 \text{ g/cm}^3$	249
BORON NITRIDE, pressed, $\rho_0 = 1.95 \text{ g/cm}^3$	251
BORON NITRIDE, pressed, $\rho_0 = 1.88 \text{ g/cm}^3$	252
BORON NITRIDE, pressed, $\rho_0 = 1.81 \text{ g/cm}^3$	253
CALCIUM OXIDE, pressed	254
CASSITERITE, San Luis Potosí, Mexico	255
CERIUM OXIDE, powdered, unpressed	256
CESIUM BROMIDE, single-crystal, [100]	257
CESIUM FLUORIDE, single-crystal, [100]	258
CESIUM IODIDE, single-crystal, [100]	259
CORUNDUM	260
CORUNDUM, ceramic, $\rho_0 = 3.83 \text{ g/cm}^3$	262
CORUNDUM, ceramic, $\rho_0 = 3.74 \text{ g/cm}^3$	263
ENSTATITE, ceramic, $\rho_0 = 3.01 \text{ g/cm}^3$	264
ENSTATITE, ceramic, $\rho_0 = 2.95 \text{ g/cm}^3$	266
ENSTATITE, ceramic, $\rho_0 = 2.83 \text{ g/cm}^3$	267
ENSTATITE, ceramic, $\rho_0 = 2.76 \text{ g/cm}^3$	268
ENSTATITE, ceramic, $\rho_0 = 2.71 \text{ g/cm}^3$	269
FAYALITE, Rockport, Massachusetts	270
FORSTERITE, ceramic, $\rho_0 = 3.20 \text{ g/cm}^3$	271
FORSTERITE, ceramic, $\rho_0 = 3.06 \text{ g/cm}^3$	273
GARNET, grossularite	274
HAFNIUM TITANATE, $\rho_0 = 6.93 \text{ g/cm}^3$	275

CONTENTS

HAFNIUM TITANATE, $\rho_0 = 5.60 \text{ g/cm}^3$	276
HAFNIUM TITANATE, $\rho_0 = 4.37 \text{ g/cm}^3$	277
HEMATITE	278
ILMENITE, Kragerø, Norway	279
IRON MAGNESIUM OXIDE, $\text{Fe}_{90}, \text{Mg}_{10}\text{O}$	280
KYANITE, ceramic, $\rho_0 = 3.6 \text{ g/cm}^3$	281
KYANITE, ceramic, $\rho_0 = 2.9 \text{ g/cm}^3$	282
LEAD ZIRCONIUM TITANATE, PZT	283
LITHIUM BROMIDE, single-crystal, [100]	284
LITHIUM CHLORIDE, single-crystal, [100]	285
LITHIUM DEUTERIDE, pressed	286
LITHIUM DEUTERIDE, single-crystal	287
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.80 \text{ g/cm}^3$	288
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.76 \text{ g/cm}^3$	289
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.74 \text{ g/cm}^3$	291
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.66 \text{ g/cm}^3$	292
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.58 \text{ g/cm}^3$	293
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.51 \text{ g/cm}^3$	294
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.45 \text{ g/cm}^3$	295
LITHIUM FLUORIDE, single-crystal, [100]	296
LITHIUM HYDRIDE, single-crystal and pressed	298
LITHIUM-6 HYDRIDE, pressed	300
MAGNETITE	301
MULLITE, ceramic, $\rho_0 = 3.15 \text{ g/cm}^3$	303
MULLITE, ceramic, $\rho_0 = 2.67 \text{ g/cm}^3$	304
NIOBIUM CARBIDE, $\rho_0 = 7.5 \text{ g/cm}^3$	305
NIOBIUM CARBIDE, $\rho_0 = 7.2 \text{ g/cm}^3$	306
OLIVINE	307
PERICLASE, ceramic, $\rho_0 = 3.34 \text{ g/cm}^3$	308
PERICLASE, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$	310
PERICLASE, ceramic, $\rho_0 = 2.8 \text{ g/cm}^3$	311
PERICLASE, single-crystal	312
PHENANTHRENE, reagent-grade, polycrystalline, pressed	314
POTASSIUM BROMIDE, single-crystal, [100]	315
PYRENE, reagent-grade, polycrystalline, pressed	316
PYROLUSITE, Ironton, Minnesota	317
QUARTZ, ceramic, $\rho_0 = 2.1 \text{ g/cm}^3$	318
QUARTZ, ceramic, $\rho_0 = 1.9 \text{ g/cm}^3$	319
QUARTZ, fused	321
QUARTZ, single-crystal	324
QUARTZ, spun	325
RUTILE	326
SERPENTINE, Ver-myen, Italy	327
SILICON CARBIDE, $\rho_0 = 3.1 \text{ g/cm}^3$	328

CONTENTS

SILICON CARBIDE, $\rho_0 = 3.0 \text{ g/cm}^3$	329
SILICON CARBIDE, $\rho_0 = 2.3 \text{ g/cm}^3$	330
SILLIMANITE, Dillon, Montana	331
SODIUM CHLORIDE, powdered, unpressed	332
SODIUM CHLORIDE, pressed	333
SODIUM CHLORIDE, single-crystal, [100]	335
SODIUM CHLORIDE, single-crystal, [110]	339
SODIUM CHLORIDE, single-crystal, [111]	340
SODIUM FLUORIDE, single-crystal, [110]	343
SPINEL, ceramic, $\rho_0 = 3.48 \text{ g/cm}^3$	344
SPINEL, ceramic, $\rho_0 = 3.42 \text{ g/cm}^3$	345
SPINEL, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$	347
SPINEL, hot-pressed	348
SPINEL, single-crystal	349
TANTALUM CARBIDE, $\rho_0 = 14.1 \text{ g/cm}^3$	350
TANTALUM CARBIDE, $\rho_0 = 12.6 \text{ g/cm}^3$	351
TITANIUM CARBIDE	352
TITANIUM DIBORIDE	354
TOURMALINE	355
URANIUM DIOXIDE, $\rho_0 = 10.3 \text{ g/cm}^3$	356
URANIUM DIOXIDE, $\rho_0 = 6.3 \text{ g/cm}^3$	357
URANIUM DIOXIDE, $\rho_0 = 4.3 \text{ g/cm}^3$	358
URANIUM DIOXIDE, $\rho_0 = 3.1 \text{ g/cm}^3$	359
URANIUM HYDRIDE	360
WOLLASTONITE, $\rho_0 = 2.89 \text{ g/cm}^3$	361
WOLLASTONITE, $\rho_0 = 2.82 \text{ g/cm}^3$	362
ZIRCONIUM DIBORIDE	363
ZIRCONIUM DIOXIDE	364
 ROCKS AND MIXTURES OF MINERALS	 365
ALBITITE, Sylmar, Pennsylvania	366
ALLUVIUM, Nevada Test Site, $\rho_0 = 1.80 \text{ g/cm}^3$	367
ALLUVIUM, Nevada Test Site, $\rho_0 = 1.54 \text{ g/cm}^3$	368
ANORTHOSITE, Tahawus, New York	369
BRONZITITE, Bushveld Complex, Transvaal	370
BRONZITITE, Stillwater Complex, Montana	371
CORUNDUM MIXTURE 85.2/9.7/2.7/2.4 wt% $\text{Al}_2\text{O}_3/\text{SiO}_2/\text{MgO}/\text{CaO}\text{-BaO}$	373
DIABASE, Centreville, Virginia	374
DIABASE, Frederick, Maryland	375
DUNITE, Jackson County, North Carolina	376
DUNITE, Mooihoek Mine, Transvaal	378
DUNITE, Twin Sisters Peaks, Washington	380

CONTENTS

ECLOGITE, Healdsburg, California	382
ECLOGITE, Sunnmore, Norway	384
GABRO, Bytownite, Duluth, Minnesota	386
GABRO, San Marcos, Escondido, California	387
GAS SHALE, Devonian, Lincoln County, West Virginia	388
GLASS, high-density, Nuclear Pacific x-ray plate	392
GLASS, high-density, Shott Optical Company	393
GLASS, Pyrex	394
GRANITE, Westerly, Rhode Island	395
JADEITE, Burma	396
OIL SHALE, Green River, Rifle, Colorado	397
PERICLASE MIXTURE	
50/50 mol% MgO/Al ₂ O ₃	400
PERICLASE MIXTURE	
50/50 mol% MgO/fused SiO ₂	401
PERICLASE MIXTURE, $\rho_0 = 1.89 \text{ g/cm}^3$	
67/33 mol% MgO/fused SiO ₂	402
PERICLASE MIXTURE, $\rho_0 = 1.69 \text{ g/cm}^3$	
67/33 mol% MgO/fused SiO ₂	403
TUFF, Nevada Test Site, $\rho_0 = 1.7 \text{ g/cm}^3$	404
TUFF, Nevada Test Site, $\rho_0 = 1.3 \text{ g/cm}^3$	406
TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.9 \text{ g/cm}^3$	408
TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.7 \text{ g/cm}^3$	410
TUFF, unpressed powder	411
PLASTICS	413
ADIPRENE	414
CELLULOSE ACETATE	415
EPOXY, Epon 828	417
ESTANE	420
MELMAC	421
MICARTA	422
NEOPRENE	423
PARAFFIN	424
PHENOLIC, Durite HR 300	426
PHENOLIC, furfural-filled	428
PHENOXY, PRDA 8060	429
POLYAMIDE, Nylon	430
POLYCARBONATE, Lexan and Merlon	432
POLYCHLOROTRIFLUOROETHYLENE, Kel F	434
POLYESTER, Clear Cast, Selectron	436
POLYESTER, fiber-glass reinforced, Doron	438
POLYETHYLENE	439
POLYETHYLENE, high-density, Marlex EMN 6065	441

CONTENTS

POLYETHYLENE, high-density, Marlex 50	442
POLYIMIDE	444
POLYMETHYL METHACRYLATE, acrylic, Plexiglas	446
POLYPHENYLQUINOXALINE	452
POLYPROPYLENE	454
POLYSTYRENE, foamed	456
POLYSTYRENE, foamed, pressed, $\rho_0 = 0.30 \text{ g/cm}^3$	458
POLYSTYRENE, foamed, pressed, $\rho_0 = 0.20 \text{ g/cm}^3$	459
POLYSTYRENE, foamed, pressed, $\rho_0 = 0.15 \text{ g/cm}^3$	460
POLYSTYRENE, foamed, pressed, $\rho_0 = 0.10 \text{ g/cm}^3$	461
POLYSTYRENE, foamed, pressed, $\rho_0 = 0.08 \text{ g/cm}^3$	462
POLYSTYRENE, Styrolux	463
POLYSULFONE	465
POLYTETRAFLUOROETHYLENE, Teflon	467
POLYURETHANE	469
POLYURETHANE, foamed, $\rho_0 = 0.32 \text{ g/cm}^3$	471
POLYURETHANE, foamed, $\rho_0 = 0.28 \text{ g/cm}^3$	472
POLYURETHANE, foamed, $\rho_0 = 0.16 \text{ g/cm}^3$	473
POLYURETHANE, foamed, $\rho_0 = 0.09 \text{ g/cm}^3$	474
POLYVINYL CHLORIDE, Boltron	475
POLYVINYLDENE FLUORIDE, Kynar	477
POLY 4-METHYL-1-PENTENE, TPX	479
RUBBER, Silastic, RTV-521	481
SYLGARD	482
 OTHER SYNTHETICS	 483
COPPER-27.2 wt% BORON CARBIDE	484
COPPER OXIDE-56 wt% EPOXY	485
EPOXY-40 vol% CORUNDUM	486
EPOXY-40 vol% ENSTATITE	487
EPOXY-40 vol% FORSTERITE, $\rho_0 = 2.2 \text{ g/cm}^3$	488
EPOXY-40 vol% FORSTERITE, $\rho_0 = 2.0 \text{ g/cm}^3$	489
EPOXY-40 vol% PERICLASE	490
EPOXY-40 vol% QUARTZ	491
EPOXY-40 vol% SPINEL	493
EPOXY-40 vol% WOLLASTONITE	494
EPOXY-71 wt% LITHIUM ALUMINUM SILICATE	495
EPOXY-90 wt% LITHIUM TETRABORATE	496
NIOBIUM CARBIDE-50 wt% CARBON	497
NIOBIUM CARBIDE-70 wt% CARBON	498
PARAFFIN-81.3 wt% ALPHA QUARTZ	499
PARAFFIN-65.6 wt% CORUNDUM	500
PARAFFIN-80.2 wt% ENSTATITE	501
PARAFFIN-85.3 wt% FORSTERITE	502

CONTENTS

PARAFFIN-61.0 wt% HEMATITE	503
PARAFFIN-84.2 wt% PERICLASE	504
PHENOLIC REFRASIL, low-density phenolic, GE M-3057	505
PHENOLIC REFRASIL, McDonnell-Douglas	506
PHENOLIC REFRASIL, multiple-warp, GE 2B-3057	507
PHENOLIC REFRASIL, one-dimensional weave, Avco	508
PYENOLIC REFRASIL, three-dimensional weave, Avco	509
POLYURETHANE, FOAMED-50 wt% LITHIUM	
ALUMINUM SILICATE	510
SILICON CARBIDE-50 wt% CARBON	511
SILICON CARBIDE-80 wt% CARBON	513
SILICON NITRIDE-5 wt% PERICLASE	514
TANTALUM CARBIDE-70 wt% CARBON, $\rho_0 = 4.4 \text{ g/cm}^3$	515
TANTALUM CARBIDE-70 wt% CARBON, $\rho_0 = 2.0 \text{ g/cm}^3$	516
TANTALUM CARBIDE-85 wt% CARBON, $\rho_0 = 1.9 \text{ g/cm}^3$	517
TANTALUM CARBIDE-85 wt% CARBON, $\rho_0 = 1.8 \text{ g/cm}^3$	518
TITANIUM CARBIDE-50 wt% CARBON	519
TITANIUM CARBIDE-80 wt% CARBON	521
TUNGSTEN, SINTERED-24 wt% INFILTRATED COPPER, Elkonite 10W3	523
TUNGSTEN, SINTERED-32 wt% INFILTRATED COPPER, Elkonite 3W3	524
TUNGSTEN, SINTERED-45 wt% INFILTRATED COPPER, Elkonite 1W3	525
TUNGSTEN, SINTERED-75 wt% INFILTRATED COPPER, Elkonite 2125C	526
TUNGSTEN CARBIDE, SINTERED-44 wt% INFILTRATED COPPER, Elkonite TC10	527
TUNGSTEN CARBIDE, SINTERED-60 wt% INFILTRATED SILVER, Elkonite G-12	528
 WOODS	 529
BALSA	530
BIRCH	532
CHERRY, $\rho_0 = 0.60 \text{ g/cm}^3$	533
CHERRY, $\rho_0 = 0.51 \text{ g/cm}^3$	534
FIR, Douglas	535
FIR, white	536
MAHOGANY, Honduras	537
MAHOGANY, Philippine	538
MAPLE	539
OAK, white	540
PINE, sugar	541
WALNUT	542

CONTENTS

ZINC CHLORIDE, 6.2 molar aqueous solution	586
ZINC CHLORIDE, 6.2 molar aqueous solution, Reflected-shock data	587
ZINC CHLORIDE, 4.3 molar aqueous solution	588
ZINC CHLORIDE, 4.3 molar aqueous solution, Reflected-shock data	589
HIGH EXPLOSIVES, HIGH-EXPLOSIVE SIMULANTS, AND PROPELLANTS	591
BARATOL, barium nitrate-24 wt% TNT	592
COMPOSITION B, RDX-36 wt% TNT-1 wt% wax	593
FKM PROPELLANT	594
HMX, single-crystal	595
HMX, solvent-pressed	596
HMX-40 wt% TATB-10 wt% Kel F 800	597
LX-04, HMX-15 wt% Viton, solvent-pressed, fine-grain HMX	598
NITROMETHANE	599
NQ, commercial-grain	600
NQ, 1964 commercial-grain	601
NQ-2 wt% B square wax-2 wt% Elvax, large-grain NQ	602
NQ-5 wt% Estane, 1968 commercial-grain NQ, $\rho_0 = 1.70 \text{ g/cm}^3$	603
NQ-5 wt% Estane, 1968 commercial-grain NQ, $\rho_0 = 1.66 \text{ g/cm}^3$	604
NQ-5 wt% Estane, 1968 large-grain NQ	605
NQ-10 wt% Estane, commercial-grain NQ	606
NQ-10 wt% Estane, large-grain NQ	607
PBX 9011-06, HMX-10 wt% Estane	608
PBX 9404 DENSITY MOCKUP, 900-10	609
PBX 9404 NEUTRONIC MOCKUP, 905-03	610
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF, $\rho_0 = 1.84 \text{ g/cm}^3$	611
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF, $\rho_0 = 1.72 \text{ g/cm}^3$	613
PBX 9405-01, RDX-3 wt% NC-3 wt% CEF	614
PBX 9407, 94/6 wt% RDX/Exon	615
PBX 9501-01, HMX-2.5 wt% Estane-2.5 wt% BDNPF BDNPF-bisdinitropropyl formal	616
PBX 9502, TATB-5 wt% Kel F 800, Pantex standard TATB	617
PETN, pressed, $\rho_0 = 1.75 \text{ g/cm}^3$	618
PETN, pressed, $\rho_0 = 1.72 \text{ g/cm}^3$	619
PETN, pressed, $\rho_0 = 1.60 \text{ g/cm}^3$	620
PETN, single-crystal	621
RDX-2.5 wt% B square wax-2.5 wt% Elvax	623
RDX-20 wt% aluminum-6 wt% wax, 30-micron aluminum	624

CONTENTS

RDX-40.4 wt% cyanuric acid-19.4 wt% Sylgard	625
TATB, purified 1972	626
TATB-3 wt% B square wax-3 wt% Elvax, 1968 TATB	627
TATB-5 wt% B square wax-5 wt% Elvax, 1968 TATB	628
TATB-6 wt% Estane, bimodal 1968 TATB	629
TATB-6 wt% Estane, coarse 1968 TATB	630
TATB-10 wt% Estane, 1968 TATB	631
TATB-5 wt% Kel F 800	632
TATB-10 wt% Kel F 800, Pantex fine TATB	633
TATB-10 wt% Kel F 800, Pantex standard TATB	634
TATB-10 wt% Kel F 800, reprocessed TATB	635
TATB-10 wt% Kel F 800, 1968 TATB	636
TATB-15 wt% Kel F 800, 1968 TATB	637
TATB-2.5 wt% Kel F 800-2.5 wt% Kel F 827, 1968 TATB	638
TATB-5 wt% Kel F 800-5 wt% Kel F 820, 1968 TATB	639
TATB-7.5 wt% Kel F 800-7.5 wt% Kel F 827, 1968 TATB	640
TATB-4.5 wt% polystyrene-1.5 wt% DOP, 1968 TATB	641
TATB-6 wt% polystyrene-2 wt% DOP, 1968 TATB	642
TETRYL, pressed, $\rho_0 = 1.7 \text{ g/cm}^3$	643
TETRYL, pressed, $\rho_0 = 1.6 \text{ g/cm}^3$	644
TETRYL, pressed, $\rho_0 = 1.5 \text{ g/cm}^3$	645
TETRYL, pressed, $\rho_0 = 1.4 \text{ g/cm}^3$	646
TETRYL, pressed, $\rho_0 = 1.3 \text{ g/cm}^3$	647
TNT, creamed, cast	648
TNT, liquid, $T_0 = 81^\circ\text{C}$	649
VOP-7 PROPELLANT	650
XTX-8003 80/20 wt% superfine PETN/Sylgard	651
INDEX	653

INTRODUCTION

I. BACKGROUND

During and after World War II, there was a need for equation-of-state data at the Los Alamos Scientific Laboratory (LASL) and its predecessor, the Manhattan Project. This need was met at the time primarily by determining isothermal compressibilities through use of P. W. Bridgman's¹ method and calculating the states off the isotherms from known thermodynamic relations for isentropes and reflected shock states. A serious deficiency in this approach, however, was the lack of equations of state at much higher pressures than those obtainable from isothermal compressibility experiments. To extend the equations of state from 10 to 50 GPa in pressure, Walsh and Christian² and Goranson et al.³ developed a technique for determining the locus of single-shocked states (the Hugoniot locus) within this pressure regime and, again using thermodynamic relations, for calculating states off the Hugoniot.

Many scientists and technicians have been involved in determination of Hugoniot data at LASL since then. This volume is a compendium of the data they have accumulated from over 5000 experiments.

II. SHOCK-WAVE PARAMETERS

Determining the Hugoniot locus of a substance requires no direct measurements of the thermodynamic parameters, pressure (P), specific volume (V), density (ρ), and specific internal energy (E), behind the shock front. Instead, the shock-wave parameters, shock velocity (U_s) and mass velocity (U_p) or free-surface velocity (U_{fs}), are determined directly or indirectly. The relationship of U_s and U_p to P , V , and E can be determined by applying the Rankine-Hugoniot relations that result from the required conservation of mass, momentum, and energy across a shock

INTRODUCTION

front. In media originally at rest, whose initial states are indicated by subscript zeros, these relations are

$$\text{mass conservation } V/V_0 = (U_s - U_p)/U_s ,$$

$$\text{momentum conservation } P - P_0 = \rho_0 U_s U_p ,$$

$$\text{energy conservation } E - E_0 = 1/2 (P + P_0) (V_0 - V) .$$

The value of U_{rs} is the combined velocity imparted to a mass by an initial shock transit (U_p) and a subsequent isentropic rarefaction wave that releases the mass to ambient conditions (U_r). Thus,

$$U_{rs} = U_p + U_r .$$

The value of U_r can be derived as

$$U_r = \int_0^P (-\partial V/\partial P) s^{1/2} dP ,$$

in which the integration is along an isentrope. The ratio of U_r to U_p is approximately unity for low-pressure shocks, and it increases with increasing shock strength. In practice, pairs of U_s and U_p values are determined from pairs of U_s and U_{rs} values by iteration. First, U_p is approximated by $1/2 U_{rs}$ and the isentropes are calculated using a fit of the resulting U_s vs U_p Hugoniot. A new ratio of U_r to U_p (as a function of U_{rs}) is then determined using these isentropes, and the values of U_p are redetermined, as before. One or two iterations are enough for convergence of the U_p values.

III. THE DATA TABLES

The data tables are presented in ten sections according to the type of material they cover. The materials are elements; alloys; minerals and compounds; rocks and mixtures of minerals; plastics; other synthetics; woods; liquids; aqueous solutions; and high explosives (undetonated), high-explosive simulants, and propellants.

Each table gives the name of the substance in the first one or two lines and the average of the sample densities in the following line. If longitudinal and shear wave velocities (V_L and V_s) in the isotropic and near-isotropic substances were measured, they are listed next. Reference numbers of publications (if any) that contain these Hugoniot data also are given. Next, values of ρ_0 , U_s , U_p , P , V , ρ , and V/V_0 are tabulated in order of increasing U_p value. The rightmost column indicates the experimental technique used in obtaining the data shown in each line. The three-letter abbreviations that stand for the techniques are explained in Table I. The symbol following each abbreviation is the plotting symbol used to represent

INTRODUCTION

TABLE I
EXPERIMENT TYPES

Experiment	Abb	Symb	Parameters Measured		Transit Time Instrumentation	Shock Energy Source
			Specimen	Standard		
Sound speed	SSP	×	V_L, V_s	---	Transducer and oscilloscope	---
Impedance match	IM1	○	U_s	U_s	Flash gap and smear camera	HE ^a
	IM2	□	U_s	U_s	Pins and oscilloscope	HE
	IM3	△	U_s	U_{proj}	Pins, oscilloscope, and flash x ray	ARLG gun ^b
	IM4	▽	U_s	U_{fs}	Pins and oscilloscope	HE
	IM5	◊	U_s	U_s, U_{fs}	Pins and oscilloscope	HE
Shock and free surface velocities	SF1	⊕	U_s, U_{fs}	---	Flash gap and smear camera	HE
	SF2	⊗	U_s, U_{fs}	---	Pins and oscilloscope	HE
Shock and particle velocities	SP1	✉	U_s, U_D ^c	---	Flash gap and smear camera	HE
	SP2	✉	U_s, U_{proj} ^d	---	Pins and oscilloscope	Propellant-driven air gun
	SP3	✉	U_s, U_{proj} ^d	---	Pins, oscilloscope, and flash x ray	ARLG gun
Wedge	WDG	◊	U_s	U_{fs}	Light bomb and smear camera	HE
Quartz impact	QZI	+	P	U_{proj}	Quartz crystal and oscilloscope	Propellant-driven air gun

^aHE = high explosive.

^bARLG = accelerated reservoir light-gas gun.

^c U_D = velocity of an explosively accelerated driver plate.

^dSometimes this projectile is an impedance standard.

INTRODUCTION

that line of data in the figures. If longitudinal and shear wave velocities are given at the top of a data table, the first entry in the second column of the table is the bulk sound velocity (C_b) obtained from the relationship in isotropic, homogeneous media,

$$C_b = \sqrt{V_L^2 - 4/3 V_S^2} .$$

The corresponding value of U_p is always zero because the bulk sound velocity is the sound velocity on the zero-pressure isentrope and is identical to the shock velocity at zero pressure (ignoring elastic strength effects) because of the second-order contact of the isentrope and Hugoniot at this point. The figure at the bottom left of the first page of each data table shows the variation of shock velocity (U_s) with particle velocity (U_p) along the Hugoniot. The corresponding pressure (P) and specific volume (V) are plotted in the right-hand figure. The initial specific volume and the specific volume of the bulk velocity point are indicated by the symbol x. If the data in the U_s vs U_p plot seem to justify a linear least-squares fit, the fit is plotted and the coefficients are shown in the upper left part of the figure. The corresponding pressure and specific volume fit is shown in the adjacent figure. If a linear U_s vs U_p fit is not justified, no curves are shown in the plots.

IV. EXPERIMENT TYPES

The experiments used in obtaining the data are classified according to the shock-wave parameters measured, the instrumentation used to determine the transit times, and the energy source used to produce the shock. Table I relates the abbreviations and symbols used in the data tables and figures to these classifications.

V. IMPEDANCE STANDARDS

The Hugoniot data generally were obtained by the impedance-match technique, in which the specimens are shocked through base plates whose equations of state are known. The base plate materials are impedance standards whose Hugoniots have been determined in detail. The coefficients C_0 , S, and Q in the Hugoniot relation

$$U_s = C_0 + S U_p + Q U_p^2$$

were found by the method of least squares. Table II lists the values of these coefficients along with the initial density and Grüneisen parameter (γ) used in determining the states off the Hugoniot.

The Hugoniot data presented here may not agree exactly with those shown in the references because the impedance standards have been redetermined. The data in

INTRODUCTION

this volume have been reanalyzed using the latest Hugoniot parameters for the standards.

VI. HUGONIOT DATA FROM REFLECTED-SHOCK EXPERIMENTS

Hugoniot data on a few substances were obtained using reflected shocks (see the Contents). The substance was subjected to a single shock, and when the shock wave reflected off higher impedance samples (impedance standards) on its face second shocks were formed which were centered on the state of the first shock. The tables in which these data are reported list the parameters of the single-shock state, U_{p1} , V_1 , and P_1 , and those of the reflected-shock state, U_{p2} , V_2 , and P_2 , for each impedance standard used. The impedance standards are reported, as are the symbols that represent the single and reflected-shock states in the pressure vs particle velocity and pressure vs specific volume plots. Curves have been faired in to assist in identifying the reflected-shock loci. Table II shows the equations of state of these impedance standards.

TABLE II
IMPEDANCE STANDARD EQUATIONS OF STATE

Standard	ρ_0 (g/cm ³)	C_0 (km/s)	S	Q (s/km)	γ
Magnesium AZ31B	1.775	4.516	1.256	0	1.43
Aluminum 2024	2.785	5.328	1.338	0	2.00
Aluminum 1100	2.714	5.392	1.341	0	2.25
Aluminum 921-T	2.833	5.041	1.420	0	2.10
Copper	8.93	3.940	1.489	0	1.96
Iron	7.85	3.574	1.920	-0.068	1.69
Uranium-3 wt% Molybdenum	18.45	2.565	1.531	0	2.03
Gold	19.24	3.056	1.572	0	2.97
Platinum	21.44	3.633	1.472	0	2.40

REFERENCES

1. P. W. Bridgman, "Recent Work in the Field of High Pressures," *Rev. Mod. Phys.* **18**, 1-93 (1946).
2. J. M. Walsh and R. H. Christian, "Equation of State of Metals from Shock Wave Measurements," *Phys. Rev.* **97**, 1544-1556 (1955).
3. R. W. Goranson, D. Bancroft, B. L. Burton, T. Blechar, E. E. Houston, E. F. Gittings, and S. A. Landeen, "Dynamic Determination of the Compressibility of Metals," *J. Appl. Phys.* **26**, 1472-1479 (1955).
4. R. G. McQueen and S. P. Marsh, "Equation of State for Nineteen Metallic Elements from Shock-Wave Measurements to Two Megabars," *J. Appl. Phys.* **31**, 1253-1269 (1960).
5. R. G. McQueen, "Laboratory Techniques for Very High Pressures and the Behavior of Metals Under Dynamic Loading," in *Metallurgy at High Pressures and High Temperatures*, K. A. Gschneidner, Jr., M. T. Hepworth, and N. A. D. Parlee, Eds., Metallurgical Society Conferences, Vol. 22 (Gordon and Breach, New York, 1964), pp. 44-132.
6. M. Van Thiel, A. S. Kusubov, and A. C. Mitchell, Eds., "Compendium of Shock Wave Data," Lawrence Radiation Laboratory (Livermore) report UCRL-50108 (1967).
7. R. H. Warnes, "Investigation of a Shock-Induced Phase Transition in Antimony," *J. Appl. Phys.* **38**, 4629 (1967).

REFERENCES

8. Wendell L. Seitz and Jerry Wackerle, "Reflected-Shock Hugoniot for Liquid Argon Between 0.26 and 0.74 Megabars," *Bull. Am. Phys. Soc.* **17**, 1093 (1972).
9. R. D. Dick, R. H. Warnes, and J. Skalyo, Jr., "Shock Compression of Solid Argon," *J. Chem. Phys.* **53**, 1648 (1970).
10. J. Skalyo, Jr., R. D. Dick, and R. H. Warnes, "Shock Compression of Solid Argon," *Bull. Am. Phys. Soc.* **13**, 579 (1968).
11. J. M. Walsh, M. H. Rice, R. G. McQueen, and F. L. Yarger, "Shock-Wave Compressions of Twenty-Seven Metals. Equations of State of Metals," *Phys. Rev.* **108**, 196-216 (1957).
12. M. H. Rice, R. G. McQueen, and J. M. Walsh, "Compression of Solids by Strong Shock Waves," in *Solid State Physics*, Vol. 6, F. Seitz and D. Turnbull, Eds. (Academic Press, New York, 1958), pp. 1-63.
13. R. G. McQueen, S. P. Marsh, J. W. Taylor, J. N. Fritz, and W. J. Carter, "The Equation of State of Solids from Shock Wave Studies," in *High-Velocity Impact Phenomena*, R. Kinslow, Ed. (Academic Press, New York, 1970), pp. 293-417, 521-568.
14. R. G. McQueen and S. P. Marsh, "Hugoniots of Graphites of Various Initial Densities and the Equation of State of Carbon," in *Behavior of Dense Media under High Dynamic Pressures*, Symposium on the Behavior of Dense Media under High Dynamic Pressures, Paris, September, 1967 (Gordon and Breach, New York, 1968), pp. 207-216.
15. W. J. Carter, J. N. Fritz, S. P. Marsh, and R. G. McQueen, "Hugoniot Equation of State of the Lanthanides," *J. Phys. Chem. Solids* **36**, 741-752 (1975).
16. M. H. Rice, "Pressure-Volume Relations for the Alkali Metals from Shock-Wave Measurements," *J. Phys. Chem. Solids* **26**, 483-492 (1965).
17. R. G. McQueen, S. P. Marsh, and W. J. Carter, "The Determination of New Standards for Shock Wave Equation-of-State Work," in *Behavior of Dense Media under High Dynamic Pressures*, Symposium on the Behavior of Dense Media under High Dynamic Pressures, Paris, September, 1967 (Gordon and Breach, New York, 1968), pp. 67-83.

REFERENCES

18. W. J. Carter, S. P. Marsh, J. N. Fritz, and R. G. McQueen, "The Equation of State of Selected Materials for High-Pressure References," in *Accurate Characterization of the High-Pressure Environment*, Proceedings of a symposium held at the National Bureau of Standards, Gaithersburg, Maryland, October 14-18, 1968 (NBS, Washington, DC, 1971), Special Publication 326.
19. R. G. McQueen, W. J. Carter, J. N. Fritz, and S. P. Marsh, "The Solid-Liquid Phase Line in Cu," in *Accurate Characterization of the High-Pressure Environment*, Proceedings of a Symposium held at the National Bureau of Standards, Gaithersburg, Maryland, October 14-18, 1968 (NBS, Washington, DC, 1971), Special Publication 326.
20. Richard D. Dick, "Some Hugoniot Data for Liquid Deuterium and Hydrogen," *Bull. Am. Phys. Soc.* **17**, 1092 (1972).
21. Richard D. Dick, "Shock Wave Data for Liquid Hydrogen Initially at 20° K," *Bull. Am. Phys. Soc.* **21**, 1302 (1972).
22. R. G. McQueen and S. P. Marsh, "Shock-Wave Compression of Iron-Nickel Alloys and the Earth's Core," *J. Geophys. Res.* **71**, 1751-1756 (1966).
23. J. M. Walsh and M. H. Rice, "Dynamic Compression of Liquids from Measurements of Strong Shock Waves," *J. Chem. Phys.* **26**, 815-823 (1957).
24. R. D. Dick, "Shock Wave Compression of Benzene, Carbon Disulfide, Carbon Tetrachloride, and Liquid Nitrogen," Los Alamos Scientific Laboratory report LA-3915 (1968).
25. Richard D. Dick, "Shock Wave Compression of Benzene, Carbon Disulfide, Carbon Tetrachloride, and Liquid Nitrogen," *J. Chem. Phys.* **52**, 6021 (1970).
26. R. D. Dick, "Shock Compression of Liquid Benzene, Carbon Disulfide, Carbon Tetrachloride, and Nitrogen," *Bull. Am. Phys. Soc.* **13**, 579 (1968).
27. Jerry Wackerle, W. L. Seitz, and J. C. Jamieson, "Shock-Wave Equation of State for High-Density Oxygen," in *Behavior of Dense Media Under High Dynamic Pressures* (Gordon and Breach, New York, 1968), p. 85.
28. J. A. Morgan, "The Equation of State of Platinum to 680 GPa," *High Temperatures—High Pressures* **6**, 195-202 (1974).

REFERENCES

29. R. H. Warnes, "Shock Wave Compression of Three Polynuclear Aromatic Compounds," *J. Chem. Phys.* **53**, 1088 (1970).
30. R. G. McQueen, "The Equation of State of Mixtures, Alloys, and Compounds," in *Seismic Coupling*, G. Simmons, Ed., Proceedings of a meeting sponsored by the Advanced Research Projects Agency at Stanford Research Institute, Menlo Park, California, January 15-16, 1968.
31. J. A. Morgan, "The Equation of State of 347 Stainless Steel to 384 GPa," *High Temperatures—High Pressures* **7**, 65-79 (1975).
32. F. Birch, "Compressibility; Elastic Constants," in *Handbook of Physical Constants*, revised edition, S. P. Clark, Jr., Ed. (The Geological Society of America, Inc., New York, 1966), pp. 153-159.
33. S. P. Marsh, "Hugoniot Equation of State of Beryllium Oxide," *High Temperatures—High Pressures* **5**, 503-508 (1973).
34. S. P. Marsh and W. J. Carter, "Equation of State of Hafnium Titanate," Los Alamos Scientific Laboratory report LA-4629-MS (1971).
35. H. H. Demarest, Jr., "Lattice Model Calculation of Hugoniot Curves and the Grüneisen Parameter at High Pressure for the Alkali Halides," *J. Phys. Chem. Solids* **35**, 1393-1404 (1974).
36. S. P. Marsh, "Hugoniot Equations of State of Li⁶H, Li⁶D, LiⁿH, and LiⁿD," Los Alamos Scientific Laboratory report LA-4942 (1972).
37. W. J. Carter, "Hugoniot Equation of State of Some Alkali Halides," *High Temperatures—High Pressures* **5**, 313-318 (1973).
38. J. Wackerle, "Shock-Wave Compression of Quartz," *J. Appl. Phys.* **33**, 922-937 (1962).
39. R. G. McQueen, J. N. Fritz, and S. P. Marsh, "On the Equation of State of Stishovite," *J. Geophys. Res.* **68**, 2319-2322 (1963).
40. R. G. McQueen, J. C. Jamieson, and S. P. Marsh, "Shock-Wave Compression and X-Ray Studies of Titanium Dioxide," *Science* **155**, 1401-1404 (1967).

REFERENCES

41. J. N. Fritz, S. P. Marsh, W. J. Carter, and R. G. McQueen, "The Hugoniot Equation of State of Sodium Chloride in the Sodium Chloride Structure," in *Accurate Characterization of the High-Pressure Environment*, Proceedings of a symposium held at the National Bureau of Standards, Gaithersburg, Maryland, October 14-18, 1968 (NBS, Washington, DC, 1971), Special Publication 326.
42. R. G. McQueen, S. P. Marsh, and J. N. Fritz, "Hugoniot Equation of State of Twelve Rocks," *J. Geophys. Res.* **72**, 4999-5036 (1967).
43. R. G. McQueen and S. P. Marsh, "Equation of State of Nevada Alluvium" Los Alamos Scientific Laboratory report LAMS-2760 (1962).
44. D. S. Hughes and R. G. McQueen, "Density of Basic Rocks at Very High Pressures," *Trans. Am. Geophys. Union* **39**, 959-965 (1958).
45. Richard D. Dick, Thomas A. Weaver, and Bart Olinger, "Shock Compression of the Webster Dunite," *EOS* **54**, 475 (1973).
46. B. W. Olinger, "Dynamic Properties of Devonian Shales," in "Evaluation of Methods for Stimulation and Characterization of Eastern Gas Shales, April-June 1977," Los Alamos Scientific Laboratory report LA-7094-PR, W. J. Carter and N. E. Vanderborgh, Compilers (1978).
47. W. J. Carter and B. W. Olinger, *Proceedings, ERDA Enhanced Oil, Gas Recovery and Improved Drilling Methods*, Vol. 2 (Petroleum Publishing Company, Tulsa, 1977).
48. W. J. Carter, "Hugoniots of Green River Oil Shale," in *Proceedings of the 6th International Conference on High Pressure Physics and Technology*, Boulder, Colorado, June, 1977. (To be published).
49. W. J. Carter, "Hugoniots of Green River Oil Shale," in "Explosively Produced Fracture of Oil Shale—Annual Report, March 1976-March 1977," Los Alamos Scientific Laboratory report LA-6817-PR (1977).
50. J. N. Fritz and J. W. Taylor, "An Equation of State for Adiprene Foam and Its Application in Producing Low Pressure Long Time Pulses," Los Alamos Scientific Laboratory report LA-3400-MS (1966).

REFERENCES

51. W. J. Carter and S. P. Marsh, "Hugoniot Equations of State of Polymers," Los Alamos Scientific Laboratory unpublished report LA-UR-77-2062 (1977).
52. Jerry Wackerle, J. O. Johnson, and P. M. Halleck, "Projectile-Velocity Measurements and Quartz- and Manganin-Gauge Pressure Determinations in Gas-Gun Experiments," Los Alamos Scientific Laboratory report LA-5844 (June 1975).
53. W. E. Deal, "Shock Wave Research on Inert Solids," in *Fourth Symposium on Detonation*, U. S. Naval Ordnance Laboratory, White Oak, Maryland, October 12-15, 1965 (Office of Naval Research, Symposium Report ACR-126), pp. 321-344.
54. Charles L. Mader and William J. Carter, "An Equation of State for Shocked Polyurethane Foam," Los Alamos Scientific Laboratory report LA-4059 (1969).
55. William B. Harvey and Richard D. Dick, "Shock Compression of Liquid Ammonia," Bull. Am. Phys. Soc. **20**, 48 (1975).
56. R. D. Dick, "Shock Compression of Liquid Carbon Tetrachloride and Benzene," Bull. Am. Phys. Soc. **9**, 547 (1964).
57. Richard D. Dick, "Hugoniot Data for Several Benzene Ring Liquids," Bull. Am. Phys. Soc. **20**, 1514 (1975).
58. R. D. Dick and R. H. Warnes, "Shock Wave Study of Liquid Chloroform, Cyclohexane, and Hexane," Bull. Am. Phys. Soc. **15**, 1626 (1970).
59. Richard D. Dick and R. H. Warnes, "Hugoniot Curves for Several Substituted Methane Liquids," Bull. Am. Phys. Soc. **17**, 1092 (1972).
60. M. H. Rice and J. M. Walsh, "Equation of State of Water to 250 Kilobars," J. Chem. Phys. **26**, 824-830 (1957).
61. I. E. Lindstrom "Plane Shock Initiation of an RDX Plastic-Bonded Explosive," J. Appl. Phys. **37**, 4873 (1966).
62. P. M. Halleck and Jerry Wackerle, "Dynamic Elastic-Plastic Properties of Single-Crystal Pentaerythritol tetranitrate," J. Appl. Phys. **47**, 976 (1976).

REFERENCES

63. Jerry Wackerle, J. O. Johnson, and P. M. Halleck, "Shock Initiation of High-Density PETN," *Sixth Symposium (International) on Detonation*, San Diego, California August 24-27, 1976, (Office of Naval Research Symposium Report ACR-221), pp. 20-28.
64. Dante Stirpe, J. O. Johnson, and Jerry Wackerle, "Shock Initiation of XTX-8003 and Pressed PETN," *J. Appl. Phys.* **41**, 3884 (1970).
65. I. E. Lindstrom, "Planar Shock Initiation of Porous Tetryl," *J. Appl. Phys.* **41**, 337 (1970).
66. W. B. Garn, "Determination of the Unreacted Hugoniot for Liquid TNT," *J. Chem. Phys.* **30**, 819-822 (1958).

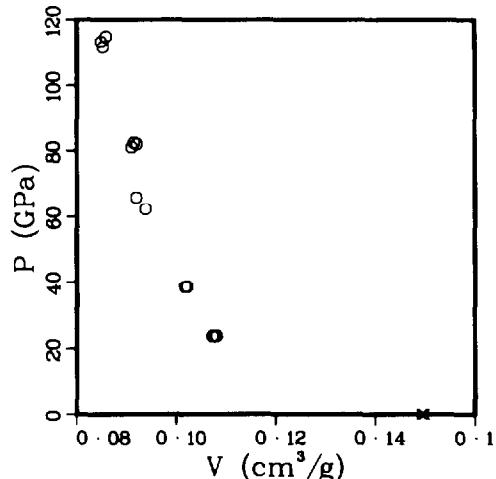
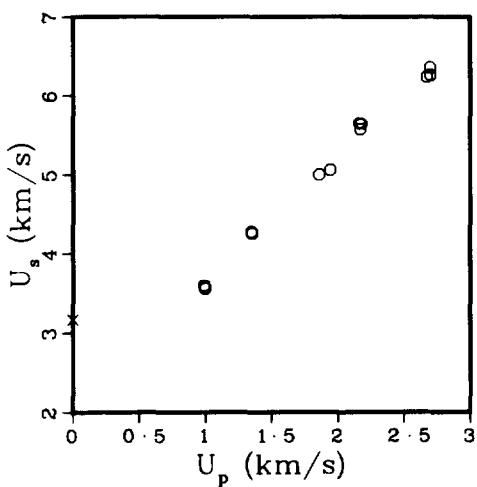
ELEMENTS

ANTIMONY

Average $\rho_0 = 6.698 \text{ g/cm}^3$.

References 4, 5, 6

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.677	3.166	0.000	0.000	.1498	6.677	1.000	s s p ×
6.700	3.590	.989	23.788	.1081	9.248	.725	im1 o
6.700	3.565	.994	23.742	.1076	9.290	.721	im1 o
6.700	3.548	.997	23.700	.1073	9.319	.719	im1 o
6.700	4.277	1.348	38.628	.1022	9.784	.685	im1 o
6.700	4.251	1.354	38.564	.1017	9.831	.681	im1 o
6.700	5.002	1.859	62.301	.0938	10.663	.628	im1 o
6.700	5.060	1.943	65.872	.0919	10.876	.616	im1 o
6.700	5.653	2.165	82.000	.0921	10.859	.617	im1 o
6.700	5.569	2.172	81.042	.0910	10.984	.610	im1 o
6.700	5.640	2.181	82.416	.0915	10.925	.613	im1 o
6.700	6.235	2.672	111.621	.0853	11.725	.571	im1 o
6.700	6.353	2.698	114.841	.0859	11.646	.575	im1 o
6.700	6.259	2.699	113.183	.0849	11.780	.569	im1 o

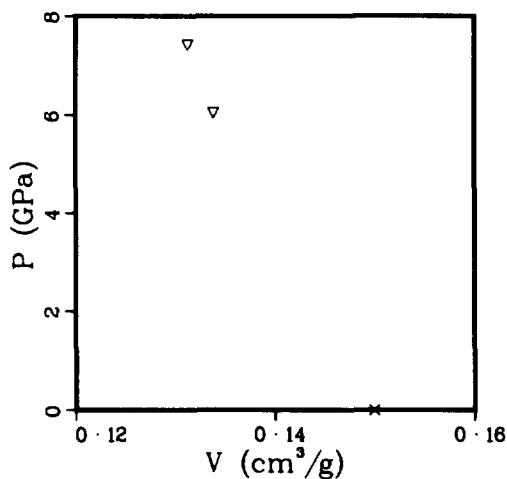
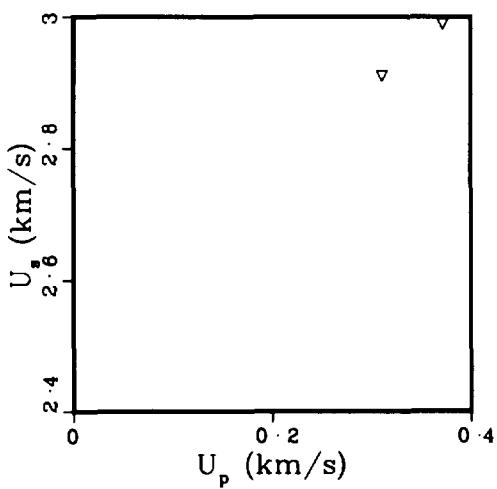


ANTIMONY , fine-grain , chill-cast

Average $\rho_0 = 6.670 \text{ g/cm}^3$.

Reference 7

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.670	2.910	.311	6.036	.1339	7.468	.893	i m4 ▽
6.670	2.989	.372	7.416	.1313	7.618	.876	i m4 ▽

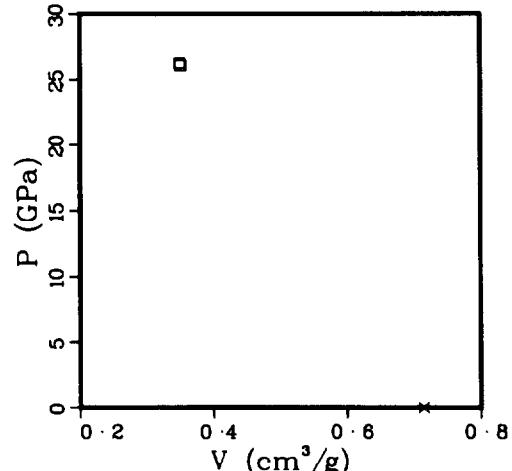
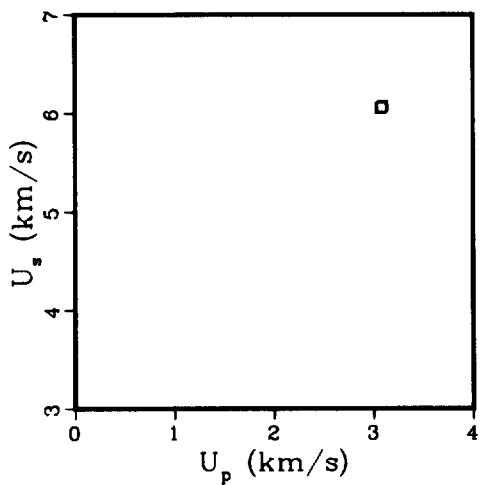


ARGON , liquid

Average $\rho_0 = 1.400 \text{ g/cm}^3$.

Reference 8

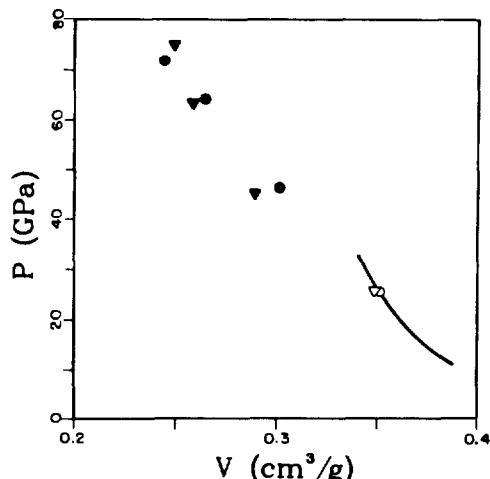
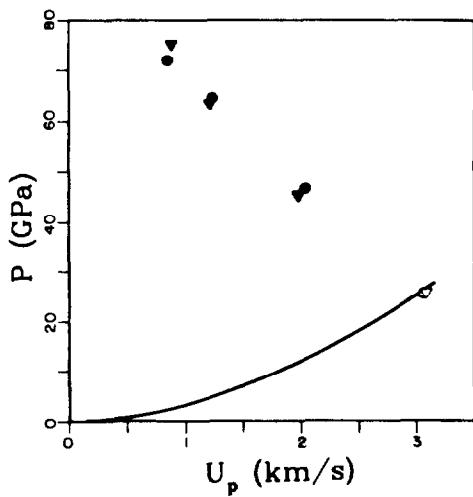
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.400	6.052	3.075	26.054	.3514	2.846	.492	i m2 □
1.400	6.069	3.093	26.280	.3503	2.855	.490	i m2 □



ARGON, liquid, reflected-shock data
 $\rho_0 = 1.400 \text{ g/cm}^3$.

Initial Shock			Reflected Shock			
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	Std. ^a
3.05	0.351	25.6 ○	2.02	0.301	46.5 ●	Al
			1.22	0.264	64.3 ●	Cu
			0.84	0.244	71.9 ●	Au
3.07	0.349	25.8 □	1.97	0.289	45.1 ■	Al
			1.21	0.258	63.4 ■	Cu
			0.87	0.249	75.3 ■	Au

^aStandards used for reflected-shock measurements were 2024 aluminum alloy (Al), copper (Cu), and gold (Au).

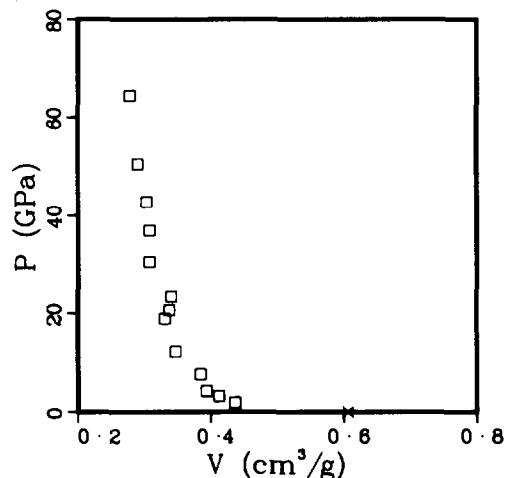
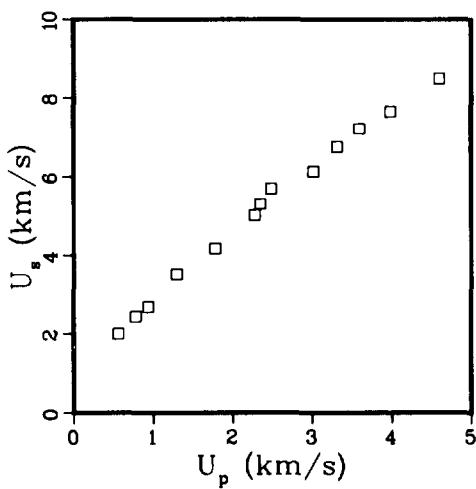


ARGON , solid , $T_0 = 75$ K

Average $\rho_0 = 1.650 \text{ g/cm}^3$.

References 9 , 10

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.650	2.000	.560	1.848	.4364	2.292	.720	im2 □
1.650	2.440	.780	3.140	.4123	2.425	.680	im2 □
1.650	2.680	.940	4.157	.3935	2.541	.649	im2 □
1.650	3.530	1.290	7.514	.3846	2.600	.635	im2 □
1.650	4.170	1.780	12.247	.3474	2.879	.573	im2 □
1.650	5.020	2.280	18.885	.3308	3.023	.546	im2 □
1.650	5.310	2.350	20.590	.3378	2.960	.557	im2 □
1.650	5.690	2.490	23.377	.3408	2.934	.562	im2 □
1.650	6.130	3.020	30.546	.3075	3.252	.507	im2 □
1.650	6.750	3.320	36.976	.3080	3.247	.508	im2 □
1.650	7.210	3.600	42.827	.3035	3.295	.501	im2 □
1.650	7.650	3.990	50.364	.2900	3.449	.478	im2 □
1.650	8.490	4.600	64.439	.2777	3.601	.458	im2 □



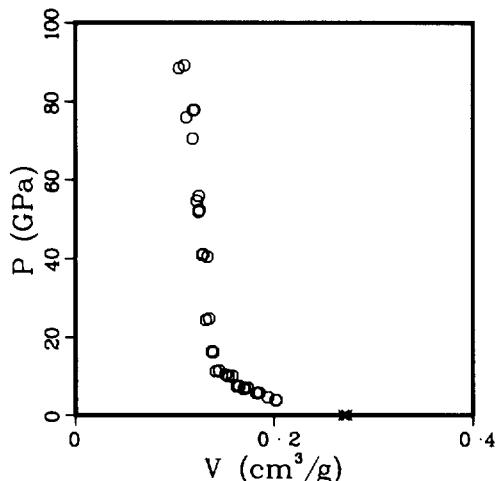
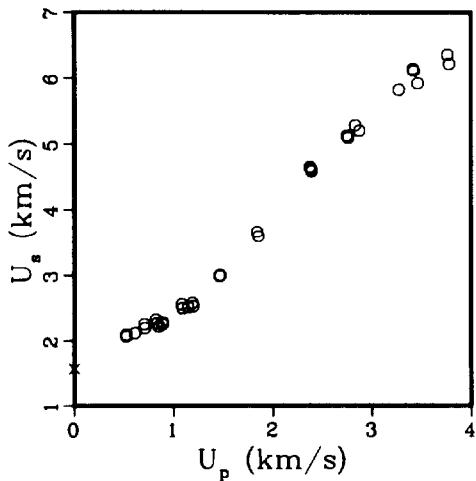
BARIUM

Average $\rho_0 = 3.705 \text{ g/cm}^3$.

Sound velocities longitudinal 2.16 km/s .
 shear 1.28 km/s .

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.661	1.575	0.000	0.000	.2731	3.661	1.000	s s p x
3.721	2.092	.521	4.056	.2018	4.955	.751	im1 o
3.692	2.066	.524	3.997	.2022	4.947	.746	im1 o
3.677	2.116	.608	4.731	.1938	5.160	.713	im1 o
3.716	2.251	.703	5.880	.1851	5.404	.688	im1 o
3.714	2.194	.709	5.777	.1822	5.487	.677	im1 o
3.746	2.334	.819	7.161	.1733	5.771	.649	im1 o
3.729	2.266	.828	6.997	.1702	5.876	.635	im1 o
3.639	2.216	.850	6.854	.1694	5.903	.616	im1 o
3.729	2.291	.883	7.544	.1648	6.068	.615	im1 o
3.729	2.252	.888	7.457	.1624	6.157	.606	im1 o
3.667	2.566	1.080	10.162	.1579	6.332	.579	im1 o
3.675	2.508	1.088	10.028	.1541	6.491	.566	im1 o
3.610	2.522	1.144	10.415	.1514	6.607	.546	im1 o
3.738	2.585	1.187	11.470	.1447	6.912	.541	im1 o
3.740	2.536	1.195	11.334	.1414	7.073	.529	im1 o
3.690	2.993	1.462	16.147	.1386	7.214	.512	im1 o
3.727	3.003	1.465	16.397	.1374	7.277	.512	im1 o
3.703	2.999	1.469	16.314	.1378	7.258	.510	im1 o
3.697	3.664	1.841	24.938	.1346	7.431	.498	im1 o

(Continued)



BARIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.688	3.596	1.855	24.601	.1313	7.617	.484	im1 o
3.674	4.641	2.373	40.462	.1330	7.518	.489	im1 o
3.737	4.605	2.387	41.078	.1289	7.759	.482	im1 o
3.742	4.577	2.392	40.968	.1276	7.839	.477	im1 o
3.722	5.130	2.747	52.451	.1248	8.013	.465	im1 o
3.692	5.098	2.761	51.967	.1242	8.054	.458	im1 o
3.738	5.287	2.830	55.929	.1243	8.043	.465	im1 o
3.660	5.204	2.874	54.740	.1223	8.175	.448	im1 o
3.707	5.824	3.272	70.641	.1182	8.460	.438	im1 o
3.709	6.152	3.414	77.900	.1200	8.334	.445	im1 o
3.714	6.121	3.424	77.839	.1186	8.429	.441	im1 o
3.707	5.922	3.464	76.045	.1120	8.931	.415	im1 o
3.730	6.367	3.763	89.367	.1096	9.120	.409	im1 o
3.767	6.230	3.780	88.711	.1044	9.579	.393	im1 o

BERYLLIUM, sintered

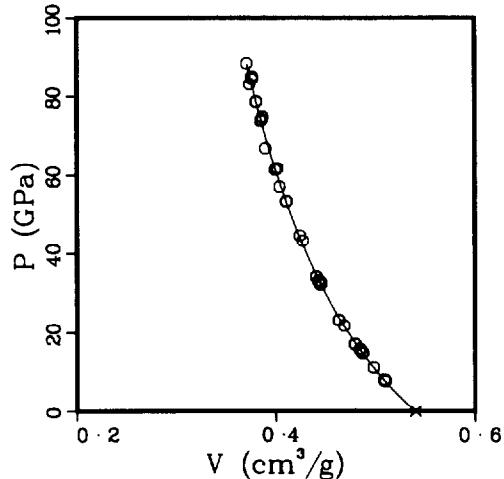
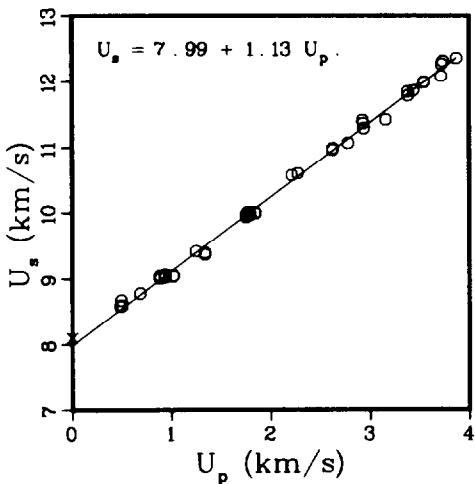
Average $\rho_0 = 1.850 \text{ g/cm}^3$.

Sound velocities longitudinal 13.15 km/s.
shear 8.97 km/s.

References 6, 11, 12, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.851	8.102	0.000	0.000	.5402	1.851	1.000	ssp x
1.850	8.584	.484	7.686	.5101	1.961	.944	im1 o
1.850	8.673	.494	7.926	.5098	1.962	.943	im1 o
1.850	8.599	.496	7.890	.5094	1.963	.942	im1 o
1.850	8.591	.502	7.978	.5090	1.965	.942	im1 o
1.850	8.779	.685	11.125	.4984	2.007	.922	im1 o
1.851	9.042	.884	14.795	.4874	2.052	.902	im1 o
1.851	9.006	.885	14.753	.4872	2.053	.902	im1 o
1.850	9.055	.930	15.579	.4850	2.062	.897	im1 o
1.850	9.022	.932	15.556	.4847	2.063	.897	im1 o
1.850	9.052	.937	15.691	.4846	2.064	.896	im1 o
1.850	9.035	1.018	17.016	.4796	2.085	.887	im1 o
1.850	9.050	1.018	17.044	.4797	2.084	.888	im1 o
1.850	9.416	1.248	21.740	.4689	2.133	.867	im1 o
1.850	9.393	1.337	23.233	.4636	2.157	.858	im1 o
1.850	9.365	1.339	23.199	.4633	2.159	.857	im1 o
1.850	9.962	1.753	32.307	.4454	2.245	.824	im1 o
1.850	9.936	1.754	32.241	.4451	2.247	.823	im1 o
1.851	10.000	1.762	32.615	.4451	2.247	.824	im1 o

(Continued)



BERYLLIUM , sintered
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.851	9.983	1.763	32.578	.4448	2.248	.823	im1 o
1.851	9.966	1.764	32.541	.4446	2.249	.823	im1 o
1.850	10.014	1.773	32.846	.4448	2.248	.823	im1 o
1.850	9.966	1.777	32.763	.4442	2.251	.822	im1 o
1.850	9.975	1.796	33.143	.4432	2.256	.820	im1 o
1.850	10.006	1.845	34.153	.4409	2.268	.816	im1 o
1.850	9.992	1.846	34.124	.4407	2.269	.815	im1 o
1.850	10.578	2.213	43.307	.4275	2.339	.791	im1 o
1.851	10.604	2.274	44.634	.4244	2.356	.786	im1 o
1.851	10.983	2.624	53.345	.4112	2.432	.761	im1 o
1.851	10.960	2.626	53.274	.4108	2.434	.760	im1 o
1.853	11.066	2.781	57.025	.4040	2.475	.749	im1 o
1.850	11.413	2.925	61.759	.4020	2.488	.744	im1 o
1.851	11.364	2.932	61.674	.4009	2.495	.742	im1 o
1.851	11.287	2.940	61.423	.3995	2.503	.740	im1 o
1.855	11.418	3.161	66.951	.3898	2.565	.723	im1 o
1.851	11.844	3.380	74.101	.3861	2.590	.715	im1 o
1.851	11.784	3.386	73.856	.3850	2.597	.713	im1 o
1.835	11.862	3.440	74.878	.3869	2.585	.710	im1 o
1.851	11.985	3.544	78.621	.3805	2.628	.704	im1 o
1.851	11.990	3.544	78.654	.3806	2.628	.704	im1 o
1.851	12.079	3.718	83.128	.3740	2.674	.692	im1 o
1.851	12.266	3.721	84.483	.3764	2.657	.697	im1 o
1.851	12.312	3.737	85.164	.3763	2.658	.696	im1 o
1.851	12.355	3.871	88.526	.3710	2.696	.687	im1 o

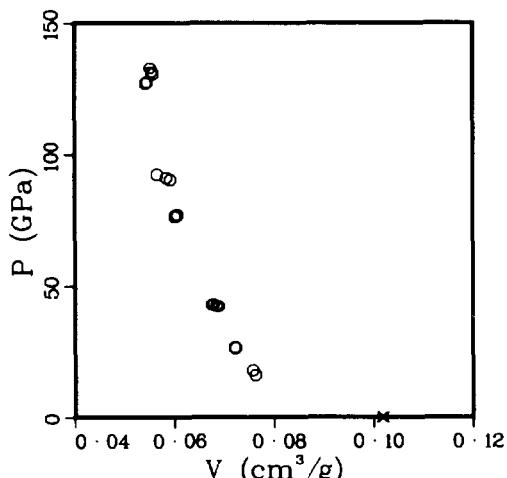
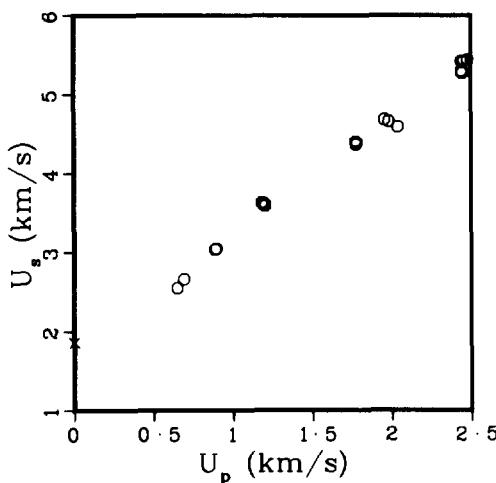
BISMUTH

$$\text{Average } \rho_0 = 9.836 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.49 km/s.
shear 1.43 km/s.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
9.808	1.864	0.000	0.000	1020	9.808	1.000	ssp x
9.790	2.554	.648	16.202	.0762	13.118	.746	im1 o
9.790	2.664	.690	17.996	.0757	13.212	.741	im1 o
9.790	3.038	.886	26.351	.0724	13.821	.708	im1 o
9.790	3.047	.894	26.668	.0722	13.855	.707	im1 o
9.790	3.638	1.183	42.134	.0689	14.508	.675	im1 o
9.790	3.615	1.193	42.221	.0684	14.612	.670	im1 o
9.860	3.624	1.199	42.843	.0679	14.735	.669	im1 o
9.860	3.598	1.204	42.713	.0675	14.819	.665	im1 o
9.860	4.411	1.772	77.069	.0607	16.481	.598	im1 o
9.860	4.365	1.775	76.394	.0602	16.617	.593	im1 o
9.860	4.388	1.779	76.970	.0603	16.583	.595	im1 o
9.860	4.692	1.953	90.352	.0592	16.891	.584	im1 o
9.860	4.669	1.980	91.152	.0584	17.120	.576	im1 o
9.860	4.601	2.037	92.410	.0565	17.693	.557	im1 o
9.860	5.424	2.439	130.439	.0558	17.916	.550	im1 o
9.860	5.294	2.441	127.417	.0547	18.296	.539	im1 o
9.860	5.266	2.445	126.951	.0543	18.406	.536	im1 o
9.860	5.425	2.456	131.373	.0555	18.016	.547	im1 o
9.860	5.439	2.478	132.892	.0552	18.112	.544	im1 o

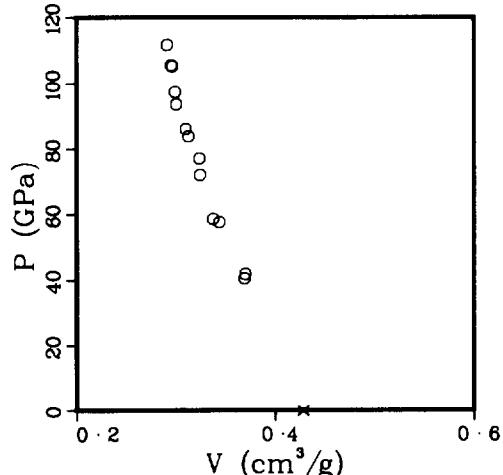
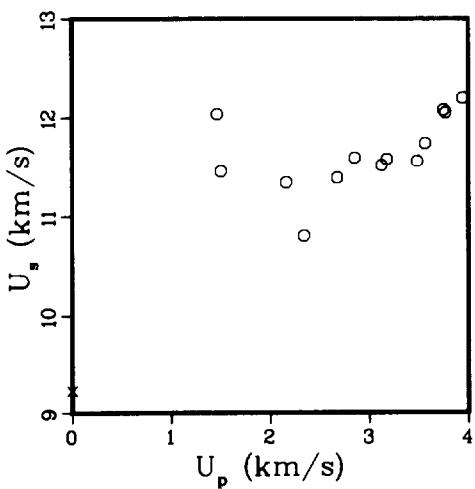


BORON

Average $\rho_0 = 2.338 \text{ g/cm}^3$.

Sound velocities longitudinal 13.90 km/s.
 shear 9.00 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.334	9.231	0.000	0.000	.4284	2.334	1.000	ssp x
2.375	12.037	1.465	41.881	.3698	2.704	.878	im1 o
2.354	11.453	1.504	40.548	.3690	2.710	.869	im1 o
2.356	11.342	2.160	57.719	.3436	2.910	.810	im1 o
2.322	10.805	2.340	58.709	.3374	2.964	.783	im1 o
2.357	11.387	2.677	71.848	.3245	3.081	.765	im1 o
2.327	11.591	2.858	77.087	.3238	3.089	.753	im1 o
2.331	11.514	3.124	83.845	.3126	3.199	.729	im1 o
2.341	11.577	3.177	86.102	.3099	3.226	.726	im1 o
2.326	11.557	3.482	93.602	.3004	3.329	.699	im1 o
2.328	11.739	3.563	97.371	.2992	3.343	.696	im1 o
2.326	12.079	3.749	105.331	.2965	3.373	.690	im1 o
2.326	12.051	3.770	105.675	.2954	3.385	.687	im1 o
2.324	12.200	3.942	111.767	.2913	3.433	.677	im1 o



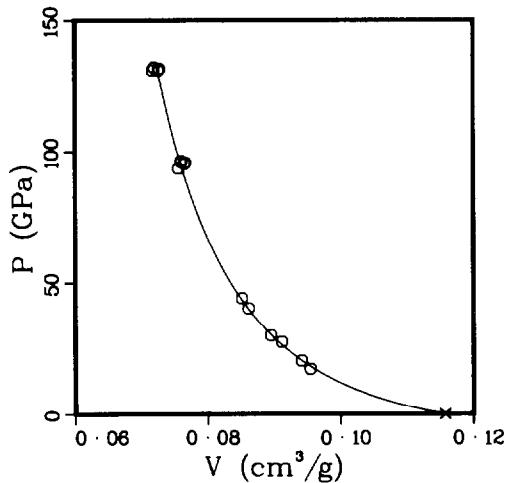
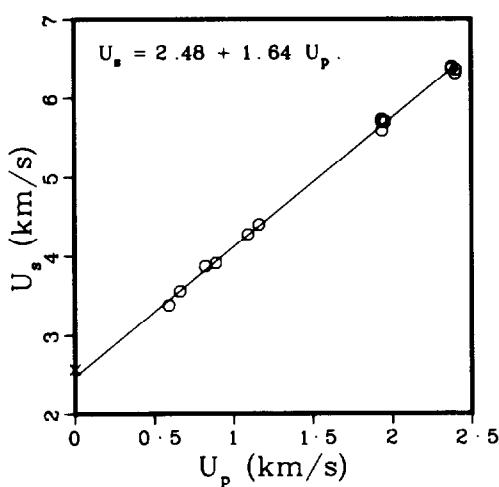
CADMIUM

Average $\rho_0 = 8.639 \text{ g/cm}^3$.

Sound velocities longitudinal 3.20 km/s.
 shear 1.65 km/s.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.642	2.571	0.000	0.000	.1157	8.642	1.000	s s p x
8.640	3.380	.593	17.317	.0954	10.478	.825	im1 o
8.640	3.556	.664	20.401	.0941	10.624	.813	im1 o
8.640	3.871	.823	27.526	.0911	10.973	.787	im1 o
8.626	3.910	.891	30.051	.0895	11.172	.772	im1 o
8.640	4.272	1.092	40.306	.0862	11.607	.744	im1 o
8.640	4.397	1.162	44.144	.0852	11.743	.736	im1 o
8.640	5.711	1.935	95.479	.0765	13.068	.661	im1 o
8.640	5.732	1.936	95.879	.0766	13.046	.662	im1 o
8.640	5.589	1.939	93.632	.0756	13.230	.653	im1 o
8.640	5.696	1.953	96.114	.0761	13.148	.657	im1 o
8.640	5.701	1.959	96.494	.0760	13.163	.656	im1 o
8.640	6.376	2.377	130.946	.0726	13.776	.627	im1 o
8.640	6.403	2.378	131.556	.0728	13.745	.629	im1 o
8.640	6.311	2.401	130.919	.0717	13.946	.620	im1 o
8.640	6.357	2.405	132.093	.0720	13.898	.622	im1 o



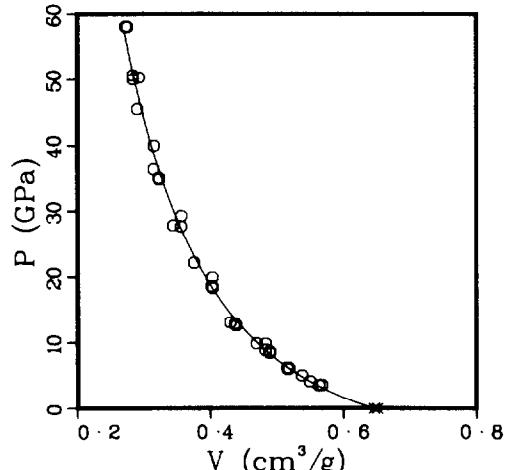
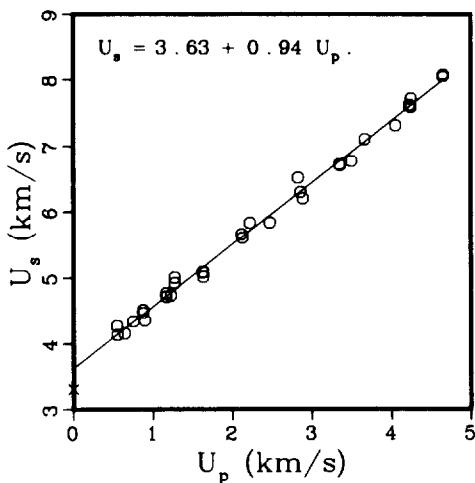
CALCIUM

Average $\rho_0 = 1.547 \text{ g/cm}^3$.

Sound velocities longitudinal 4.39 km/s.
shear 2.49 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.536	3.317	0.000	0.000	6510	1.536	1.000	s s p ×
1.536	4.273	.548	3.597	.5675	1.762	.872	im1 o
1.538	4.139	.553	3.520	.5633	1.775	.866	im1 o
1.537	4.156	.644	4.114	.5498	1.819	.845	im1 o
1.537	4.342	.753	5.025	.5378	1.859	.827	im1 o
1.564	4.516	.874	6.173	.5156	1.939	.806	im1 o
1.550	4.471	.879	6.092	.5183	1.929	.803	im1 o
1.538	4.355	.897	6.008	.5163	1.937	.794	im1 o
1.543	4.768	1.165	8.571	.4897	2.042	.756	im1 o
1.539	4.716	1.169	8.485	.4887	2.046	.752	im1 o
1.535	4.733	1.224	8.893	.4830	2.070	.741	im1 o
1.580	4.921	1.270	9.874	.4696	2.130	.742	im1 o
1.544	5.005	1.272	9.830	.4831	2.070	.746	im1 o
1.583	5.084	1.624	13.070	.4299	2.326	.681	im1 o
1.553	5.089	1.633	12.906	.4373	2.287	.679	im1 o
1.536	5.015	1.634	12.587	.4389	2.278	.674	im1 o
1.558	5.657	2.114	18.632	.4020	2.488	.626	im1 o
1.537	5.605	2.128	18.332	.4036	2.478	.620	im1 o
1.537	5.834	2.221	19.915	.4029	2.482	.619	im1 o
1.535	5.838	2.471	22.143	.3757	2.662	.577	im1 o

(Continued)



CALCIUM
(Continued)

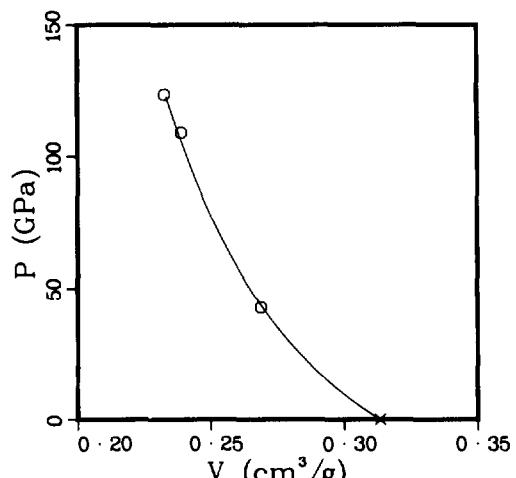
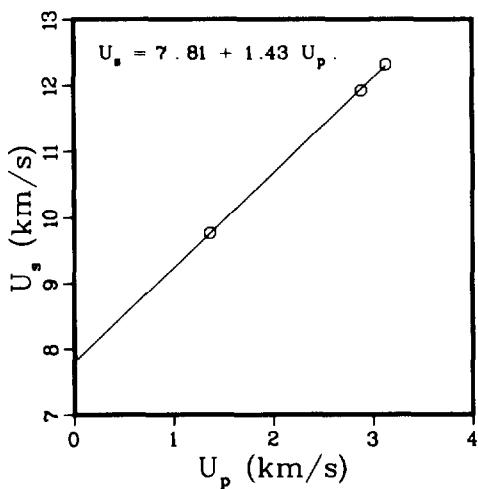
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.589	6.519	2.827	29.284	.3564	2.806	.566	im1 o
1.536	6.302	2.857	27.655	.3559	2.810	.547	im1 o
1.554	6.205	2.886	27.828	.3442	2.905	.535	im1 o
1.556	6.726	3.348	35.039	.3228	3.098	.502	im1 o
1.548	6.708	3.356	34.849	.3228	3.098	.500	im1 o
1.536	6.772	3.499	36.396	.3147	3.178	.483	im1 o
1.536	7.105	3.666	40.008	.3151	3.173	.484	im1 o
1.536	7.311	4.053	45.514	.2901	3.447	.446	im1 o
1.573	7.618	4.226	50.641	.2831	3.533	.445	im1 o
1.536	7.713	4.246	50.303	.2926	3.417	.450	im1 o
1.553	7.590	4.246	50.049	.2837	3.525	.441	im1 o
1.552	8.052	4.648	58.085	.2724	3.671	.423	im1 o
1.544	8.082	4.650	58.026	.2750	3.636	.425	im1 o

CARBON , diamond , pressed

Average $\rho_0 = 3.191 \text{ g/cm}^3$.

References 6 , 14

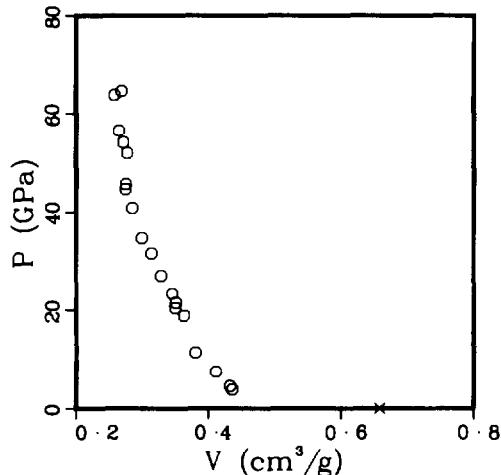
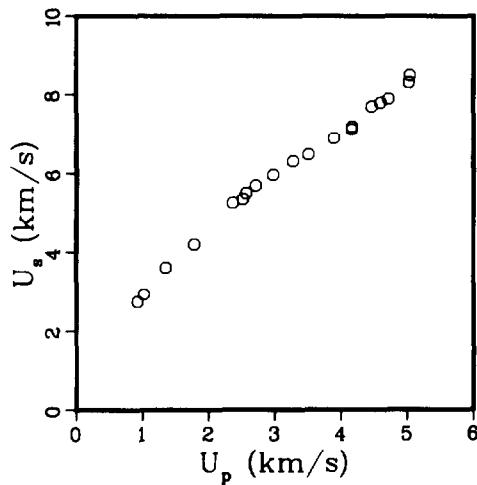
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.200	9.764	1.364	42.618	.2688	3.720	.860	im1 o
3.170	11.923	2.889	109.192	.2390	4.184	.758	im1 o
3.203	12.314	3.133	123.571	.2328	4.296	.746	im1 o



CARBON , fibers woven three-dimensionally

Average $\rho_0 = 1.519 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.518	2.733	.924	3.833	.4360	2.293	.662	im1 o
1.510	2.933	1.018	4.509	.4324	2.313	.653	im1 o
1.520	3.608	1.353	7.420	.4112	2.432	.625	im1 o
1.515	4.198	1.781	11.327	.3800	2.631	.576	im1 o
1.518	5.264	2.361	18.866	.3633	2.753	.551	im1 o
1.515	5.357	2.516	20.419	.3501	2.857	.530	im1 o
1.524	5.505	2.563	21.503	.3507	2.852	.534	im1 o
1.520	5.693	2.707	23.425	.3451	2.898	.525	im1 o
1.527	5.965	2.968	27.034	.3290	3.039	.502	im1 o
1.527	6.307	3.282	31.608	.3141	3.184	.480	im1 o
1.528	6.472	3.509	34.701	.2996	3.338	.458	im1 o
1.525	6.885	3.893	40.875	.2850	3.509	.435	im1 o
1.512	7.110	4.159	44.711	.2745	3.643	.415	im1 o
1.527	7.181	4.166	45.682	.2750	3.637	.420	im1 o
1.511	7.695	4.467	51.938	.2776	3.602	.419	im1 o
1.509	7.793	4.602	54.118	.2714	3.685	.409	im1 o
1.518	7.887	4.720	56.510	.2645	3.780	.402	im1 o
1.527	8.305	5.029	63.776	.2583	3.871	.394	im1 o
1.509	8.486	5.041	64.552	.2690	3.717	.406	im1 o

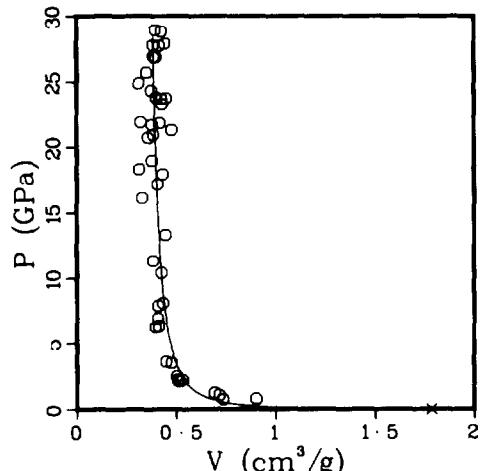
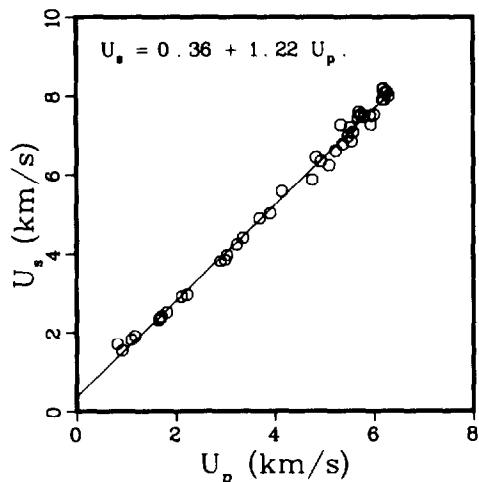


CARBON , foamed , $\rho_0 = 0.56 \text{ g/cm}^3$.

Average $\rho_0 = 0.560 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.577	1.701	.815	.800	.9027	1.108	.521	im1 o
.550	1.530	.911	.767	.7356	1.359	.405	im1 o
.550	1.810	1.096	1.091	.7172	1.394	.394	im1 o
.550	1.903	1.177	1.232	.6936	1.442	.382	im1 o
.550	2.318	1.658	2.114	.5177	1.932	.285	im1 o
.570	2.342	1.665	2.223	.5071	1.972	.289	im1 o
.550	2.399	1.699	2.242	.5305	1.885	.292	im1 o
.550	2.504	1.812	2.495	.5025	1.990	.276	im1 o
.570	2.910	2.119	3.515	.4769	2.097	.272	im1 o
.550	2.954	2.224	3.613	.4493	2.226	.247	im1 o
.577	3.806	2.899	6.366	.4130	2.421	.238	im1 o
.550	3.833	2.996	6.316	.3970	2.519	.218	im1 o
.577	3.962	3.035	6.938	.4055	2.466	.234	im1 o
.577	4.234	3.235	7.903	.4089	2.445	.236	im1 o
.550	4.397	3.351	8.104	.4325	2.312	.238	im1 o
.577	4.890	3.691	10.414	.4249	2.353	.245	im1 o
.577	5.023	3.910	11.332	.3840	2.604	.222	im1 o
.577	5.573	4.140	13.313	.4456	2.244	.257	im1 o
.577	5.868	4.759	16.113	.3275	3.053	.189	im1 o
.577	6.440	4.829	17.944	.4335	2.307	.250	im1 o
.550	6.341	4.925	17.176	.4060	2.463	.223	im1 o
.577	6.229	5.098	18.323	.3147	3.178	.182	im1 o

(Continued)



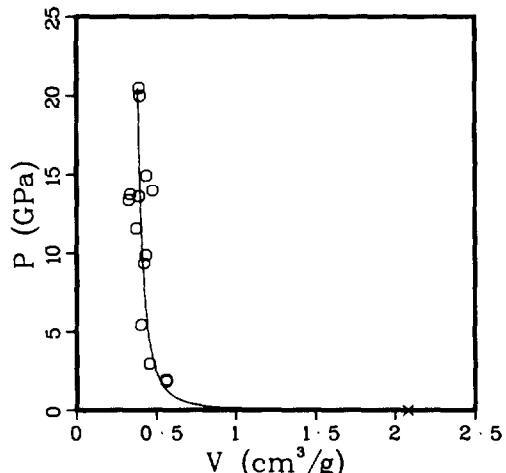
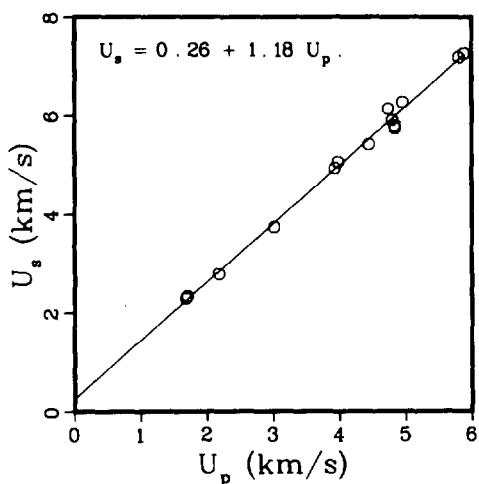
CARBON , foamed , $\rho_0 = 0.56 \text{ g/cm}^3$.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.550	6.598	5.230	18.979	.3770	2.653	.207	im1 o
.550	7.249	5.341	21.294	.4786	2.090	.263	im1 o
.570	6.756	5.372	20.687	.3594	2.782	.205	im1 o
.550	6.949	5.476	20.929	.3854	2.595	.212	im1 o
.550	7.181	5.526	21.825	.4190	2.386	.230	im1 o
.577	6.830	5.555	21.892	.3235	3.091	.187	im1 o
.550	7.060	5.582	21.675	.3806	2.627	.209	im1 o
.550	7.443	5.685	23.272	.4294	2.329	.236	im1 o
.550	7.573	5.699	23.737	.4499	2.223	.247	im1 o
.550	7.502	5.739	23.680	.4273	2.340	.235	im1 o
.550	7.450	5.809	23.802	.4005	2.497	.220	im1 o
.550	7.468	5.923	24.328	.3762	2.659	.207	im1 o
.577	7.253	5.945	24.880	.3125	3.200	.180	im1 o
.570	7.501	6.003	25.666	.3504	2.854	.200	im1 o
.550	7.908	6.176	26.862	.3982	2.511	.219	im1 o
.570	8.169	6.190	28.823	.4250	2.353	.242	im1 o
.550	8.190	6.191	27.887	.4438	2.253	.244	im1 o
.550	7.882	6.202	26.886	.3875	2.580	.213	im1 o
.550	8.087	6.234	27.728	.4166	2.400	.229	im1 o
.570	8.093	6.271	28.928	.3950	2.532	.225	im1 o
.550	8.003	6.306	27.757	.3855	2.594	.212	im1 o

CARBON , foamed , $\rho_0 = 0.48 \text{ g/cm}^3$.

Average $\rho_0 = 0.481 \text{ g/cm}^3$.

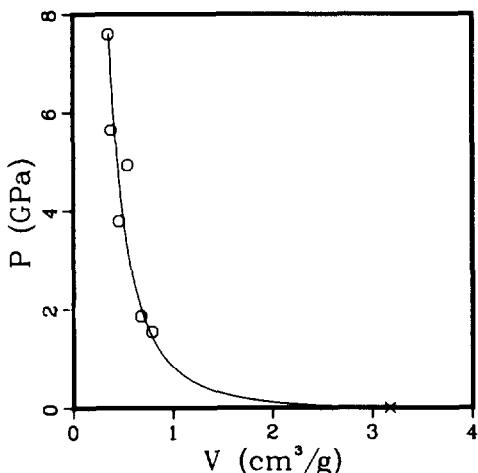
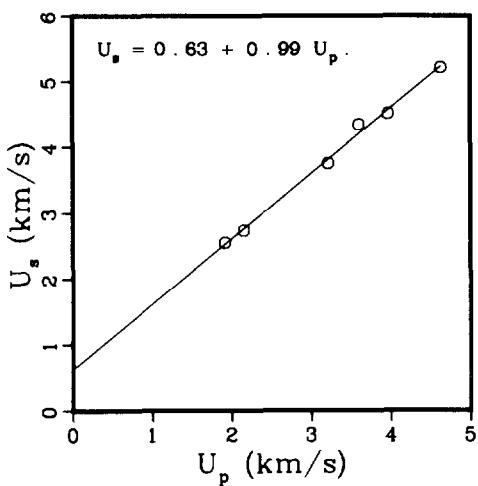
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.470	2.294	1.687	1.819	.5630	1.776	.265	im1 o
.480	2.340	1.706	1.916	.5645	1.772	.271	im1 o
.480	2.790	2.179	2.918	.4562	2.192	.219	im1 o
.480	3.746	3.019	5.428	.4043	2.473	.194	im1 o
.480	4.940	3.934	9.328	.4243	2.357	.204	im1 o
.490	5.064	3.981	9.878	.4365	2.291	.214	im1 o
.480	5.422	4.448	11.576	.3742	2.672	.180	im1 o
.480	6.145	4.736	13.969	.4777	2.093	.229	im1 o
.480	5.908	4.797	13.604	.3918	2.553	.188	im1 o
.490	5.796	4.840	13.746	.3366	2.971	.165	im1 o
.480	5.748	4.847	13.373	.3266	3.062	.157	im1 o
.480	6.280	4.954	14.933	.4399	2.273	.211	im1 o
.480	7.177	5.806	20.001	.3980	2.513	.191	im1 o
.480	7.259	5.886	20.509	.3941	2.538	.189	im1 o



CARBON , foamed , $\rho_0 = 0.32 \text{ g/cm}^3$.

Average $\rho_0 = 0.315 \text{ g/cm}^3$.

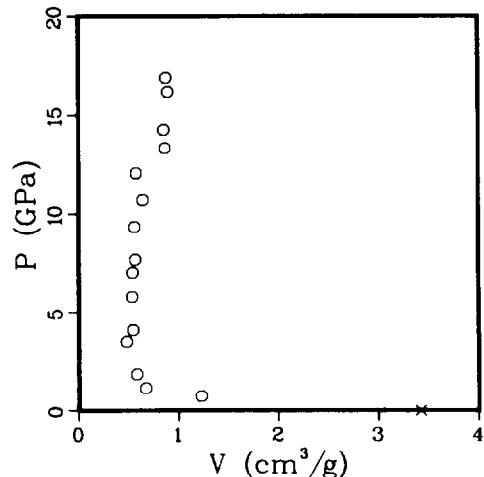
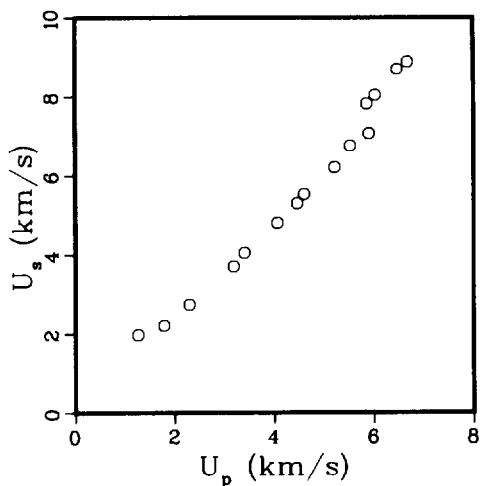
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.315	2.551	1.918	1.541	.7877	1.269	.248	i m1 o
.315	2.736	2.153	1.856	.6765	1.478	.213	i m1 o
.315	3.753	3.211	3.796	.4585	2.181	.144	i m1 o
.315	4.345	3.602	4.930	.5429	1.842	.171	i m1 o
.315	4.511	3.970	5.641	.3807	2.627	.120	i m1 o
.315	5.210	4.631	7.600	.3528	2.834	.111	i m1 o



CARBON , foamed , $\rho_0 = 0.29 \text{ g/cm}^3$.

Average $\rho_0 = 0.292 \text{ g/cm}^3$.

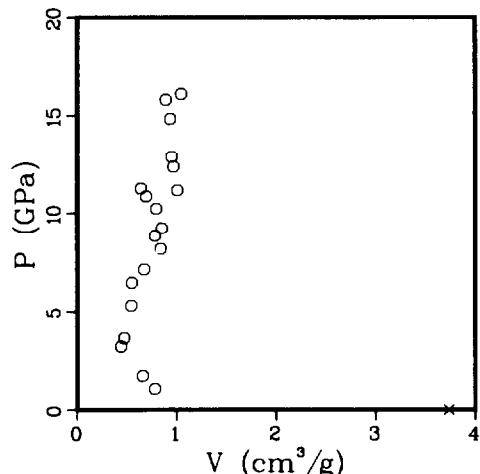
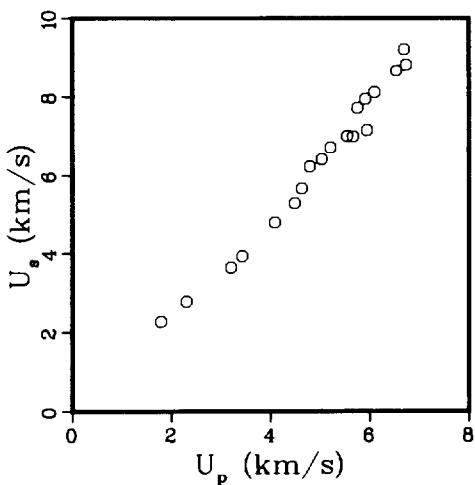
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.295	1.979	1.262	.737	1.2281	.814	.362	i m1 o
.292	2.217	1.783	1.154	.6704	1.492	.196	i m1 o
.292	2.763	2.295	1.852	.5801	1.724	.169	i m1 o
.296	3.713	3.185	3.500	.4804	2.082	.142	i m1 o
.297	4.055	3.399	4.094	.5447	1.836	.162	i m1 o
.297	4.822	4.059	5.813	.5328	1.877	.158	i m1 o
.296	5.312	4.462	7.016	.5406	1.850	.160	i m1 o
.301	5.541	4.599	7.670	.5648	1.771	.170	i m1 o
.288	6.213	5.213	9.328	.5589	1.789	.161	i m1 o
.286	6.766	5.524	10.689	.6418	1.558	.184	i m1 o
.290	7.831	5.862	13.313	.8670	1.153	.251	i m1 o
.288	7.080	5.902	12.034	.5777	1.731	.166	i m1 o
.294	8.046	6.029	14.262	.8527	1.173	.251	i m1 o
.287	8.708	6.469	16.167	.8959	1.116	.257	i m1 o
.284	8.899	6.679	16.880	.8784	1.138	.249	i m1 o



CARBON , foamed , $\rho_0 = 0.27 \text{ g/cm}^3$.

Average $\rho_0 = 0.268 \text{ g/cm}^3$.

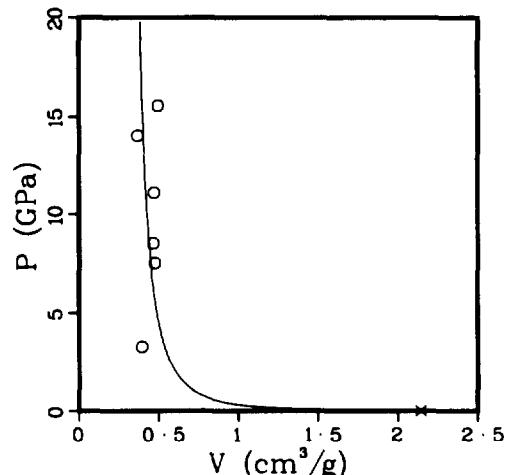
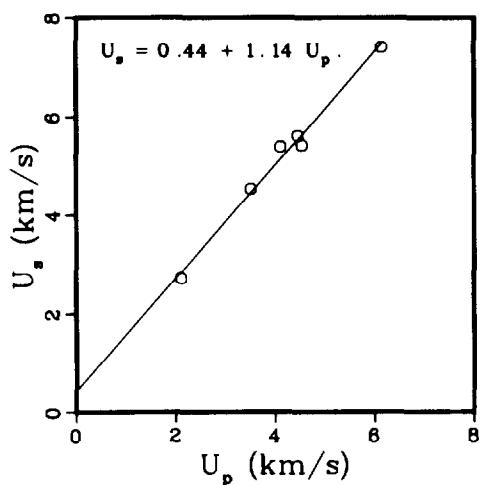
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.273	2.271	1.786	1.107	.7823	1.278	.214	im1 o
.272	2.802	2.301	1.754	.6574	1.521	.179	im1 o
.276	3.646	3.202	3.222	.4412	2.266	.122	im1 o
.271	3.929	3.427	3.649	.4715	2.121	.128	im1 o
.271	4.793	4.089	5.311	.5420	1.845	.147	im1 o
.272	5.288	4.494	6.464	.5520	1.812	.150	im1 o
.272	5.669	4.630	7.139	.6738	1.484	.183	im1 o
.274	6.226	4.793	8.176	.8400	1.190	.230	im1 o
.274	6.410	5.035	8.843	.7829	1.277	.215	im1 o
.263	6.723	5.219	9.228	.8506	1.176	.224	im1 o
.263	7.012	5.549	10.233	.7933	1.261	.209	im1 o
.274	7.000	5.669	10.873	.6940	1.441	.190	im1 o
.252	7.718	5.756	11.195	1.0088	.991	.254	im1 o
.264	7.943	5.911	12.395	.9690	1.032	.256	im1 o
.265	7.159	5.944	11.277	.6404	1.561	.170	im1 o
.261	8.113	6.100	12.917	.9507	1.052	.248	im1 o
.262	8.663	6.538	14.839	.9362	1.068	.245	im1 o
.261	9.212	6.694	16.095	1.0473	.955	.273	im1 o
.266	8.822	6.734	15.802	.8898	1.124	.237	im1 o



CARBON , graphite , powdered , unpressed

Average $\rho_0 = 0.466 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
570	2.728	2.114	3.287	3949	2.533	.225	i m1 o
474	4.535	3.514	7.554	4750	2.105	.225	i m1 o
504	5.385	4.102	11.133	4727	2.115	.238	i m1 o
561	5.609	4.454	14.015	3671	2.724	.206	i m1 o
348	5.412	4.535	8.541	4657	2.148	.162	i m1 o
342	7.401	6.147	15.559	4954	2.018	.169	i m1 o



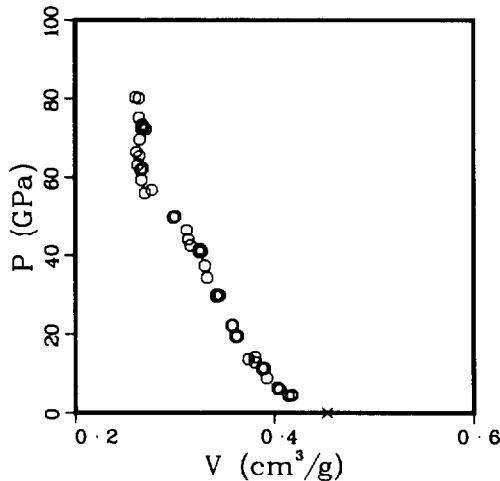
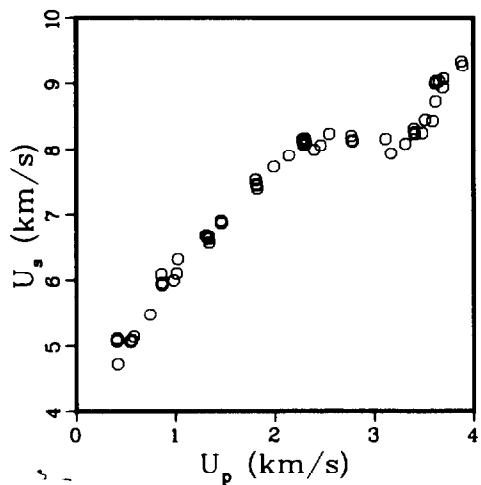
CARBON , graphite , pyrolytic , $\rho_0 = 2.21 \text{ g/cm}^3$.

Average $\rho_0 = 2.208 \text{ g/cm}^3$.

References 5, 6, 14

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.203	5.110	.409	4.604	.4176	2.395	.920	im1 o
2.203	5.071	.410	4.580	.4172	2.397	.919	im1 o
2.203	5.092	.410	4.599	.4174	2.396	.919	im1 o
2.202	4.726	.417	4.340	.4141	2.415	.912	im1 o
2.201	5.072	.545	6.084	.4055	2.466	.893	im1 o
2.203	5.059	.549	6.119	.4047	2.471	.891	im1 o
2.203	5.085	.557	6.240	.4042	2.474	.890	im1 o
2.202	5.139	.579	6.552	.4030	2.482	.887	im1 o
2.203	5.473	.743	8.958	.3923	2.549	.864	im1 o
2.203	6.086	.855	11.463	.3902	2.563	.860	im1 o
2.203	5.959	.862	11.316	.3883	2.576	.855	im1 o
2.203	5.924	.864	11.276	.3877	2.579	.854	im1 o
2.197	5.995	.981	12.921	.3807	2.627	.836	im1 o
2.232	6.098	1.010	13.747	.3738	2.675	.834	im1 o
2.202	6.316	1.022	14.214	.3806	2.627	.838	im1 o
2.222	6.666	1.308	19.374	.3617	2.764	.804	im1 o
2.222	6.680	1.310	19.444	.3618	2.764	.804	im1 o
2.203	6.655	1.331	19.514	.3631	2.754	.800	im1 o
2.203	6.621	1.334	19.458	.3625	2.759	.799	im1 o
2.203	6.561	1.339	19.354	.3613	2.768	.796	im1 o
2.203	6.910	1.459	22.210	.3581	2.793	.789	im1 o

(Continued)



CARBON , graphite , pyrolytic , $\rho_0 = 2.21 \text{ g/cm}^3$.
 (Continued)

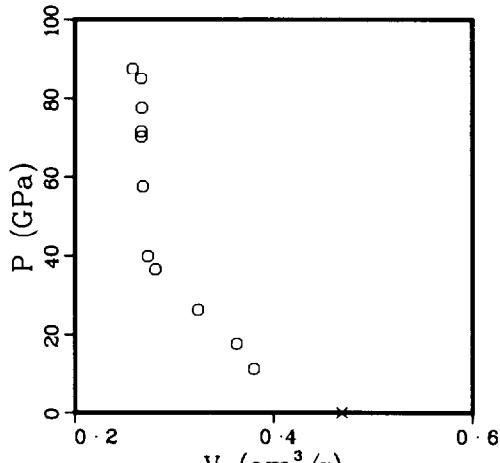
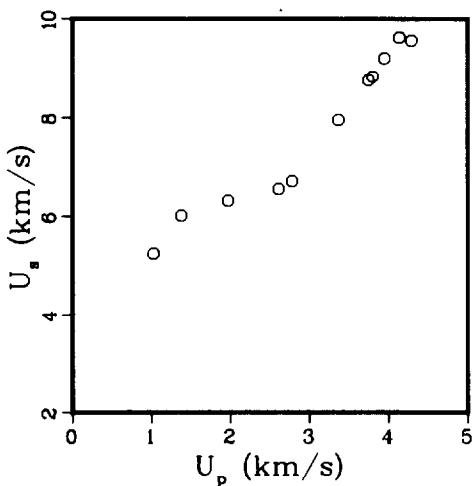
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.203	6.875	1.462	22.143	.3574	2.798	.787	i m1 o
2.203	6.873	1.462	22.136	.3574	2.798	.787	i m1 o
2.221	7.531	1.805	30.191	.3423	2.921	.760	i m1 o
2.201	7.533	1.808	29.977	.3453	2.896	.760	i m1 o
2.203	7.465	1.817	29.881	.3434	2.912	.757	i m1 o
2.203	7.445	1.819	29.834	.3430	2.915	.756	i m1 o
2.203	7.394	1.823	29.695	.3420	2.924	.753	i m1 o
2.233	7.735	1.990	34.372	.3326	3.006	.743	i m1 o
2.207	7.905	2.142	37.370	.3303	3.027	.729	i m1 o
2.203	8.160	2.280	40.986	.3271	3.057	.721	i m1 o
2.203	8.122	2.284	40.867	.3263	3.065	.719	i m1 o
2.203	8.071	2.290	40.717	.3251	3.076	.716	i m1 o
2.203	8.169	2.305	41.481	.3258	3.069	.718	i m1 o
2.203	8.120	2.310	41.322	.3248	3.079	.716	i m1 o
2.203	8.095	2.313	41.248	.3242	3.084	.714	i m1 o
2.216	7.992	2.398	42.469	.3159	3.166	.700	i m1 o
2.215	8.063	2.463	43.988	.3136	3.189	.695	i m1 o
2.213	8.238	2.551	46.507	.3119	3.206	.690	i m1 o
2.203	8.208	2.771	50.106	.3007	3.326	.662	i m1 o
2.203	8.141	2.780	49.858	.2989	3.345	.659	i m1 o
2.203	8.124	2.782	49.790	.2985	3.350	.658	i m1 o
2.231	8.161	3.119	56.788	.2769	3.611	.618	i m1 o
2.224	7.940	3.171	55.995	.2701	3.703	.601	i m1 o
2.212	8.088	3.316	59.325	.2667	3.749	.590	i m1 o
2.203	8.314	3.401	62.292	.2682	3.728	.591	i m1 o
2.203	8.262	3.408	62.030	.2667	3.750	.588	i m1 o
2.203	8.238	3.412	61.922	.2659	3.761	.586	i m1 o
2.196	8.252	3.487	63.189	.2629	3.803	.577	i m1 o
2.206	8.451	3.516	65.548	.2647	3.778	.584	i m1 o
2.197	8.435	3.591	66.547	.2614	3.826	.574	i m1 o
2.227	9.000	3.619	72.536	.2685	3.725	.598	i m1 o
2.208	8.730	3.621	69.798	.2650	3.773	.585	i m1 o
2.210	9.035	3.624	72.362	.2710	3.690	.599	i m1 o
2.225	9.036	3.657	73.524	.2675	3.738	.595	i m1 o
2.202	8.941	3.695	72.747	.2665	3.753	.587	i m1 o
2.242	9.076	3.700	75.289	.2642	3.785	.592	i m1 o
2.212	9.338	3.880	80.144	.2642	3.784	.584	i m1 o
2.227	9.274	3.892	80.382	.2606	3.837	.580	i m1 o

CARBON , graphite , pressed , $\rho_0 = 2.13 \text{ g/cm}^3$.

Average $\rho_0 = 2.134 \text{ g/cm}^3$.

References 5 , 6 , 14

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.113	5.235	1.026	11.349	.3805	2.628	.804	im1 o
2.123	6.013	1.380	17.617	.3629	2.755	.770	im1 o
2.123	6.320	1.972	26.459	.3241	3.086	.688	im1 o
2.143	6.551	2.607	36.599	.2809	3.560	.602	im1 o
2.141	6.704	2.779	39.888	.2735	3.657	.585	im1 o
2.146	7.960	3.370	57.567	.2687	3.722	.577	im1 o
2.142	8.762	3.748	70.343	.2672	3.743	.572	im1 o
2.134	8.836	3.801	71.672	.2670	3.745	.570	im1 o
2.135	9.208	3.948	77.614	.2676	3.737	.571	im1 o
2.136	9.627	4.138	85.091	.2669	3.746	.570	im1 o
2.136	9.566	4.290	87.657	.2582	3.873	.552	im1 o

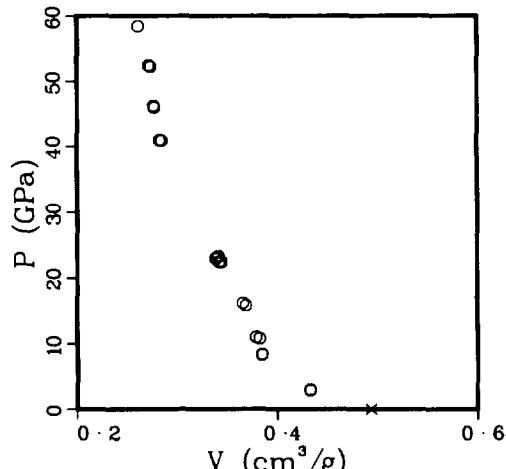
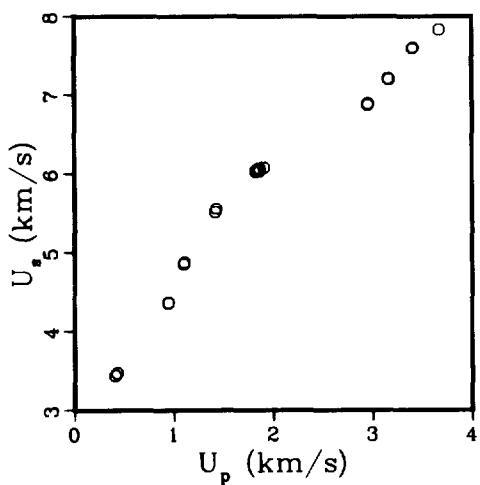


CARBON, graphite, pressed, $\rho_0 = 2.03 \text{ g/cm}^3$.

Average $\rho_0 = 2.026 \text{ g/cm}^3$.

Reference 14

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.037	3.437	.405	2.835	.4331	2.309	.882	i m1 o
2.026	3.470	.425	2.988	.4331	2.309	.878	i m1 o
2.037	4.362	.945	8.397	.3846	2.600	.783	i m1 o
2.031	4.356	.946	8.369	.3854	2.594	.783	i m1 o
2.023	4.854	1.098	10.782	.3825	2.614	.774	i m1 o
2.040	4.878	1.106	11.006	.3791	2.638	.773	i m1 o
2.014	5.513	1.415	15.711	.3691	2.709	.743	i m1 o
2.031	5.558	1.426	16.097	.3660	2.732	.743	i m1 o
2.037	6.028	1.828	22.446	.3420	2.924	.697	i m1 o
2.026	6.040	1.830	22.394	.3440	2.907	.697	i m1 o
2.012	6.034	1.854	22.508	.3443	2.904	.693	i m1 o
2.040	6.068	1.862	23.049	.3398	2.943	.693	i m1 o
2.042	6.036	1.865	22.987	.3384	2.955	.691	i m1 o
2.009	6.076	1.909	23.303	.3414	2.929	.686	i m1 o
2.015	6.874	2.954	40.916	.2830	3.533	.570	i m1 o
2.003	6.896	2.956	40.830	.2852	3.506	.571	i m1 o
2.031	7.211	3.160	46.280	.2766	3.615	.562	i m1 o
2.016	7.197	3.170	45.994	.2775	3.603	.560	i m1 o
2.028	7.593	3.402	52.386	.2722	3.674	.552	i m1 o
2.013	7.605	3.409	52.188	.2741	3.648	.552	i m1 o
2.032	7.835	3.672	58.461	.2615	3.824	.531	i m1 o



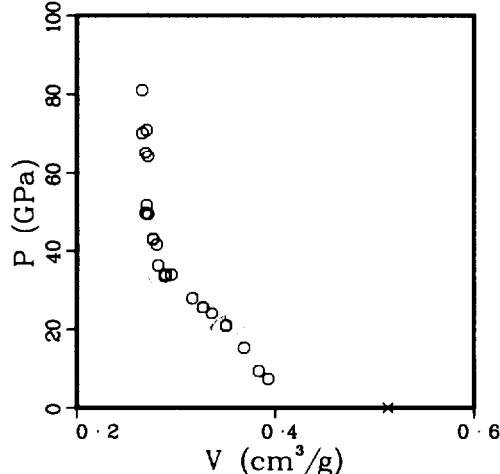
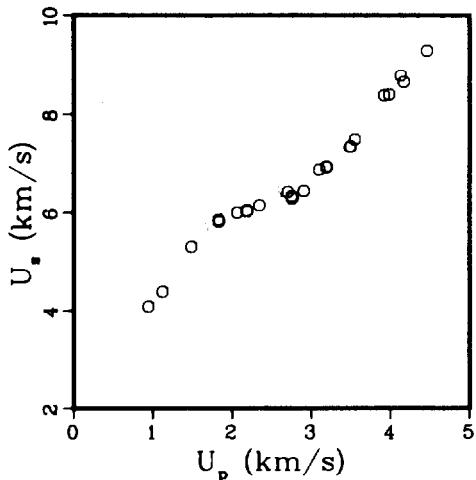
CARBON , graphite , ZTA , $\rho_0 = 1.95 \text{ g/cm}^3$.

Average $\rho_0 = 1.948 \text{ g/cm}^3$.

References 6 , 14

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.956	4.087	.945	7.554	.3930	2.544	.769	im1 o
1.943	4.389	1.119	9.543	.3835	2.608	.745	im1 o
1.949	5.284	1.487	15.314	.3687	2.712	.719	im1 o
1.960	5.856	1.829	20.993	.3509	2.850	.688	im1 o
1.952	5.814	1.836	20.837	.3505	2.853	.684	im1 o
1.948	5.996	2.067	24.143	.3364	2.973	.655	im1 o
1.947	6.040	2.189	25.742	.3275	3.054	.638	im1 o
1.943	6.024	2.193	25.668	.3273	3.055	.636	im1 o
1.950	6.141	2.348	28.117	.3167	3.157	.618	im1 o
1.957	6.413	2.705	33.948	.2955	3.385	.578	im1 o
1.948	6.324	2.754	33.927	.2898	3.451	.565	im1 o
1.940	6.285	2.763	33.689	.2889	3.462	.560	im1 o
1.941	6.433	2.909	36.323	.2822	3.543	.548	im1 o
1.951	6.868	3.104	41.592	.2809	3.560	.548	im1 o
1.946	6.926	3.193	43.035	.2770	3.610	.539	im1 o
1.941	6.910	3.198	42.893	.2768	3.613	.537	im1 o
1.943	7.337	3.493	49.795	.2696	3.709	.524	im1 o
1.928	7.355	3.499	49.617	.2719	3.677	.524	im1 o
1.945	7.495	3.553	51.795	.2704	3.698	.526	im1 o
1.955	8.381	3.924	64.294	.2720	3.676	.532	im1 o
1.948	8.396	3.988	65.225	.2695	3.710	.525	im1 o

(Continued)



CARBON , graphite , ZTA, $\rho_0 = 1.95 \text{ g/cm}^3$.
(Continued)

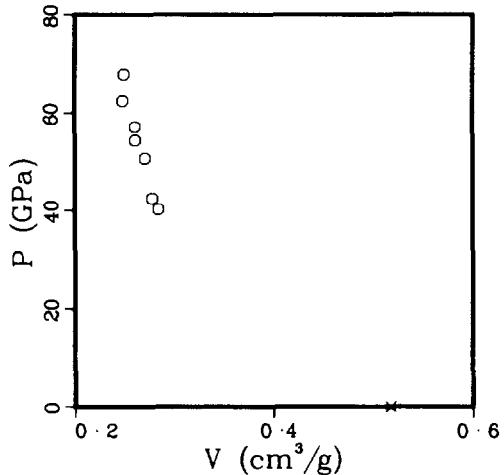
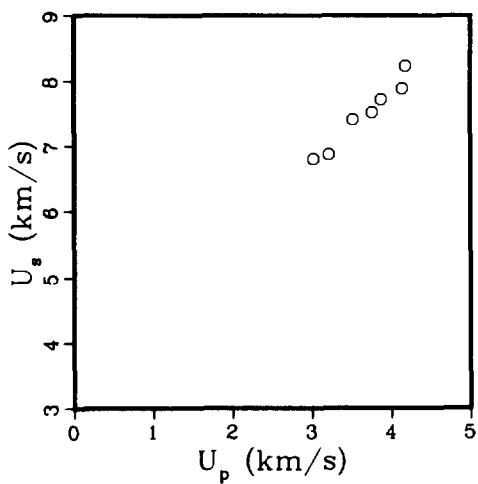
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.957	8.781	4.133	71.023	.2705	3.697	.529	i m1 o
1.946	8.654	4.173	70.276	.2661	3.758	.518	i m1 o
1.954	9.292	4.464	81.051	.2659	3.761	.520	i m1 o

CARBON, graphite, pressed, $\rho_0 = 1.93 \text{ g/cm}^3$.

Average $\rho_0 = 1.934 \text{ g/cm}^3$.

Reference 6

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.962	6.809	3.015	40.278	.2840	3.521	.557	im1 o
1.919	6.879	3.212	42.401	.2778	3.600	.533	im1 o
1.942	7.413	3.520	50.674	.2704	3.698	.525	im1 o
1.921	7.526	3.760	54.360	.2605	3.839	.500	im1 o
1.909	7.722	3.876	57.137	.2609	3.833	.498	im1 o
1.912	7.888	4.140	62.439	.2485	4.024	.475	im1 o
1.970	8.230	4.181	67.787	.2497	4.004	.492	im1 o

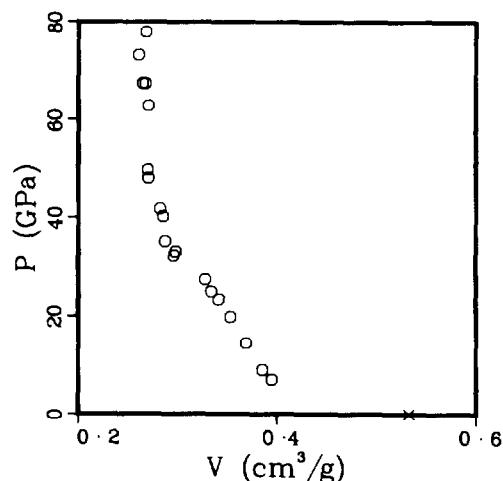
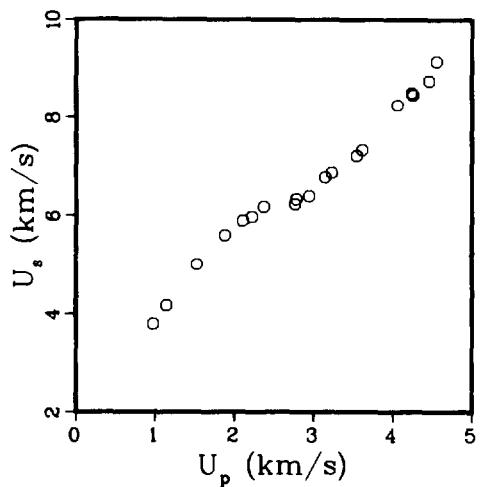


CARBON . graphite . pressed . $\rho_0 = 1.88 \text{ g/cm}^3$.

Average $\rho_0 = 1.878 \text{ g/cm}^3$.

References 6 , 14

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.881	3.795	.977	6.974	.3948	2.533	.743	im1 o
1.881	4.173	1.147	9.003	.3855	2.594	.725	im1 o
1.882	5.002	1.530	14.403	.3688	2.711	.694	im1 o
1.878	5.596	1.882	19.778	.3534	2.830	.664	im1 o
1.882	5.891	2.103	23.316	.3417	2.927	.643	im1 o
1.881	5.972	2.222	24.960	.3338	2.996	.628	im1 o
1.878	6.177	2.372	27.516	.3280	3.049	.616	im1 o
1.877	6.231	2.766	32.350	.2963	3.375	.556	im1 o
1.881	6.332	2.783	33.147	.2980	3.356	.560	im1 o
1.874	6.392	2.947	35.301	.2876	3.477	.539	im1 o
1.881	6.792	3.151	40.256	.2850	3.509	.536	im1 o
1.877	6.884	3.236	41.813	.2823	3.542	.530	im1 o
1.881	7.228	3.545	48.197	.2709	3.692	.510	im1 o
1.878	7.345	3.616	49.879	.2703	3.699	.508	im1 o
1.878	8.249	4.058	62.865	.2705	3.696	.508	im1 o
1.871	8.501	4.238	67.407	.2680	3.731	.501	im1 o
1.874	8.457	4.256	67.451	.2651	3.773	.497	im1 o
1.877	8.741	4.462	73.207	.2608	3.834	.490	im1 o
1.873	9.139	4.551	77.901	.2680	3.731	.502	im1 o



CARBON, graphite, ATJ, $\rho_0 = 1.77 \text{ g/cm}^3$.

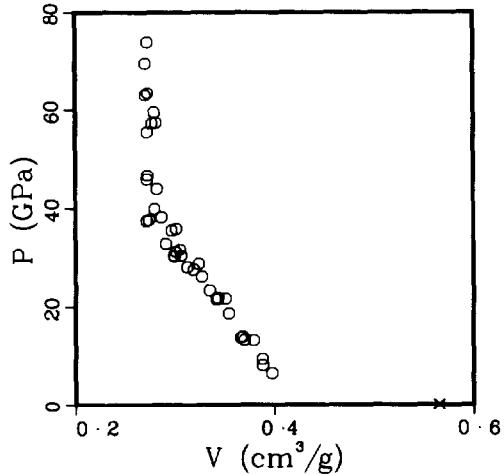
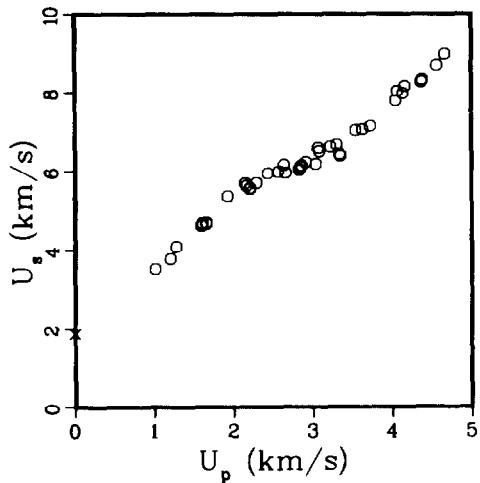
Average $\rho_0 = 1.768 \text{ g/cm}^3$.

Sound velocities longitudinal 2.56 km/s.
shear 1.52 km/s.

References 6, 14

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.770	1.864	0.000	0.000	.5650	1.770	1.000	s s p x
1.791	3.515	1.012	6.371	.3976	2.515	.712	i m1 o
1.756	3.777	1.203	7.979	.3881	2.577	.681	i m1 o
1.775	4.090	1.274	9.249	.3879	2.578	.689	i m1 o
1.768	4.619	1.597	13.042	.3701	2.702	.654	i m1 o
1.732	4.686	1.605	13.026	.3796	2.634	.657	i m1 o
1.759	4.704	1.656	13.702	.3684	2.715	.648	i m1 o
1.759	4.671	1.659	13.631	.3666	2.728	.645	i m1 o
1.807	5.364	1.930	18.707	.3543	2.823	.640	i m1 o
1.774	5.689	2.149	21.688	.3508	2.851	.622	i m1 o
1.792	5.622	2.166	21.822	.3430	2.915	.615	i m1 o
1.759	5.557	2.209	21.592	.3425	2.920	.602	i m1 o
1.759	5.540	2.211	21.546	.3416	2.927	.601	i m1 o
1.785	5.697	2.291	23.298	.3349	2.986	.598	i m1 o
1.805	5.945	2.431	26.086	.3275	3.054	.591	i m1 o
1.792	5.986	2.563	27.493	.3191	3.134	.572	i m1 o
1.767	6.159	2.632	28.644	.3241	3.086	.573	i m1 o
1.773	5.956	2.656	28.047	.3125	3.200	.554	i m1 o
1.776	6.042	2.827	30.335	.2996	3.338	.532	i m1 o

(Continued)



CARBON , graphite , ATJ , $\rho_0 = 1.77 \text{ g/cm}^3$.
 (Continued)

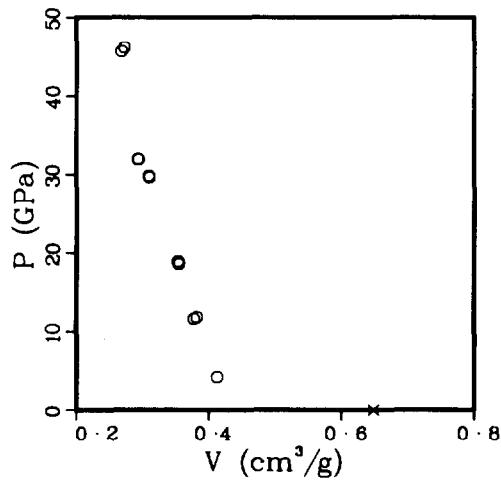
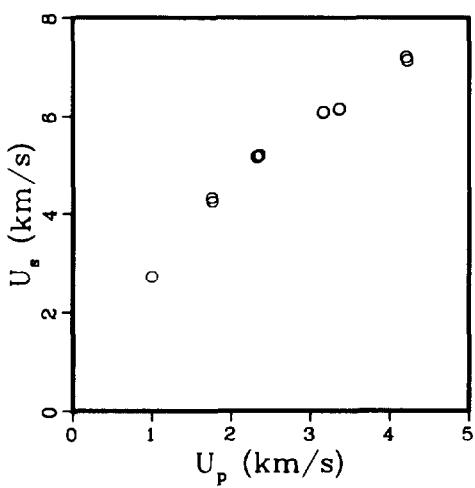
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.775	6.031	2.829	30.285	.2991	3.343	.531	im1 o
1.748	6.116	2.843	30.394	.3062	3.266	.535	im1 o
1.778	6.145	2.857	31.215	.3009	3.323	.535	im1 o
1.748	6.233	2.909	31.694	.3051	3.278	.533	im1 o
1.751	6.188	3.037	32.906	.2908	3.439	.509	im1 o
1.773	6.598	3.069	35.902	.3017	3.315	.535	im1 o
1.775	6.512	3.080	35.601	.2969	3.368	.527	im1 o
1.792	6.625	3.223	38.263	.2866	3.490	.514	im1 o
1.808	6.679	3.304	39.898	.2795	3.578	.505	im1 o
1.757	6.440	3.336	37.747	.2743	3.645	.482	im1 o
1.757	6.395	3.343	37.562	.2716	3.682	.477	im1 o
1.762	7.042	3.540	43.924	.2822	3.543	.497	im1 o
1.788	7.063	3.626	45.791	.2722	3.674	.487	im1 o
1.756	7.140	3.723	46.678	.2725	3.669	.479	im1 o
1.763	7.787	4.048	55.573	.2724	3.672	.480	im1 o
1.758	8.036	4.066	57.442	.2810	3.559	.494	im1 o
1.737	7.973	4.138	57.308	.2769	3.611	.481	im1 o
1.753	8.159	4.161	59.514	.2795	3.577	.490	im1 o
1.743	8.270	4.369	62.977	.2706	3.695	.472	im1 o
1.739	8.332	4.376	63.405	.2730	3.663	.475	im1 o
1.754	8.689	4.566	69.588	.2705	3.696	.475	im1 o
1.761	8.974	4.667	73.754	.2725	3.669	.480	im1 o

CARBON, graphite, PT 0178, $\rho_0 = 1.54 \text{ g/cm}^3$.

Average $\rho_0 = 1.542 \text{ g/cm}^3$.

References 6, 14

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.536	2.724	.998	4.176	.4125	2.424	.634	im1 o
1.556	4.328	1.753	11.805	.3824	2.615	.595	im1 o
1.550	4.249	1.762	11.604	.3776	2.648	.585	im1 o
1.550	5.172	2.328	18.663	.3548	2.819	.550	im1 o
1.545	5.165	2.331	18.601	.3551	2.816	.549	im1 o
1.544	5.199	2.361	18.952	.3535	2.828	.546	im1 o
1.554	6.083	3.156	29.834	.3096	3.230	.481	im1 o
1.540	6.073	3.166	29.610	.3108	3.217	.479	im1 o
1.546	6.147	3.364	31.969	.2928	3.415	.453	im1 o
1.540	6.157	3.367	31.925	.2942	3.398	.453	im1 o
1.526	7.186	4.205	46.111	.2718	3.679	.415	im1 o
1.520	7.116	4.220	45.645	.2677	3.735	.407	im1 o

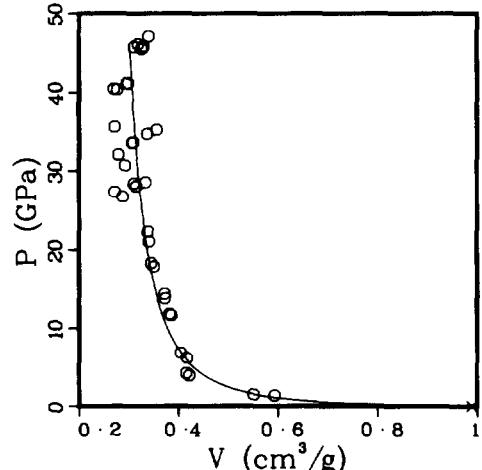
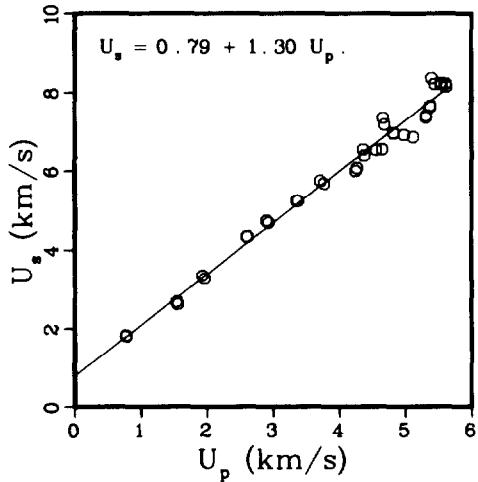


CARBON , graphite , $\rho_0 = 1.0 \text{ g/cm}^3$.

Average $\rho_0 = 1.011 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.046	1.822	.772	1.471	.5509	1.815	.576	i m1 o
.955	1.799	.780	1.340	.5931	1.686	.566	i m1 o
1.026	2.688	1.541	4.250	.4159	2.404	.427	i m1 o
.960	2.623	1.560	3.928	.4221	2.369	.405	i m1 o
1.051	3.351	1.928	6.790	.4040	2.475	.425	i m1 o
.960	3.271	1.963	6.164	.4165	2.401	.400	i m1 o
1.045	4.339	2.605	11.812	.3824	2.615	.400	i m1 o
1.027	4.330	2.614	11.624	.3859	2.591	.396	i m1 o
1.045	4.737	2.899	14.351	.3713	2.693	.388	i m1 o
1.005	4.685	2.927	13.782	.3734	2.678	.375	i m1 o
1.044	5.242	3.354	18.355	.3450	2.899	.360	i m1 o
1.013	5.235	3.375	17.898	.3507	2.851	.355	i m1 o
1.043	5.747	3.717	22.280	.3387	2.953	.353	i m1 o
.983	5.674	3.772	21.038	.3410	2.932	.335	i m1 o
1.072	5.999	4.251	27.338	.2718	3.679	.291	i m1 o
1.029	6.074	4.276	26.726	.2877	3.476	.296	i m1 o
1.000	6.546	4.360	28.541	.3339	2.995	.334	i m1 o
1.000	6.396	4.381	28.021	.3150	3.174	.315	i m1 o
1.032	6.531	4.555	30.701	.2932	3.411	.303	i m1 o
.933	6.546	4.649	28.393	.3106	3.220	.290	i m1 o
1.026	7.356	4.665	35.208	.3566	2.805	.366	i m1 o
1.031	7.182	4.685	34.691	.3372	2.965	.348	i m1 o

(Continued)



CARBON , graphite , $\rho_0 = 1.0$ g/cm³.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.000	6.975	4.821	33.626	.3088	3.238	.309	i m1 o
1.000	6.960	4.823	33.568	.3070	3.257	.307	i m1 o
1.033	6.922	4.979	35.602	.2717	3.680	.281	i m1 o
.913	6.865	5.118	32.078	.2787	3.588	.254	i m1 o
1.034	7.370	5.313	40.488	.2699	3.705	.279	i m1 o
1.024	7.415	5.317	40.372	.2763	3.619	.283	i m1 o
1.000	7.665	5.378	41.222	.2984	3.352	.298	i m1 o
1.000	7.638	5.382	41.108	.2954	3.386	.295	i m1 o
1.044	8.372	5.395	47.154	.3406	2.936	.356	i m1 o
1.026	8.221	5.439	45.877	.3298	3.032	.338	i m1 o
1.000	8.246	5.537	45.658	.3285	3.044	.329	i m1 o
1.000	8.223	5.541	45.564	.3262	3.066	.326	i m1 o
1.000	8.231	5.605	46.135	.3190	3.134	.319	i m1 o
1.000	8.151	5.617	45.784	.3109	3.217	.311	i m1 o

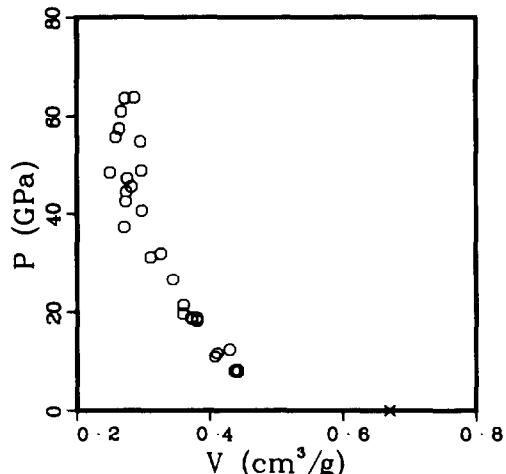
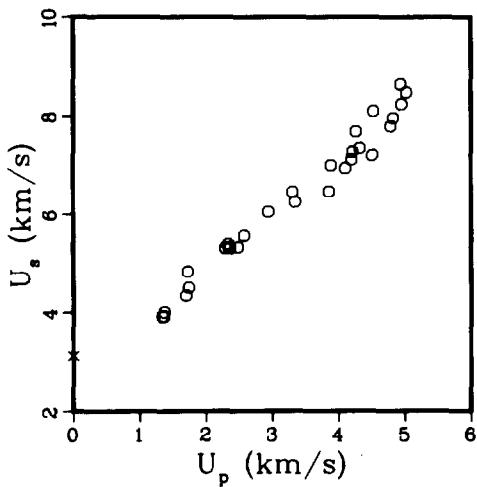
CARBON , vitreous

Average $\rho_0 = 1.492 \text{ g/cm}^3$.

Sound velocities longitudinal 4.59 km/s .
shear 2.91 km/s .

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.492	3.127	0.000	0.000	.6702	1.492	1.000	s s p x
1.492	3.915	1.338	7.815	.4412	2.267	.658	im1 o
1.493	3.919	1.364	7.981	.4367	2.290	.652	im1 o
1.493	4.006	1.371	8.200	.4406	2.270	.658	im1 o
1.492	4.338	1.701	11.009	.4074	2.454	.608	im1 o
1.494	4.831	1.730	12.486	.4296	2.327	.642	im1 o
1.492	4.500	1.741	11.689	.4109	2.433	.613	im1 o
1.492	5.310	2.297	18.198	.3803	2.629	.567	im1 o
1.491	5.390	2.335	18.765	.3801	2.631	.567	im1 o
1.494	5.322	2.365	18.804	.3719	2.689	.556	im1 o
1.488	5.307	2.365	18.676	.3726	2.684	.554	im1 o
1.483	5.325	2.488	19.648	.3593	2.784	.533	im1 o
1.492	5.563	2.575	21.372	.3600	2.778	.537	im1 o
1.492	6.052	2.942	26.565	.3444	2.903	.514	im1 o
1.492	6.458	3.311	31.903	.3266	3.062	.487	im1 o
1.492	6.248	3.347	31.201	.3112	3.213	.464	im1 o
1.492	6.468	3.861	37.260	.2701	3.702	.403	im1 o
1.492	7.005	3.894	40.698	.2977	3.360	.444	im1 o
1.492	6.938	4.108	42.524	.2734	3.658	.408	im1 o
1.492	7.114	4.203	44.611	.2743	3.646	.409	im1 o

(Continued)



CARBON , vitreous
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.492	7.273	4.211	45.695	.2822	3.544	.421	im1 o
1.494	7.683	4.264	48.944	.2979	3.357	.445	im1 o
1.492	7.345	4.320	47.342	.2760	3.623	.412	im1 o
1.492	7.204	4.513	48.507	.2504	3.994	.374	im1 o
1.492	8.100	4.531	54.758	.2953	3.386	.441	im1 o
1.492	7.791	4.789	55.668	.2583	3.872	.385	im1 o
1.492	7.959	4.829	57.344	.2636	3.794	.393	im1 o
1.492	8.643	4.945	63.768	.2868	3.487	.428	im1 o
1.493	8.241	4.957	60.990	.2669	3.747	.398	im1 o
1.492	8.477	5.031	63.630	.2725	3.670	.407	im1 o

CERIUM

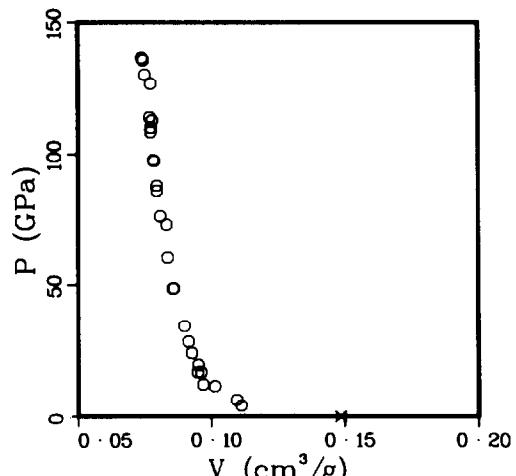
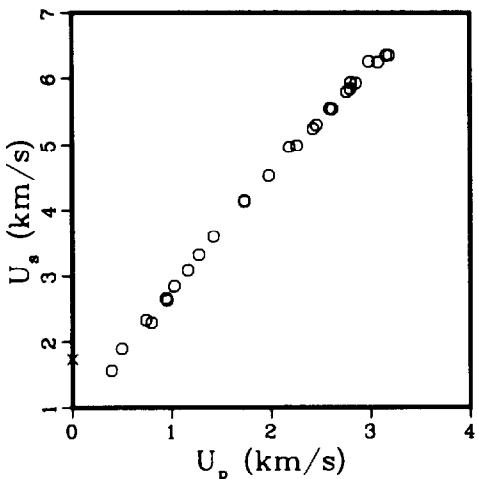
$$\text{Average } \rho_0 = 6.743 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.33 km/s .
 shear 1.34 km/s .

Reference 15

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.731	1.742	0.000	0.000	1486	6.731	1.000	s s p x
6.735	1.571	.394	4.169	1112	8.990	.749	i m1 o
6.736	1.898	.498	6.367	1095	9.132	.738	i m1 o
6.727	2.326	.740	11.579	1014	9.866	.682	i m1 o
6.732	2.287	.795	12.240	0969	10.319	.652	i m1 o
6.730	2.667	.941	16.890	0962	10.399	.647	i m1 o
6.726	2.636	.954	16.914	0949	10.541	.638	i m1 o
6.734	2.850	1.025	19.672	0951	10.516	.640	i m1 o
6.719	3.086	1.164	24.135	0927	10.788	.623	i m1 o
6.734	3.318	1.275	28.488	0914	10.937	.616	i m1 o
6.726	3.596	1.421	34.369	0899	11.120	.605	i m1 o
6.773	4.149	1.733	48.699	0860	11.631	.582	i m1 o
6.778	4.135	1.735	48.627	0856	11.678	.580	i m1 o
6.730	4.528	1.979	60.307	0836	11.955	.563	i m1 o
6.724	4.970	2.187	73.086	0833	12.008	.560	i m1 o
6.759	4.992	2.262	76.322	0809	12.359	.547	i m1 o
6.750	5.245	2.425	85.854	0797	12.555	.538	i m1 o
6.732	5.302	2.460	87.805	0796	12.559	.536	i m1 o
6.770	5.549	2.593	97.411	0787	12.709	.533	i m1 o

(Continued)



CERIUM
 (Continued)

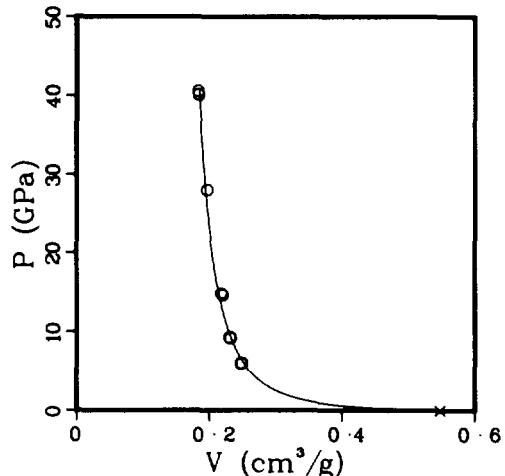
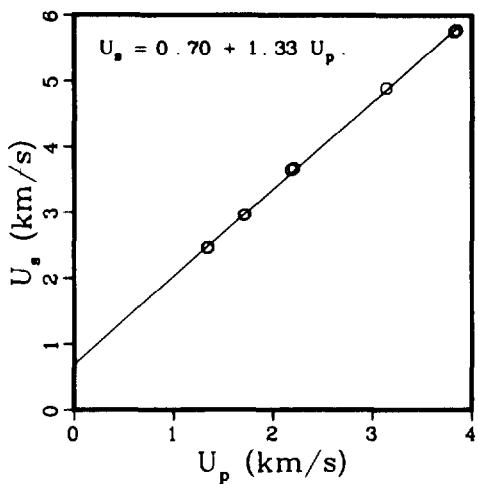
ρ_o (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/Vo	Exp
6.739	5.542	2.618	97.776	.0783	12.773	.528	im1 o
6.764	5.797	2.765	108.418	.0773	12.932	.523	im1 o
6.731	5.842	2.801	110.142	.0773	12.931	.521	im1 o
6.772	5.937	2.805	112.776	.0779	12.837	.528	im1 o
6.731	5.926	2.858	114.000	.0769	13.001	.518	im1 o
6.771	6.268	2.986	126.728	.0773	12.931	.524	im1 o
6.756	6.256	3.080	130.178	.0751	13.308	.508	im1 o
6.750	6.362	3.161	135.744	.0745	13.416	.503	im1 o
6.732	6.359	3.191	136.603	.0740	13.513	.498	im1 o

CESIUM

Average $\rho_0 = 1.826 \text{ g/cm}^3$.

References 6, 16

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.826	2.463	1.342	6.036	.2493	4.012	.455	im1 o
1.826	2.459	1.349	6.057	.2472	4.045	.451	im1 o
1.826	2.958	1.704	9.204	.2322	4.307	.424	im1 o
1.826	2.962	1.716	9.281	.2304	4.341	.421	im1 o
1.826	3.651	2.182	14.547	.2203	4.538	.402	im1 o
1.826	3.674	2.210	14.826	.2182	4.582	.398	im1 o
1.826	4.894	3.137	28.034	.1966	5.086	.359	im1 o
1.826	5.752	3.821	40.133	.1838	5.439	.336	im1 o
1.826	5.777	3.846	40.571	.1831	5.463	.334	im1 o

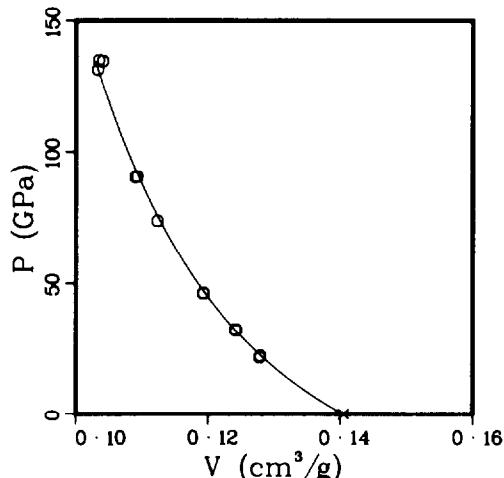
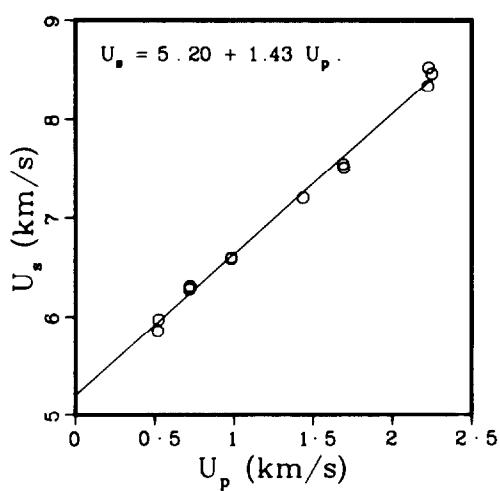


CHROMIUM

Average $\rho_0 = 7.119 \text{ g/cm}^3$.

References 4, 6, 11, 12, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.130	5.852	.519	21.655	.1278	7.824	.911	i m1 o
7.130	5.971	.524	22.308	.1279	7.816	.912	i m1 o
7.130	6.281	.718	32.155	.1242	8.050	.886	i m1 o
7.130	6.279	.719	32.189	.1242	8.052	.885	i m1 o
7.130	6.305	.722	32.457	.1242	8.052	.885	i m1 o
7.130	6.294	.723	32.446	.1241	8.055	.885	i m1 o
7.130	6.580	.983	46.118	.1193	8.382	.851	i m1 o
7.130	6.594	.984	46.263	.1193	8.381	.851	i m1 o
7.123	7.199	1.437	73.687	.1124	8.899	.800	i m1 o
7.100	7.541	1.689	90.431	.1093	9.149	.776	i m1 o
7.100	7.502	1.694	90.230	.1090	9.171	.774	i m1 o
7.100	8.339	2.223	131.617	.1033	9.681	.733	i m1 o
7.100	8.527	2.227	134.826	.1041	9.610	.739	i m1 o
7.100	8.467	2.248	135.140	.1035	9.666	.734	i m1 o



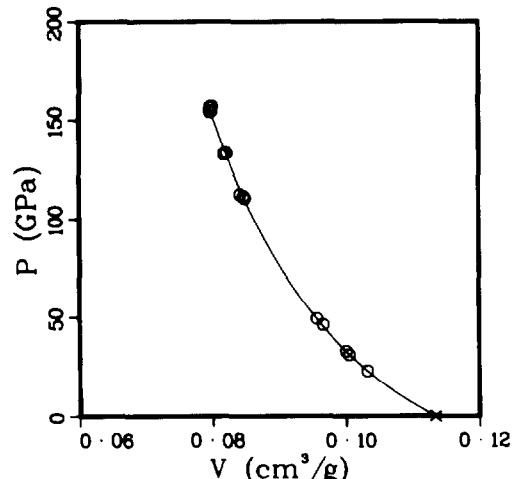
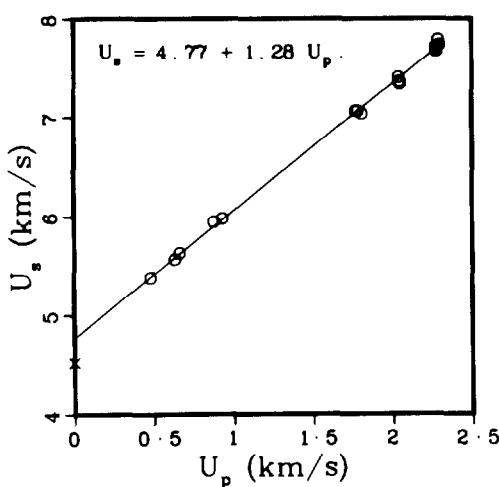
COBALT

Average $\rho_0 = 8.820 \text{ g/cm}^3$.

Sound velocities longitudinal 5.73 km/s.
shear 3.04 km/s.

References 4, 5, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
8.821	4.529	0.000	0.000	.1134	8.821	1.000	s s p x
8.820	5.380	.482	22.872	.1032	9.688	.910	i m1 o
8.820	5.565	.632	31.021	.1005	9.950	.886	i m1 o
8.820	5.628	.662	32.861	.1000	9.996	.882	i m1 o
8.820	5.947	.879	46.106	.0966	10.350	.852	i m1 o
8.820	5.980	.933	49.210	.0957	10.450	.844	i m1 o
8.820	7.064	1.770	110.279	.0850	11.769	.749	i m1 o
8.820	7.064	1.785	111.213	.0847	11.802	.747	i m1 o
8.820	7.035	1.810	112.308	.0842	11.875	.743	i m1 o
8.820	7.407	2.039	133.207	.0822	12.170	.725	i m1 o
8.820	7.365	2.045	132.842	.0819	12.210	.722	i m1 o
8.820	7.341	2.048	132.603	.0817	12.233	.721	i m1 o
8.820	7.717	2.274	154.777	.0800	12.505	.705	i m1 o
8.820	7.696	2.277	154.560	.0798	12.526	.704	i m1 o
8.820	7.672	2.278	154.146	.0797	12.545	.703	i m1 o
8.820	7.789	2.289	157.252	.0801	12.491	.706	i m1 o
8.820	7.736	2.297	156.728	.0797	12.545	.703	i m1 o



COPPER

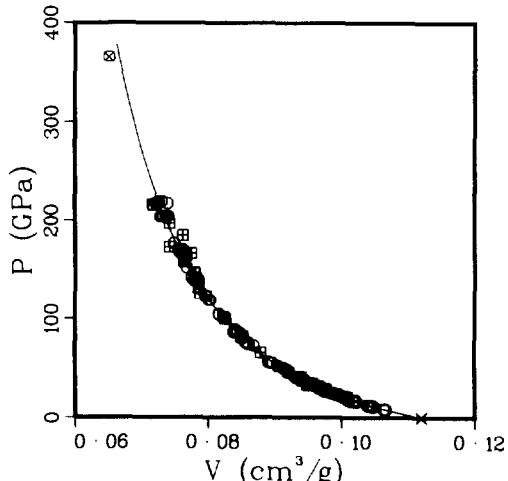
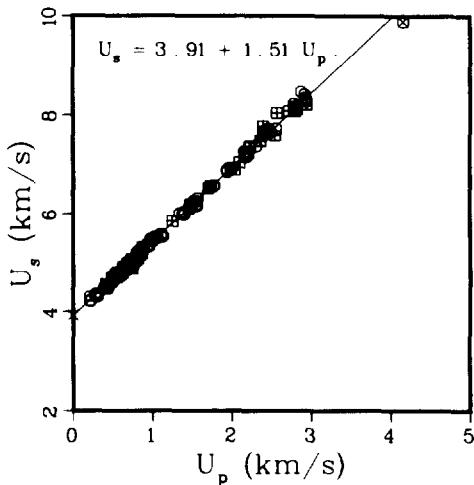
Average $\rho_0 = 8.924 \text{ g/cm}^3$.

Sound velocities longitudinal 4.76 km/s.
shear 2.33 km/s.

References 4, 5, 6, 11, 12, 13, 17

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.929	3.927	0.000	0.000	1120	8.929	1.000	s p x
8.920	4.314	.210	8.081	1067	9.376	.951	i m1 o
8.925	4.215	.211	7.938	1064	9.395	.950	i m1 o
8.900	4.217	.223	8.369	1064	9.397	.947	i m1 o
8.928	4.341	.281	10.891	1048	9.546	.935	i m1 o
8.925	4.352	.282	10.953	1048	9.543	.935	i m1 o
8.920	4.321	.286	11.023	1047	9.552	.934	i m1 o
8.920	4.350	.289	11.214	1047	9.555	.934	i m1 o
8.925	4.378	.301	11.761	1043	9.584	.931	i m1 o
8.930	4.303	.302	11.605	1041	9.604	.930	i m1 o
8.930	4.316	.312	12.025	1039	9.626	.928	i m1 o
8.925	4.512	.395	15.906	1022	9.781	.912	i m1 o
8.928	4.501	.398	15.994	1021	9.794	.912	i m1 o
8.930	4.477	.406	16.232	1018	9.821	.909	s p 1 #
8.925	4.532	.407	16.462	1020	9.806	.910	i m1 o
8.925	4.494	.409	16.405	1018	9.819	.909	i m1 o
8.931	4.566	.413	16.842	1018	9.819	.910	s p 1 #
8.933	4.471	.434	17.334	1011	9.893	.903	i m1 o
8.933	4.501	.439	17.651	1010	9.898	.902	i m1 o

(Continued)



COPPER
(Continued)

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.923	4.599	.483	19.821	.1003	9.970	.895	i m1 o
8.923	4.594	.483	19.799	.1003	9.971	.895	i m1 o
8.890	4.717	.484	20.296	.1009	9.906	.897	s f 2 x
8.900	4.713	.488	20.470	.1007	9.928	.896	i m1 o
8.900	4.687	.490	20.440	.1006	9.939	.895	i m1 o
8.899	4.712	.522	21.889	.0999	10.008	.889	i m1 o
8.924	4.732	.522	22.043	.0997	10.030	.890	i m1 o
8.925	4.802	.531	22.758	.0997	10.035	.889	i m1 o
8.920	4.746	.535	22.649	.0995	10.053	.887	i m1 o
8.925	4.704	.538	22.587	.0992	10.078	.886	i m1 o
8.900	4.711	.549	23.018	.0993	10.074	.883	i m1 o
8.930	4.769	.562	23.934	.0988	10.123	.882	i m1 o
8.918	4.713	.576	24.210	.0984	10.160	.878	i m1 o
8.930	4.801	.609	26.110	.0978	10.227	.873	i m1 o
8.930	4.792	.610	26.103	.0977	10.233	.873	i m1 o
8.923	4.807	.618	26.508	.0977	10.239	.871	i m1 o
8.923	4.798	.618	26.458	.0976	10.242	.871	i m1 o
8.930	4.765	.620	26.382	.0974	10.266	.870	i m1 o
8.928	4.886	.624	27.220	.0977	10.235	.872	s p 1 x
8.930	4.910	.637	27.930	.0975	10.261	.870	s p 1 x
8.933	4.854	.662	28.705	.0967	10.344	.864	i m1 o
8.930	5.011	.679	30.384	.0968	10.330	.864	i m1 o
8.930	4.995	.680	30.332	.0967	10.337	.864	i m1 o
8.900	5.009	.689	30.716	.0969	10.319	.862	i m1 o
8.900	4.955	.709	31.267	.0963	10.386	.857	i m1 o
8.918	5.039	.728	32.715	.0959	10.424	.856	i m1 o
8.930	4.909	.732	32.089	.0953	10.495	.851	s p 1 x
8.930	5.067	.737	33.348	.0957	10.450	.855	s p 1 x
8.930	4.888	.744	32.475	.0949	10.533	.848	s p 1 x
8.924	5.061	.749	33.828	.0955	10.474	.852	i m1 o
8.930	4.939	.757	33.388	.0948	10.546	.847	i m1 o
8.933	5.067	.786	35.577	.0946	10.573	.845	i m1 o
8.925	5.077	.787	35.661	.0947	10.562	.845	i m1 o
8.925	5.066	.788	35.629	.0946	10.569	.844	i m1 o
8.933	5.195	.800	37.126	.0947	10.559	.846	i m1 o
8.933	5.180	.807	37.342	.0945	10.582	.844	i m1 o
8.930	5.055	.816	36.835	.0939	10.649	.839	i m1 o
8.930	5.055	.816	36.835	.0939	10.649	.839	i m1 o
8.921	5.239	.832	38.885	.0943	10.605	.841	i m1 o
8.918	5.238	.832	38.865	.0943	10.602	.841	i m1 o
8.933	5.222	.832	38.811	.0941	10.626	.841	i m1 o
8.930	5.185	.846	39.172	.0937	10.671	.837	s p 1 x
8.930	5.223	.864	40.298	.0935	10.700	.835	i m1 o

(Continued)

COPPER
(Continued)

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.930	5.215	.865	40.283	.0934	10.706	.834	im1 o
8.933	5.154	.868	39.963	.0931	10.742	.832	im1 o
8.897	5.318	.870	41.163	.0940	10.637	.836	s f 2 x
8.933	5.326	.940	44.723	.0922	10.848	.824	im1 o
8.930	5.329	.942	44.828	.0922	10.847	.823	im1 o
8.933	5.332	.945	45.011	.0921	10.857	.823	im1 o
8.930	5.362	.952	45.584	.0921	10.858	.822	sp1 ■
8.930	5.473	.979	47.848	.0920	10.875	.821	im1 o
8.930	5.471	.980	47.879	.0919	10.879	.821	im1 o
8.899	5.442	.995	48.186	.0918	10.890	.817	im1 o
8.900	5.442	1.008	48.821	.0915	10.923	.815	im1 o
8.918	5.515	1.026	50.462	.0913	10.956	.814	im1 o
8.924	5.501	1.059	51.987	.0905	11.052	.807	im1 o
8.930	5.528	1.062	52.426	.0905	11.054	.808	im1 o
8.925	5.580	1.110	55.280	.0898	11.141	.801	im1 o
8.925	5.526	1.116	55.041	.0894	11.184	.798	im1 o
8.930	5.531	1.132	55.912	.0891	11.228	.795	im1 o
8.930	5.840	1.254	65.398	.0879	11.372	.785	sp1 ■
8.930	6.010	1.345	72.185	.0869	11.505	.776	im1 o
8.929	5.982	1.382	73.817	.0861	11.612	.769	im1 o
8.930	6.028	1.395	75.093	.0861	11.619	.769	im1 o
8.930	6.018	1.396	75.022	.0860	11.627	.768	im1 o
8.924	5.981	1.403	74.884	.0858	11.659	.765	im1 o
8.928	6.120	1.464	79.992	.0852	11.735	.761	im1 o
8.928	6.084	1.469	79.793	.0850	11.770	.759	im1 o
8.930	6.187	1.480	81.770	.0852	11.738	.761	sp1 ■
8.930	6.184	1.496	82.614	.0849	11.780	.758	im1 o
8.920	6.250	1.519	84.684	.0849	11.784	.757	im1 o
8.900	6.252	1.554	86.469	.0844	11.844	.751	im1 o
8.900	6.188	1.559	85.859	.0841	11.897	.748	im1 o
8.900	6.156	1.564	85.689	.0838	11.931	.746	im1 o
8.930	6.310	1.573	88.636	.0841	11.895	.751	im1 o
8.930	6.511	1.707	99.250	.0826	12.103	.738	sp1 ■
8.928	6.552	1.736	101.550	.0823	12.146	.735	sp1 ■
8.928	6.563	1.777	104.122	.0817	12.243	.729	im1 o
8.928	6.558	1.777	104.043	.0817	12.246	.729	im1 o
8.930	6.875	1.939	119.042	.0804	12.438	.718	im1 o
8.930	6.839	1.943	118.663	.0802	12.474	.716	im1 o
8.930	6.913	1.990	122.849	.0797	12.540	.712	sp1 ■
8.918	6.916	2.005	123.662	.0796	12.559	.710	im1 o
8.930	6.885	2.037	125.241	.0789	12.682	.704	sp1 ■
8.930	7.033	2.100	131.890	.0785	12.732	.701	sp1 ■
8.928	7.241	2.161	139.704	.0786	12.726	.702	im1 o

(Continued)

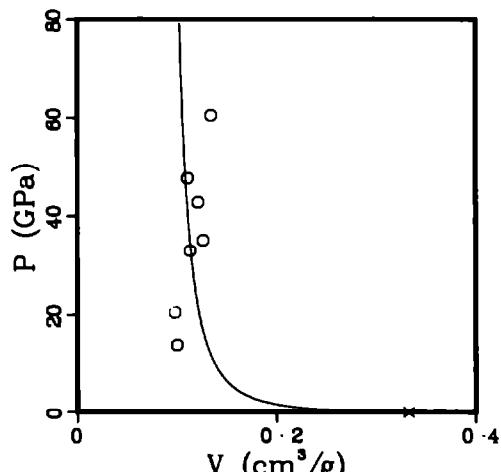
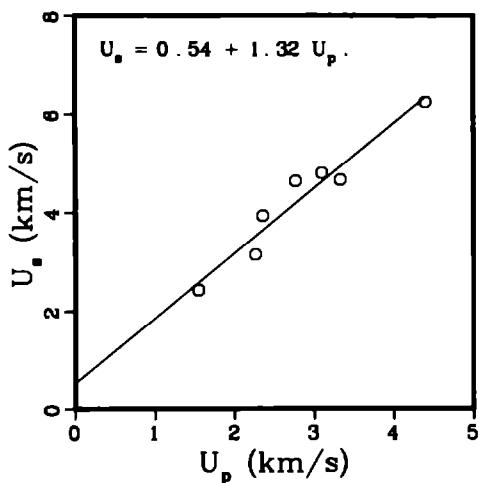
COPPER
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/Vo	Exp
8.918	7.232	2.171	140.019	.0785	12.744	.700	im1 o
8.928	7.144	2.177	138.853	.0779	12.841	.695	im1 o
8.900	7.176	2.180	139.229	.0782	12.784	.696	im1 o
8.900	7.203	2.182	139.881	.0783	12.768	.697	im1 o
8.900	7.232	2.193	141.152	.0783	12.773	.697	im1 o
8.929	7.174	2.208	141.437	.0775	12.899	.692	im1 o
8.918	7.330	2.229	145.707	.0780	12.815	.696	sp1 ■
8.933	7.354	2.234	146.759	.0779	12.831	.696	sp1 ■
8.929	7.360	2.313	152.004	.0768	13.021	.686	im1 o
8.928	7.463	2.368	157.779	.0765	13.077	.683	sp1 ■
8.930	7.468	2.369	157.987	.0765	13.079	.683	sp1 ■
8.929	7.587	2.390	161.909	.0767	13.035	.685	im1 o
8.931	7.776	2.395	166.327	.0775	12.906	.692	sp1 ■
8.924	7.655	2.415	164.976	.0767	13.037	.685	im1 o
8.929	7.654	2.425	165.731	.0765	13.070	.683	im1 o
8.924	7.603	2.461	166.977	.0758	13.195	.676	im1 o
8.931	7.725	2.465	170.065	.0762	13.116	.681	im1 o
8.928	7.667	2.476	169.485	.0758	13.186	.677	im1 o
8.928	7.652	2.478	169.290	.0757	13.204	.676	im1 o
8.929	7.679	2.485	170.386	.0758	13.201	.676	im1 o
8.929	7.650	2.489	170.016	.0756	13.235	.675	im1 o
8.934	7.577	2.551	172.685	.0742	13.469	.663	sp1 ■
8.924	7.729	2.560	176.572	.0749	13.344	.669	im1 o
8.927	8.044	2.569	184.477	.0762	13.116	.681	sp1 ■
8.932	8.084	2.723	196.618	.0742	13.469	.663	sp1 ■
8.929	8.228	2.784	204.534	.0741	13.495	.662	im1 o
8.929	8.170	2.790	203.530	.0737	13.559	.659	im1 o
8.929	8.164	2.791	203.454	.0737	13.567	.658	im1 o
8.929	8.142	2.812	204.432	.0733	13.640	.655	im1 o
8.929	8.103	2.817	203.815	.0731	13.687	.652	im1 o
8.929	8.092	2.819	203.683	.0730	13.703	.652	im1 o
8.929	8.076	2.821	203.424	.0729	13.722	.651	im1 o
8.930	8.470	2.877	217.608	.0739	13.524	.660	im1 o
8.929	8.415	2.922	219.552	.0731	13.679	.653	im1 o
8.929	8.347	2.931	218.448	.0727	13.761	.649	im1 o
8.929	8.322	2.935	218.091	.0725	13.794	.647	im1 o
8.929	8.279	2.941	217.408	.0722	13.848	.645	im1 o
8.930	8.213	2.942	215.772	.0719	13.914	.642	sp1 ■
8.930	8.215	2.946	216.118	.0718	13.923	.641	sp1 ■
8.895	9.890	4.161	366.050	.0651	15.355	.579	sf2 s

COPPER , powdered , unpressed

Average $\rho_0 = 3.007 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_b (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.628	2.432	1.549	13.667	.1001	9.992	.363	im1 o
2.870	3.152	2.265	20.490	.0981	10.199	.281	im1 o
3.550	3.939	2.357	32.959	.1131	8.839	.402	im1 o
3.329	4.641	2.770	42.796	.1211	8.258	.403	im1 o
3.206	4.802	3.097	47.679	.1107	9.029	.355	im1 o
2.263	4.662	3.330	35.132	.1263	7.921	.286	im1 o
2.202	6.248	4.400	60.536	.1343	7.445	.296	im1 o



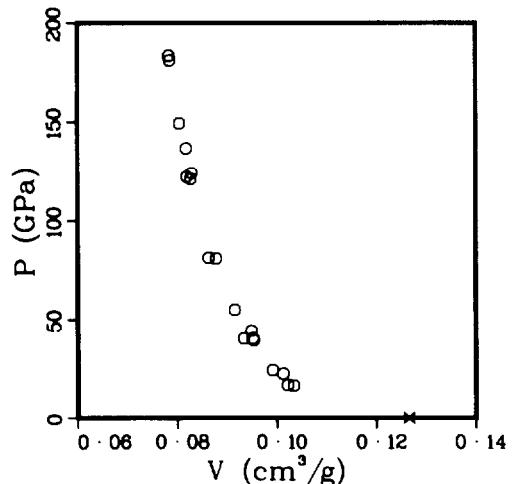
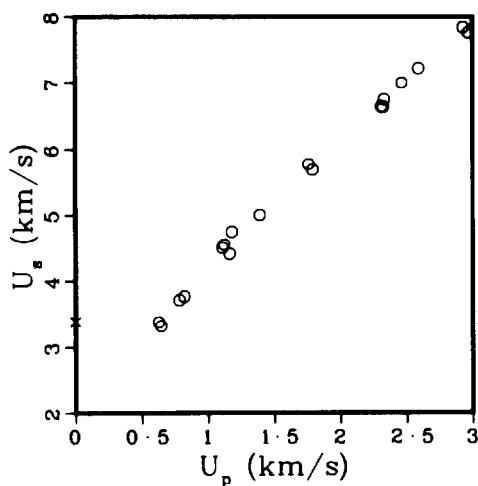
COPPER, sintered, $\rho_0 = 7.9 \text{ g/cm}^3$.

Average $\rho_0 = 7.900 \text{ g/cm}^3$.

Sound velocities longitudinal 4.23 km/s.
shear 2.19 km/s.

References 13, 17, 18, 19

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.903	3.391	0.000	0.000	.1265	7.903	1.000	s s p x
7.877	3.381	.627	16.698	.1034	9.670	.815	im1 o
7.885	3.324	.646	16.931	.1022	9.787	.806	im1 o
7.790	3.715	.784	22.689	.1013	9.874	.789	im1 o
7.890	3.771	.821	24.427	.0991	10.086	.782	im1 o
7.897	4.501	1.110	39.454	.0954	10.482	.753	im1 o
7.908	4.551	1.124	40.452	.0952	10.502	.753	im1 o
7.876	4.408	1.165	40.446	.0934	10.705	.736	im1 o
7.914	4.750	1.182	44.433	.0949	10.536	.751	im1 o
7.880	5.005	1.393	54.939	.0916	10.919	.722	im1 o
7.910	5.776	1.762	80.503	.0879	11.382	.695	im1 o
7.932	5.688	1.792	80.850	.0864	11.580	.685	im1 o
7.881	6.647	2.313	121.167	.0827	12.087	.652	im1 o
7.927	6.637	2.326	122.374	.0819	12.204	.650	im1 o
7.894	6.763	2.332	124.315	.0829	12.058	.655	im1 o
7.915	7.006	2.467	136.801	.0819	12.217	.648	im1 o
7.968	7.229	2.593	149.359	.0805	12.425	.641	im1 o
7.995	7.843	2.929	183.662	.0784	12.760	.627	im1 o
7.866	7.764	2.969	181.322	.0785	12.737	.618	im1 o



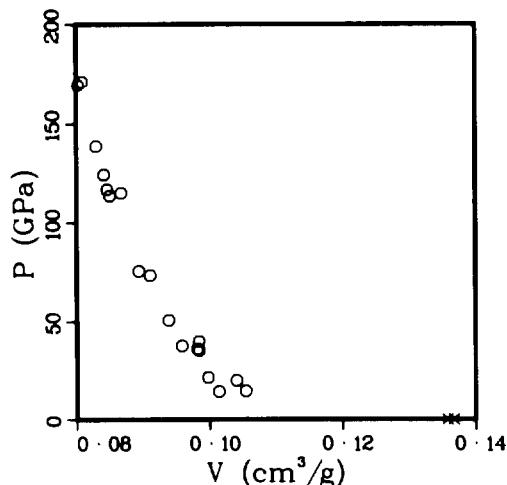
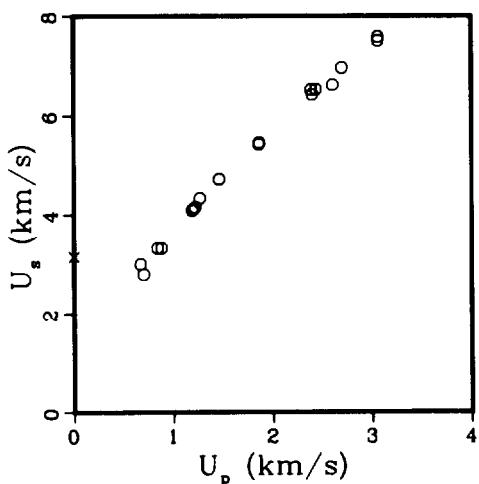
COPPER, sintered, $\rho_0 = 7.3 \text{ g/cm}^3$.

Average $\rho_0 = 7.315 \text{ g/cm}^3$.

Sound velocities longitudinal 3.95 km/s.
shear 2.07 km/s.

References 5, 13, 17, 18, 19

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
7.365	3.145	0.000	0.000	.1358	7.365	1.000	ssp x
7.368	2.997	.669	14.773	.1054	9.485	.777	im1 o
7.384	2.789	.701	14.436	.1014	9.863	.749	im1 o
7.182	3.318	.839	19.993	.1040	9.613	.747	im1 o
7.364	3.316	.880	21.489	.0998	10.024	.735	im1 o
7.208	4.088	1.188	35.006	.0984	10.161	.709	im1 o
7.201	4.118	1.207	35.792	.0982	10.187	.707	im1 o
7.364	4.151	1.221	37.323	.0959	10.433	.706	im1 o
7.193	4.333	1.267	39.489	.0984	10.165	.708	im1 o
7.354	4.717	1.461	50.680	.0939	10.654	.690	im1 o
7.216	5.436	1.864	73.118	.0911	10.982	.657	im1 o
7.372	5.471	1.867	75.300	.0894	11.191	.659	im1 o
7.489	6.523	2.390	116.753	.0846	11.820	.634	im1 o
7.366	6.423	2.401	113.596	.0850	11.763	.626	im1 o
7.219	6.526	2.440	114.951	.0867	11.530	.626	im1 o
7.201	6.617	2.607	124.221	.0842	11.883	.606	im1 o
7.384	6.977	2.701	139.151	.0830	12.048	.613	im1 o
7.376	7.510	3.063	169.671	.0803	12.456	.592	im1 o
7.374	7.590	3.063	171.432	.0809	12.363	.596	im1 o



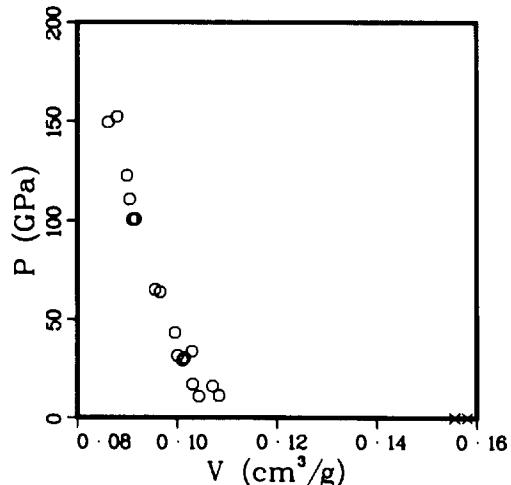
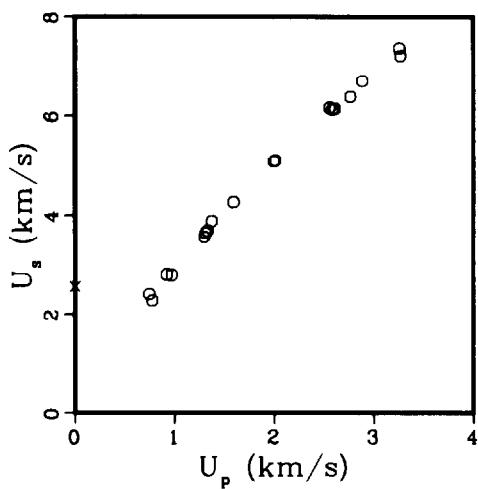
COPPER, sintered, $\rho_0 = 6.3 \text{ g/cm}^3$.

Average $\rho_0 = 6.326 \text{ g/cm}^3$.

Sound velocities longitudinal 3.30 km/s.
shear 1.80 km/s.

References 13, 17, 18, 19

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
6.428	2.563	0.000	0.000	1556	6.428	1.000	s s p x
6.372	2.409	.745	11.436	1084	9.225	.691	i m1 o
6.322	2.280	.776	11.185	1043	9.584	.660	i m1 o
6.270	2.804	.921	16.192	1071	9.337	.672	i m1 o
6.325	2.792	.971	17.147	1031	9.698	.652	i m1 o
6.290	3.565	1.298	29.106	1011	9.891	.636	i m1 o
6.309	3.645	1.311	30.148	1015	9.853	.640	i m1 o
6.395	3.692	1.329	31.378	1001	9.992	.640	i m1 o
6.279	3.886	1.373	33.501	1030	9.710	.647	i m1 o
6.300	4.271	1.591	42.810	0996	10.040	.627	i m1 o
6.278	5.081	1.999	63.765	0966	10.350	.607	i m1 o
6.332	5.102	2.014	65.064	0956	10.462	.605	i m1 o
6.392	6.166	2.557	100.779	0916	10.921	.585	i m1 o
6.350	6.128	2.585	100.590	0910	10.983	.578	i m1 o
6.278	6.144	2.611	100.712	0916	10.918	.575	i m1 o
6.264	6.386	2.766	110.645	0905	11.050	.567	i m1 o
6.327	6.701	2.887	122.401	0900	11.116	.569	i m1 o
6.342	7.369	3.258	152.260	0880	11.368	.558	i m1 o
6.343	7.211	3.269	149.522	0862	11.603	.547	i m1 o



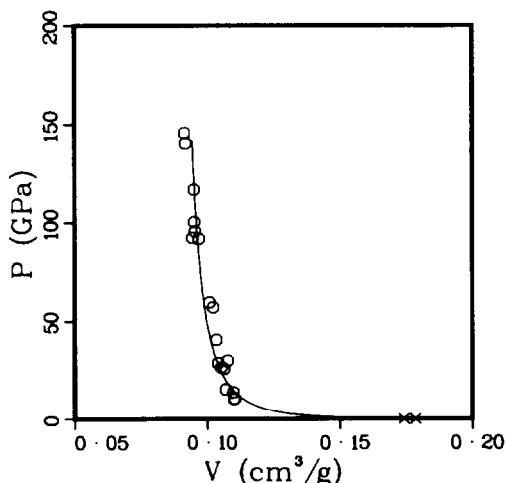
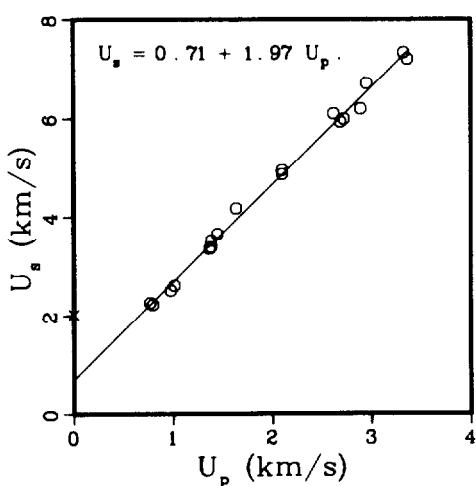
COPPER, sintered, $\rho_0 = 5.7 \text{ g/cm}^3$.

Average $\rho_0 = 5.742 \text{ g/cm}^3$.

Sound velocities longitudinal 2.68 km/s.
shear 1.52 km/s.

References 13, 17, 18, 19

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
5.603	2.025	0.000	0.000	.1785	5.603	1.000	s p x
5.983	2.264	.769	10.416	.1104	9.061	.660	im1 o
5.833	2.224	.796	10.326	.1101	9.084	.642	im1 o
5.567	2.512	.977	13.663	.1098	9.110	.611	im1 o
5.718	2.613	1.015	15.165	.1070	9.350	.612	im1 o
5.564	3.353	1.368	25.522	.1064	9.399	.592	im1 o
5.830	3.520	1.385	28.422	.1040	9.612	.607	im1 o
5.605	3.382	1.386	26.273	.1053	9.497	.590	im1 o
5.605	3.651	1.447	29.611	.1077	9.285	.604	im1 o
5.876	4.175	1.637	40.159	.1035	9.666	.608	im1 o
5.712	4.955	2.100	59.436	.1009	9.913	.576	im1 o
5.557	4.872	2.103	56.936	.1023	9.777	.568	im1 o
5.978	6.104	2.621	95.640	.0955	10.477	.571	im1 o
5.785	5.934	2.690	92.343	.0945	10.582	.547	im1 o
5.627	5.992	2.725	91.879	.0969	10.320	.545	im1 o
5.598	6.197	2.893	100.361	.0952	10.500	.533	im1 o
5.892	6.716	2.952	116.813	.0951	10.513	.560	im1 o
5.972	7.335	3.327	145.738	.0915	10.929	.546	im1 o
5.801	7.203	3.365	140.605	.0919	10.887	.533	im1 o



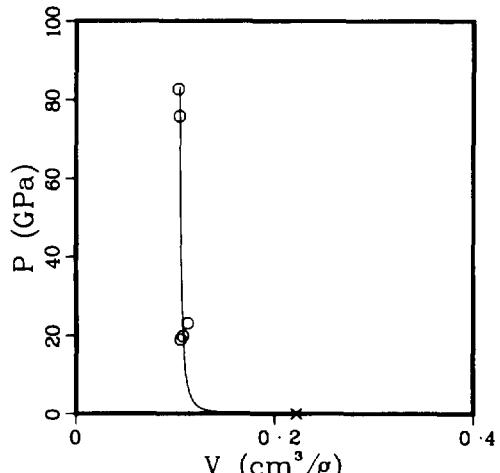
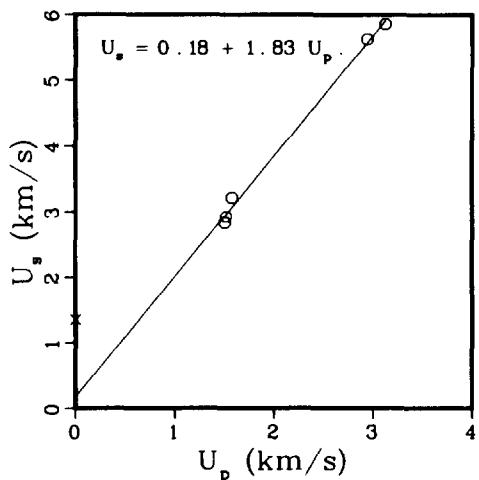
COPPER, sintered, $\rho_0 = 4.5 \text{ g/cm}^3$.

Average $\rho_0 = 4.508 \text{ g/cm}^3$.

Sound velocities longitudinal 1.83 km/s.
shear 1.07 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.504	1.350	0.000	0.000	.2220	4.504	1.000	s p ×
4.453	2.828	1.504	18.940	.1051	9.511	.468	i m1 o
4.467	2.922	1.518	19.814	.1076	9.297	.480	i m1 o
4.533	3.215	1.577	22.983	.1124	8.897	.509	i m1 o
4.577	5.629	2.944	75.849	.1042	9.596	.477	i m1 o
4.513	5.858	3.126	82.643	.1033	9.677	.466	i m1 o

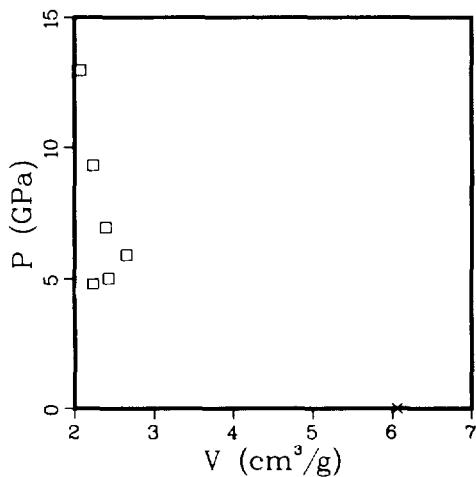
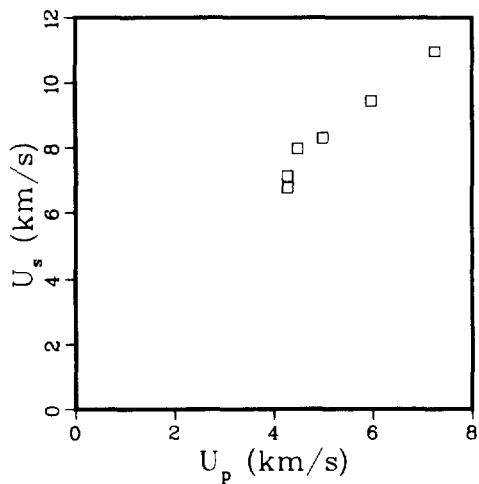


DEUTERIUM , liquid , $T_0 = 20$ K

Average $\rho_0 = 0.165$ g/cm³.

References 20 , 21

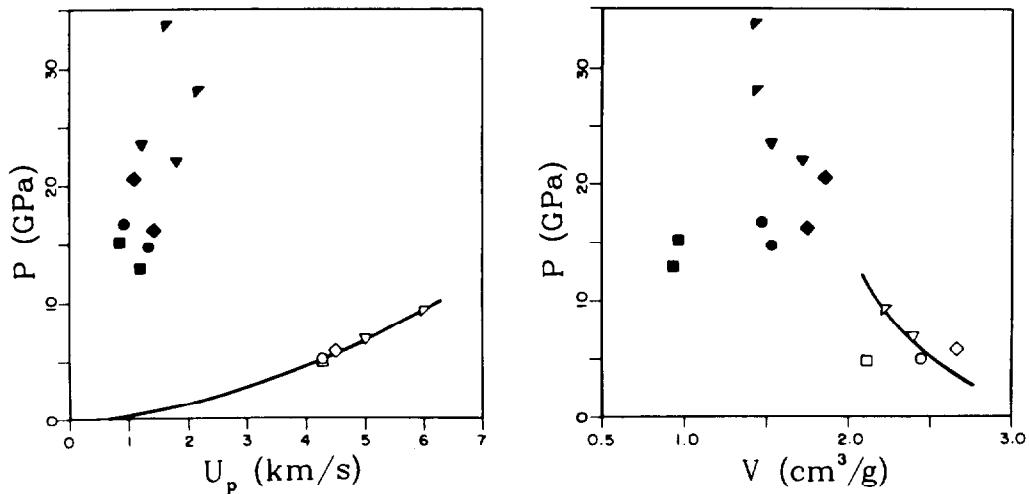
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	γ/γ_0	Exp
.165	7.130	4.270	5.023	2.4310	.411	.401	i m2 □
.165	6.780	4.280	4.788	2.2347	.447	.369	i m2 □
.165	7.970	4.480	5.891	2.6539	.377	.438	i m2 □
.167	8.310	4.990	6.925	2.3923	.418	.400	i m2 □
.165	9.450	5.970	9.309	2.2318	.448	.368	i m2 □
.163	10.970	7.250	12.964	2.0804	.481	.339	i m2 □



DEUTERIUM, liquid, $T_0 = 20$ K, reflected-shock data
 $\rho_0 = 0.165 \text{ g/cm}^3$.

Initial Shock			Reflected Shock				
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	Std. ^a	
4.27	2.44	5.02 ○	1.31	1.53	14.73 ●	Mg	
			0.90	1.47	16.76 ●	Al	
4.28	2.11	4.79 □	1.18	0.93	12.93 ■	Mg	
			0.83	0.97	15.16 ■	Al	
4.48	2.66	5.88 ◊	1.42	1.75	16.26 ♦	Mg	
			1.07	1.86	20.52 ♦	Al	
4.99	2.39	6.92 ▽	1.80	1.72	22.10 ▼	Mg	
			1.20	1.53	23.55 ▼	Al	
5.97	2.22	9.36 ▽	2.15	1.44	28.10 ▾	Mg	
			1.60	1.43	33.80 ▾	Al	

^aStandards used for reflected-shock measurements were AZ31B magnesium alloy (Mg) and 2024 aluminum alloy (Al).



DYSPROSIUM

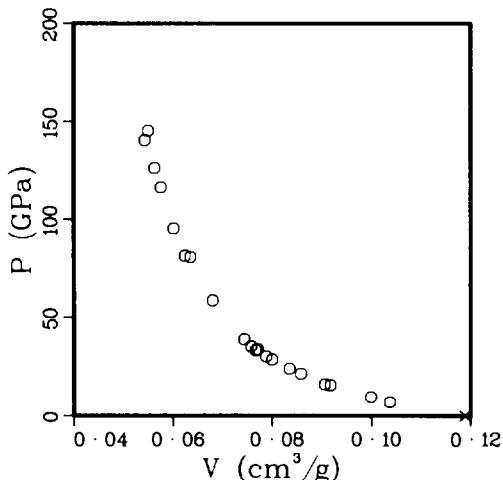
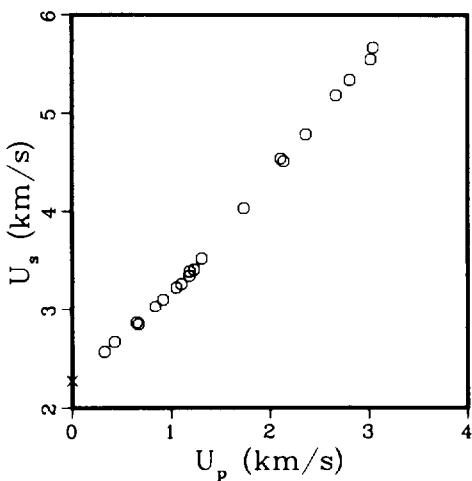
Average $\rho_0 = 8.410 \text{ g/cm}^3$.

Sound velocities longitudinal 3.07 km/s.
shear 1.78 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
8.410	2.280	0.000	0.000	.1189	8.410	1.000	s s p x
8.411	2.574	.328	7.101	.1037	9.639	.873	i m1 o
8.400	2.673	.429	9.632	.0999	10.006	.840	i m1 o
8.417	2.868	.653	15.763	.0918	10.898	.772	i m1 o
8.429	2.850	.673	16.167	.0906	11.035	.764	i m1 o
8.416	3.031	.842	21.478	.0858	11.653	.722	i m1 o
8.426	3.103	.920	24.054	.0835	11.977	.704	i m1 o
8.410	3.225	1.056	28.641	.0800	12.504	.673	i m1 o
8.381	3.261	1.107	30.255	.0788	12.688	.661	i m1 o
8.409	3.342	1.187	33.358	.0767	13.041	.645	i m1 o
8.420	3.387	1.188	33.880	.0771	12.969	.649	i m1 o
8.411	3.405	1.235	35.370	.0758	13.198	.637	i m1 o
8.422	3.516	1.313	38.880	.0744	13.442	.627	i m1 o
8.368	4.035	1.738	58.683	.0680	14.700	.569	i m1 o
8.412	4.535	2.111	80.531	.0635	15.738	.535	i m1 o
8.408	4.507	2.141	81.133	.0624	16.016	.525	i m1 o
8.422	4.789	2.363	95.307	.0601	16.625	.507	i m1 o
8.419	5.181	2.670	116.462	.0576	17.371	.485	i m1 o
8.410	5.335	2.809	126.032	.0563	17.762	.473	i m1 o

(Continued)



DYSPROSIUM
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.386	5.551	3.021	140.630	.0543	18.399	.456	i m1 o
8.419	5.671	3.045	145.381	.0550	18.181	.463	i m1 o

ERBIUM

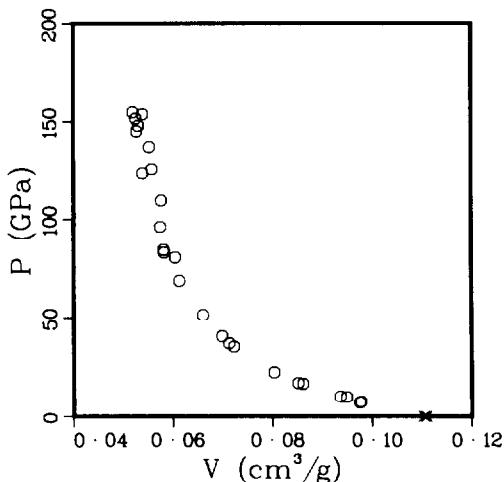
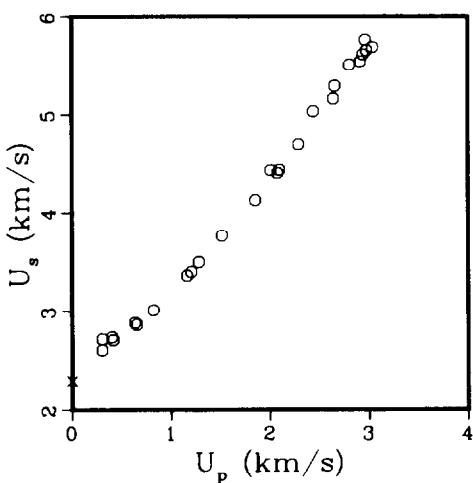
Average $\rho_0 = 9.015 \text{ g/cm}^3$.

Sound velocities longitudinal 3.13 km/s.
shear 1.84 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
9.058	2.298	0.000	0.000	.1104	9.058	1.000	s s p ×
9.058	2.608	.304	7.181	.0975	10.253	.883	im1 o
9.080	2.719	.304	7.505	.0978	10.223	.888	im1 o
8.992	2.739	.402	9.901	.0949	10.539	.853	im1 o
9.048	2.709	.415	10.172	.0936	10.685	.847	im1 o
9.054	2.884	.635	16.581	.0861	11.610	.780	im1 o
9.058	2.864	.655	16.992	.0852	11.744	.771	im1 o
9.046	3.011	.823	22.416	.0803	12.449	.727	im1 o
9.054	3.360	1.162	35.350	.0723	13.841	.654	im1 o
9.057	3.399	1.205	37.096	.0713	14.031	.645	im1 o
9.068	3.498	1.282	40.665	.0699	14.314	.634	im1 o
9.049	3.763	1.516	51.622	.0660	15.154	.597	im1 o
8.991	4.128	1.853	68.774	.0613	16.314	.551	im1 o
9.047	4.433	2.008	80.532	.0605	16.538	.547	im1 o
9.073	4.404	2.077	82.992	.0582	17.171	.528	im1 o
9.068	4.437	2.097	84.372	.0582	17.194	.527	im1 o
8.927	4.704	2.290	96.163	.0575	17.395	.513	im1 o
8.937	5.034	2.440	109.773	.0577	17.343	.515	im1 o
9.055	5.162	2.643	123.539	.0539	18.556	.488	im1 o

(Continued)



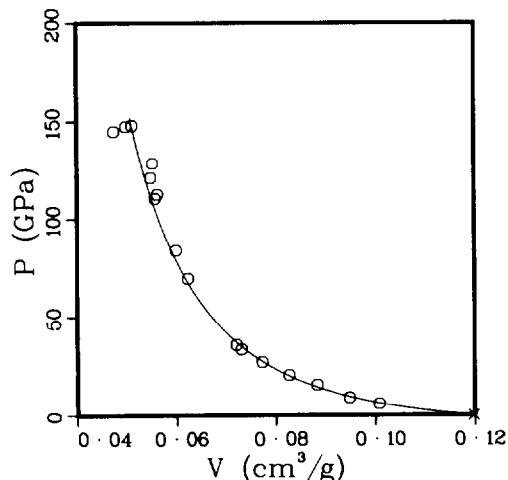
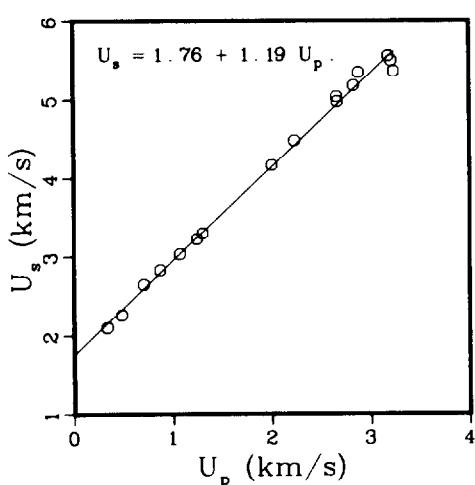
ERBIUM
(Continued)

ρ_o (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V _o	Exp
8.926	5.292	2.657	125.507	.0558	17.927	.498	i m1 o
8.878	5.509	2.806	137.238	.0553	18.094	.491	i m1 o
8.977	5.541	2.917	145.096	.0528	18.956	.474	i m1 o
8.956	5.613	2.943	147.945	.0531	18.828	.476	i m1 o
8.987	5.763	2.968	153.719	.0540	18.530	.485	i m1 o
8.991	5.655	2.981	151.566	.0526	19.014	.473	i m1 o
8.946	5.688	3.042	154.792	.0520	19.231	.465	i m1 o

ERBIUM , cold-pressed , $\rho_0 = 8.3 \text{ g/cm}^3$.

Average $\rho_0 = 8.348 \text{ g/cm}^3$.

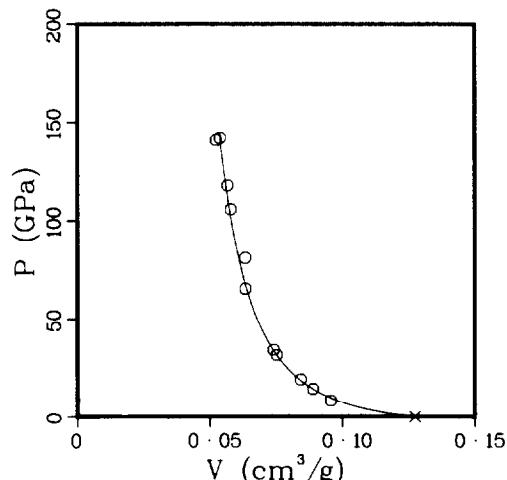
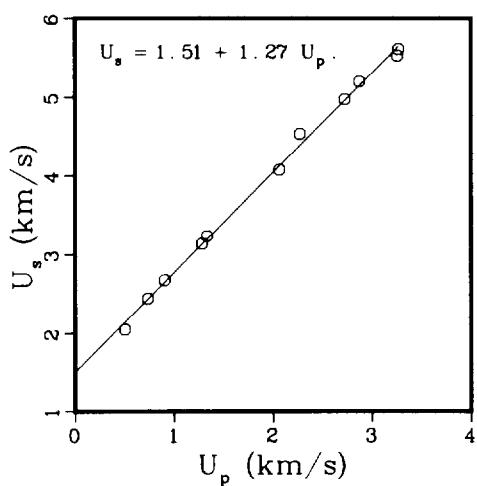
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.344	2.105	.335	5.884	.1008	9.923	.841	im1 o
8.302	2.263	.482	9.056	.0948	10.549	.787	im1 o
8.321	2.653	.704	15.541	.0883	11.327	.735	im1 o
8.374	2.829	.871	20.634	.0827	12.099	.692	im1 o
8.367	3.034	1.073	27.239	.0772	12.945	.646	im1 o
8.407	3.224	1.244	33.718	.0731	13.689	.614	im1 o
8.393	3.296	1.302	36.018	.0721	13.873	.605	im1 o
8.332	4.170	2.004	69.628	.0623	16.041	.519	im1 o
8.371	4.485	2.234	83.873	.0600	16.679	.502	im1 o
8.392	5.041	2.662	112.613	.0562	17.782	.472	im1 o
8.326	4.978	2.667	110.539	.0558	17.935	.464	im1 o
8.257	5.182	2.833	121.218	.0549	18.215	.453	im1 o
8.345	5.350	2.882	128.669	.0553	18.090	.461	im1 o
8.352	5.562	3.184	147.909	.0512	19.535	.428	im1 o
8.345	5.503	3.212	147.503	.0499	20.045	.416	im1 o
8.345	5.364	3.239	144.986	.0475	21.065	.396	im1 o



ERBIUM , cold-pressed , $\rho_0 = 7.8 \text{ g/cm}^3$.

Average $\rho_0 = 7.849 \text{ g/cm}^3$.

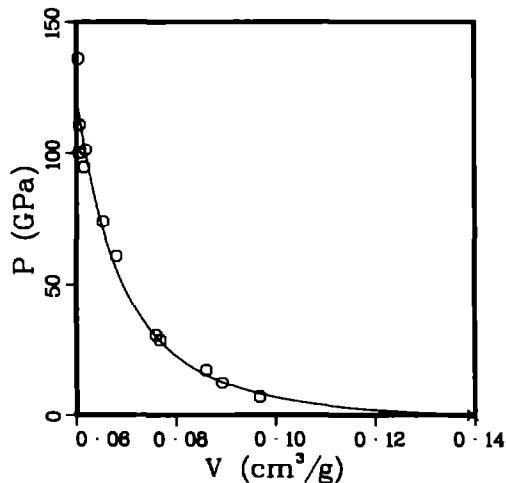
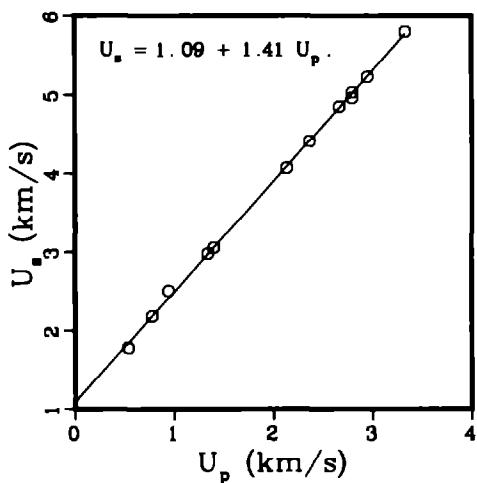
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.884	2.050	.504	8.146	.0957	10.454	.754	i m1 o
7.866	2.446	.735	14.142	.0889	11.245	.700	i m1 o
7.861	2.679	.904	19.038	.0843	11.865	.663	i m1 o
7.857	3.139	1.283	31.643	.0753	13.288	.591	i m1 o
7.945	3.239	1.333	34.303	.0741	13.501	.588	i m1 o
7.773	4.076	2.065	65.425	.0635	15.755	.493	i m1 o
7.865	4.535	2.272	81.037	.0634	15.761	.499	i m1 o
7.806	4.975	2.725	105.825	.0579	17.260	.452	i m1 o
7.887	5.201	2.873	117.851	.0568	17.620	.448	i m1 o
7.840	5.531	3.256	141.190	.0525	19.061	.411	i m1 o
7.750	5.615	3.268	142.211	.0539	18.541	.418	i m1 o



ERBIUM , cold-pressed . $\rho_0 = 7.2 \text{ g/cm}^3$.

Average $\rho_0 = 7.169 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
7.219	1.780	.536	6.888	.0968	10.329	.699	i m1 o
7.208	2.183	.778	12.242	.0893	11.199	.644	i m1 o
7.256	2.512	.944	17.206	.0860	11.624	.624	i m1 o
7.166	2.981	1.340	28.625	.0768	13.018	.550	i m1 o
7.129	3.058	1.402	30.564	.0760	13.165	.542	i m1 o
6.990	4.073	2.135	60.784	.0681	14.691	.476	i m1 o
7.104	4.414	2.367	74.222	.0653	15.319	.464	i m1 o
7.320	4.855	2.668	94.817	.0615	16.250	.450	i m1 o
7.212	4.966	2.796	100.138	.0606	16.505	.437	i m1 o
7.192	5.038	2.798	101.381	.0618	16.176	.445	i m1 o
7.185	5.233	2.953	111.030	.0606	16.491	.436	i m1 o
7.050	5.804	3.333	136.380	.0604	16.559	.426	i m1 o

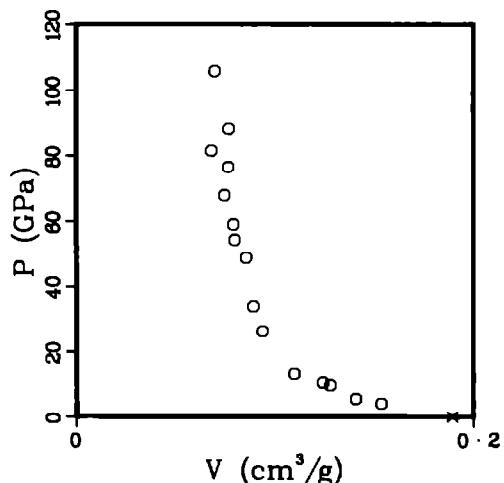
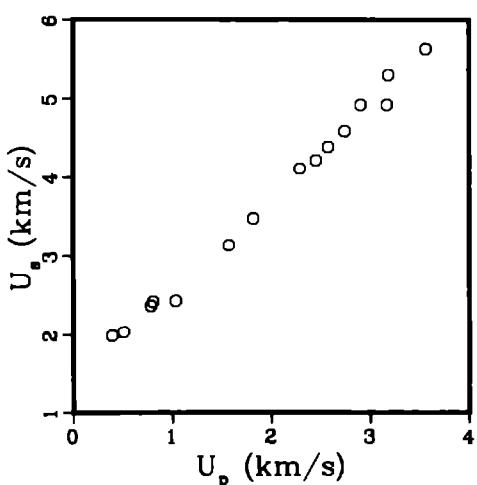


EUROPIUM

Average $\rho_0 = 5.280 \text{ g/cm}^3$

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.226	1.991	.392	4.079	.1537	6.507	.803	im1 o
5.330	2.040	.510	5.545	.1407	7.107	.750	im1 o
5.239	2.374	.784	9.751	.1278	7.822	.670	im1 o
5.380	2.427	.806	10.524	.1241	8.055	.668	im1 o
5.246	2.439	1.035	13.243	.1097	9.113	.576	im1 o
5.322	3.142	1.574	26.320	.0938	10.664	.499	im1 o
5.364	3.485	1.818	33.985	.0892	11.214	.478	im1 o
5.180	4.112	2.290	48.777	.0855	11.691	.443	im1 o
5.244	4.220	2.454	54.306	.0798	12.531	.418	im1 o
5.218	4.391	2.576	59.022	.0792	12.624	.413	im1 o
5.392	4.588	2.741	67.808	.0747	13.394	.403	im1 o
5.354	4.921	2.903	76.485	.0766	13.056	.410	im1 o
5.220	4.920	3.172	81.465	.0681	14.692	.355	im1 o
5.212	5.311	3.185	88.164	.0768	13.020	.400	im1 o
5.276	5.636	3.562	105.918	.0697	14.337	.368	im1 o



GADOLINIUM

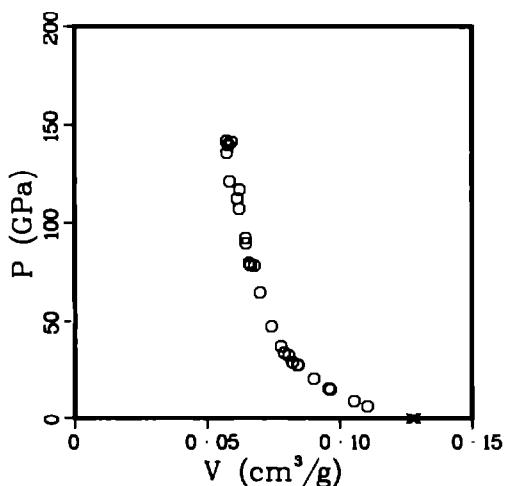
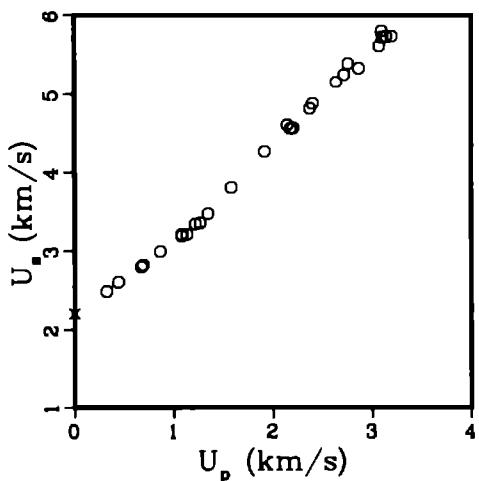
$$\text{Average } \rho_0 = 7.861 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.95 km/s .
shear 1.69 km/s .

Reference 15

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.785	2.212	0.000	0.000	.1285	7.785	1.000	ss p x
7.876	2.494	.324	6.364	.1105	9.052	.870	im1 o
7.877	2.610	.442	9.087	.1055	9.483	.831	im1 o
7.875	2.802	.673	14.850	.0965	10.364	.760	im1 o
7.877	2.824	.691	15.371	.0959	10.429	.755	im1 o
7.877	2.993	.865	20.393	.0903	11.079	.711	im1 o
7.878	3.219	1.080	27.388	.0843	11.856	.664	im1 o
7.877	3.205	1.082	27.316	.0841	11.892	.662	im1 o
7.877	3.221	1.135	28.797	.0822	12.163	.648	im1 o
7.876	3.353	1.219	32.192	.0808	12.375	.636	im1 o
7.876	3.364	1.268	33.595	.0791	12.641	.623	im1 o
7.875	3.481	1.347	36.925	.0778	12.846	.613	im1 o
7.881	3.812	1.582	47.527	.0742	13.472	.585	im1 o
7.878	4.276	1.916	64.543	.0701	14.274	.552	im1 o
7.877	4.613	2.146	77.978	.0679	14.729	.535	im1 o
7.875	4.567	2.179	78.368	.0664	15.061	.523	im1 o
7.864	4.574	2.206	79.350	.0658	15.190	.518	im1 o
7.846	4.822	2.373	89.779	.0647	15.449	.508	im1 o
7.873	4.885	2.401	92.342	.0646	15.483	.508	im1 o

(Continued)



GADOLINIUM
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.860	5.161	2.639	107.052	.0622	16.085	.489	im1 o
7.869	5.253	2.718	112.351	.0613	16.306	.483	im1 o
7.843	5.395	2.759	116.742	.0623	16.052	.489	im1 o
7.900	5.337	2.868	120.921	.0586	17.077	.463	im1 o
7.870	5.618	3.073	135.869	.0576	17.373	.453	im1 o
7.866	5.806	3.098	141.486	.0593	16.865	.466	im1 o
7.878	5.726	3.104	140.020	.0581	17.204	.458	im1 o
7.877	5.735	3.142	141.939	.0574	17.422	.452	im1 o
7.624	5.739	3.199	139.969	.0581	17.226	.443	im1 o

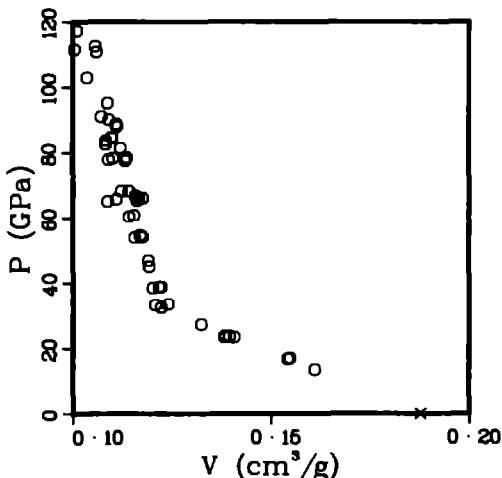
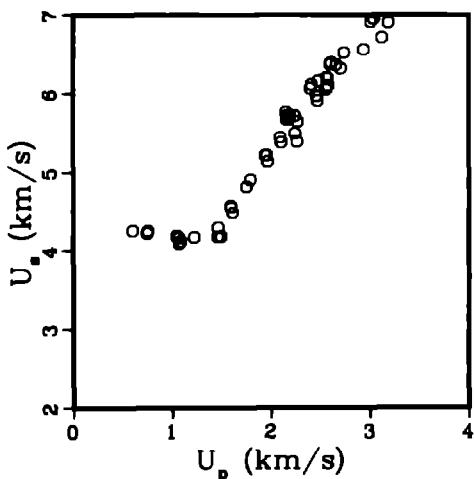
GERMANIUM

Average $\rho_0 = 5.328 \text{ g/cm}^3$.

References 5, 13

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
5.330	4.249	.602	13.634	.1610	6.210	.858	im1 o
5.330	4.219	.750	16.865	.1543	6.482	.822	im1 o
5.311	4.249	.755	17.038	.1548	6.459	.822	im1 o
5.330	4.189	1.047	23.377	.1407	7.106	.750	im1 o
5.330	4.160	1.067	23.658	.1395	7.169	.744	im1 o
5.330	4.087	1.075	23.417	.1383	7.232	.737	im1 o
5.311	4.116	1.087	23.762	.1386	7.217	.736	im1 o
5.330	4.169	1.226	27.243	.1324	7.550	.706	im1 o
5.311	4.178	1.464	32.485	.1223	8.176	.650	im1 o
5.311	4.297	1.466	33.456	.1241	8.061	.659	im1 o
5.311	4.179	1.498	33.248	.1208	8.279	.642	im1 o
5.330	4.575	1.593	38.845	.1223	8.177	.652	im1 o
5.330	4.554	1.599	38.812	.1217	8.214	.649	im1 o
5.330	4.486	1.613	38.567	.1202	8.322	.640	im1 o
5.330	4.822	1.753	45.054	.1194	8.374	.636	im1 o
5.330	4.911	1.792	46.907	.1192	8.392	.635	im1 o
5.330	5.218	1.946	54.122	.1176	8.500	.627	im1 o
5.330	5.217	1.962	54.557	.1171	8.543	.624	im1 o
5.330	5.138	1.971	53.977	.1156	8.647	.616	im1 o
5.330	5.449	2.095	60.845	.1155	8.659	.616	im1 o
5.330	5.385	2.107	60.475	.1142	8.756	.609	im1 o

(Continued)



GERMANIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.330	5.770	2.152	66.183	.1176	8.500	.627	im1 o
5.330	5.721	2.162	65.926	.1167	8.568	.622	im1 o
5.330	5.681	2.162	65.465	.1162	8.605	.619	im1 o
5.330	5.731	2.192	66.957	.1159	8.631	.618	im1 o
5.330	5.725	2.242	68.413	.1141	8.761	.608	im1 o
5.330	5.503	2.246	65.877	.1110	9.006	.592	im1 o
5.330	5.394	2.267	65.176	.1088	9.194	.580	im1 o
5.330	5.652	2.271	68.414	.1122	8.910	.598	im1 o
5.330	6.067	2.401	77.641	.1134	8.821	.604	im1 o
5.330	6.116	2.411	78.594	.1137	8.798	.606	im1 o
5.330	5.970	2.463	78.373	.1102	9.073	.587	im1 o
5.330	5.912	2.474	77.958	.1091	9.165	.582	im1 o
5.330	6.162	2.481	81.485	.1121	8.922	.597	im1 o
5.330	6.057	2.559	82.614	.1084	9.229	.578	im1 o
5.330	6.200	2.564	84.730	.1100	9.089	.586	im1 o
5.330	6.195	2.570	84.860	.1098	9.109	.585	im1 o
5.330	6.100	2.578	83.819	.1083	9.231	.577	im1 o
5.330	6.373	2.597	88.215	.1112	8.996	.592	im1 o
5.330	6.393	2.610	88.935	.1110	9.007	.592	im1 o
5.330	6.363	2.660	90.213	.1092	9.159	.582	im1 o
5.330	6.318	2.708	91.192	.1072	9.328	.571	im1 o
5.330	6.521	2.740	95.234	.1088	9.193	.580	im1 o
5.330	6.562	2.938	102.758	.1036	9.651	.552	im1 o
5.330	6.916	3.009	110.919	.1060	9.435	.565	im1 o
5.330	6.956	3.039	112.672	.1056	9.465	.563	im1 o
5.330	6.714	3.121	111.687	.1004	9.960	.535	im1 o
5.330	6.906	3.188	117.347	.1010	9.900	.538	im1 o

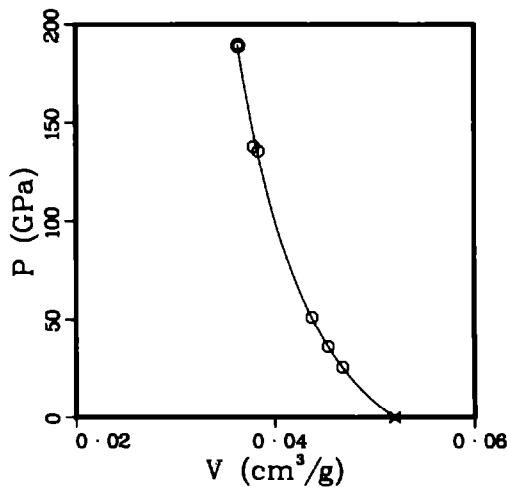
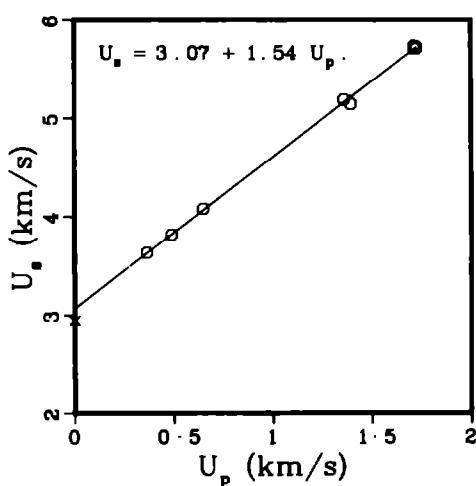
GOLD

Average $\rho_0 = 19.240 \text{ g/cm}^3$.

Sound velocities longitudinal 3.25 km/s.
shear 1.19 km/s.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
19.240	2.945	0.000	0.000	.0520	19.240	1.000	s s p x
19.240	3.635	.365	25.527	.0468	21.388	.900	im1 o
19.240	3.818	.489	35.921	.0453	22.066	.872	im1 o
19.240	4.081	.650	51.037	.0437	22.885	.841	im1 o
19.240	5.188	1.360	135.751	.0384	26.076	.738	im1 o
19.240	5.144	1.395	138.064	.0379	26.399	.729	im1 o
19.240	5.732	1.713	188.916	.0364	27.441	.701	im1 o
19.240	5.711	1.718	188.773	.0363	27.518	.699	im1 o
19.240	5.725	1.724	189.897	.0363	27.530	.699	im1 o
19.240	5.708	1.724	189.333	.0363	27.566	.698	im1 o



HAFNIUM

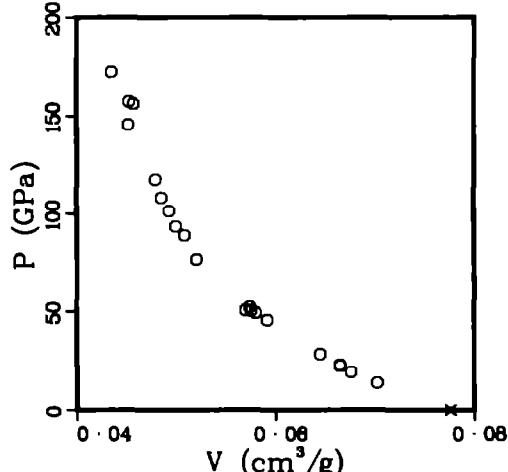
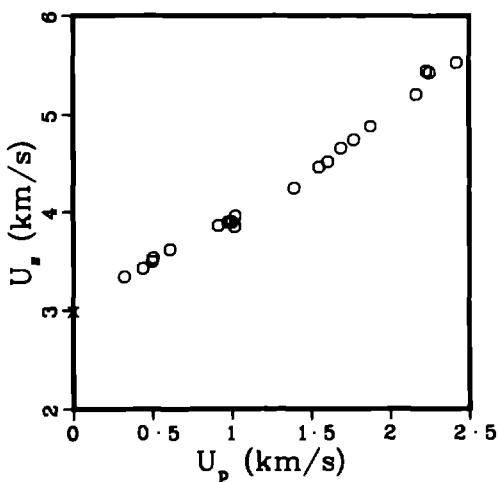
Average $\rho_0 = 12.890 \text{ g/cm}^3$.

Sound velocities longitudinal 3.86 km/s.
shear 2.12 km/s.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
12.890	2.984	0.000	0.000	.0776	12.890	1.000	ssp x
12.870	3.345	.322	13.862	.0702	14.241	.904	im1 o
12.900	3.430	.439	19.424	.0676	14.793	.872	im1 o
12.890	3.499	.499	22.506	.0665	15.034	.857	im1 o
12.900	3.534	.504	22.977	.0665	15.046	.857	im1 o
12.890	3.621	.611	28.518	.0645	15.507	.831	im1 o
12.880	3.864	.918	45.687	.0592	16.894	.762	im1 o
12.900	3.899	.980	49.291	.0580	17.231	.749	im1 o
12.900	3.898	1.003	50.435	.0576	17.369	.743	im1 o
12.890	3.851	1.021	50.682	.0570	17.540	.735	im1 o
12.900	3.958	1.025	52.335	.0574	17.408	.741	im1 o
12.890	4.252	1.397	76.567	.0521	19.197	.671	im1 o
12.830	4.463	1.551	88.811	.0509	19.664	.652	im1 o
12.890	4.515	1.606	93.467	.0500	20.006	.644	im1 o
12.910	4.651	1.689	101.415	.0493	20.272	.637	im1 o
12.900	4.738	1.771	108.244	.0485	20.600	.626	im1 o
12.840	4.878	1.877	117.563	.0479	20.871	.615	im1 o
12.920	5.206	2.166	145.688	.0452	22.125	.584	im1 o
12.890	5.437	2.231	156.355	.0457	21.860	.590	im1 o

(Continued)



HAFNIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
12.910	5.420	2.251	157.507	.0453	22.080	.585	im1 o
12.890	5.521	2.422	172.363	.0435	22.964	.561	im1 o

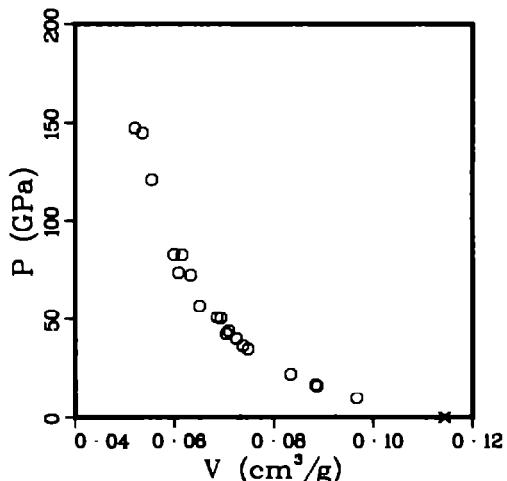
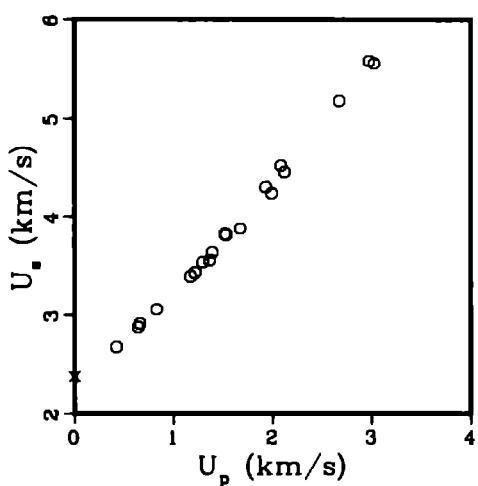
HOLMIUM

Average $\rho_0 = 8.734 \text{ g/cm}^3$.

Sound velocities longitudinal 3.21 km/s .
 shear 1.86 km/s .

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
8.750	2.386	0.000	0.000	.1143	8.750	1.000	ssp x
8.709	2.680	.423	9.873	.0967	10.341	.842	im1 o
8.755	2.878	.643	16.202	.0887	11.274	.777	im1 o
8.753	2.914	.659	16.809	.0884	11.311	.774	im1 o
8.750	3.060	.828	22.170	.0834	11.996	.729	im1 o
8.751	3.393	1.172	34.799	.0748	13.369	.655	im1 o
8.749	3.430	1.216	36.491	.0738	13.554	.645	im1 o
8.750	3.534	1.293	39.983	.0725	13.799	.634	im1 o
8.745	3.554	1.365	42.424	.0704	14.198	.616	im1 o
8.705	3.632	1.389	43.915	.0709	14.096	.618	im1 o
8.684	3.819	1.520	50.410	.0693	14.425	.602	im1 o
8.729	3.809	1.529	50.837	.0686	14.583	.599	im1 o
8.736	3.877	1.674	56.697	.0650	15.374	.568	im1 o
8.705	4.299	1.931	72.263	.0633	15.804	.551	im1 o
8.715	4.236	1.991	73.501	.0608	16.444	.530	im1 o
8.752	4.517	2.085	82.426	.0615	16.255	.538	im1 o
8.742	4.452	2.121	82.548	.0599	16.696	.524	im1 o
8.721	5.178	2.675	120.796	.0554	18.041	.483	im1 o
8.723	5.585	2.975	144.936	.0536	18.666	.467	im1 o
8.763	5.560	3.025	147.385	.0520	19.220	.456	im1 o

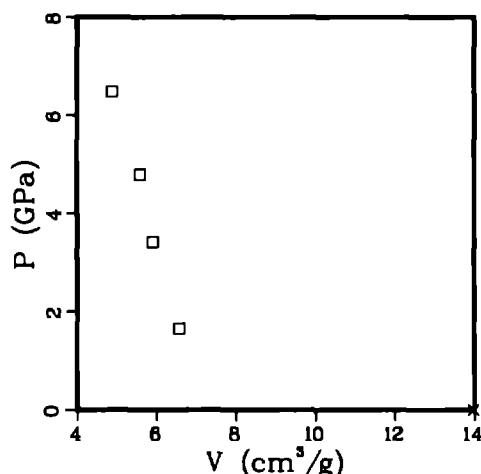
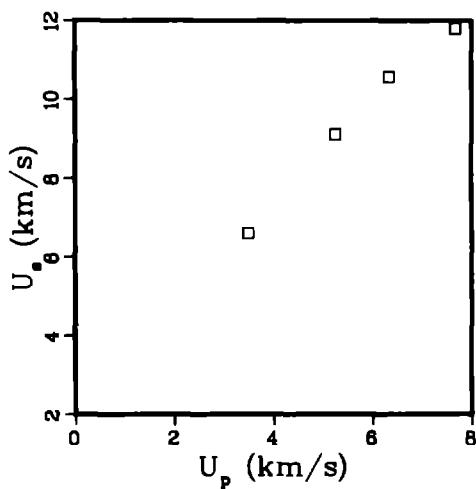


HYDROGEN , liquid , $T_0 = 20$ K

Average $\rho_0 = 0.072$ g/cm³.

References 20, 21

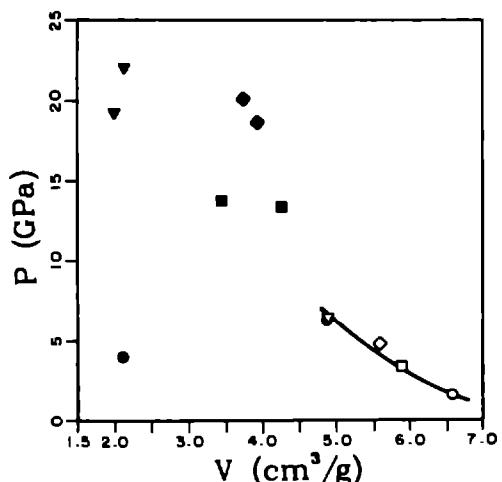
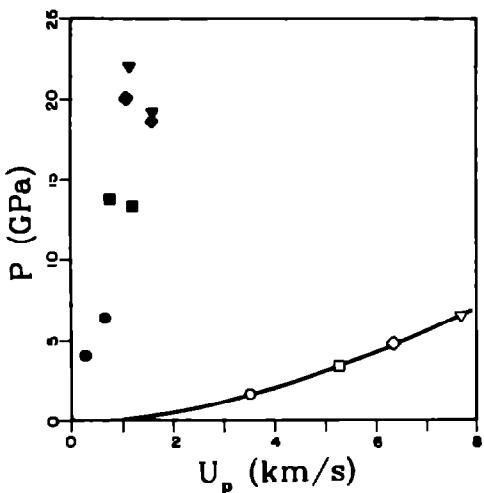
ρ_0 (g/cm ³)	U_u (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.072	6.600	3.490	1.649	6.5812	.152	.471	im2 □
.072	9.090	5.250	3.417	5.9000	.169	.422	im2 □
.072	10.570	6.340	4.798	5.5892	.179	.400	im2 □
.072	11.800	7.670	6.480	4.8883	.205	.350	im2 □



HYDROGEN, liquid, $T_0 = 20$ K, reflected-shock data
 $\rho_0 = 0.072 \text{ g/cm}^3$.

Initial Shock			Reflected Shock			
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	Std.*
3.49	6.58	1.65 ◊	0.65 0.25	4.88 2.11	6.4 • 4.0 •	Mg Al
5.25	5.89	3.42 □	1.22 0.76	4.27 3.45	13.4 ■ 13.8 ■	Mg Al
6.34	5.58	4.80 ◊	1.58 1.06	3.95 3.76	18.7 ♦ 20.1 ♦	Mg Al
7.67	4.89	6.49 ▽	1.61 1.13	2.00 2.15	19.2 ▼ 22.1 ▼	Mg Al

*Standards used for reflected-shock measurements were AZ31B magnesium alloy (Mg) and 2024 aluminum alloy (Al).

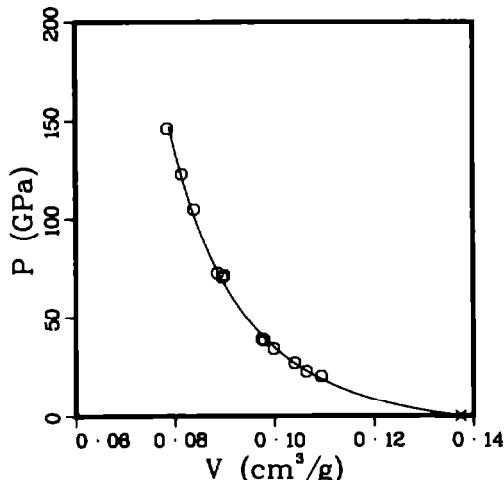
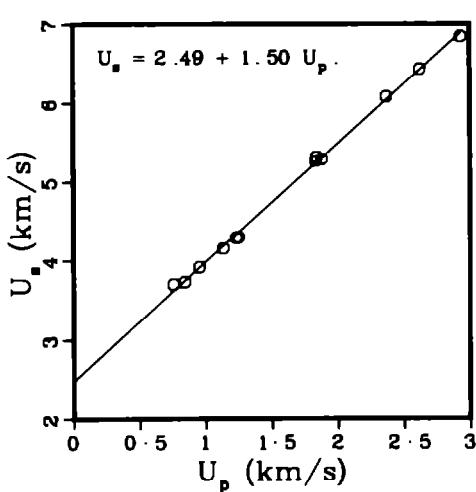


INDIUM

Average $\rho_0 = 7.278 \text{ g/cm}^3$.

References 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.274	3.700	.756	20.347	.1094	9.142	.796	im1 o
7.280	3.731	.841	22.843	.1064	9.399	.775	im1 o
7.274	3.918	.953	27.160	.1040	9.612	.757	im1 o
7.280	4.154	1.134	34.293	.0999	10.014	.727	im1 o
7.280	4.290	1.232	38.477	.0979	10.213	.713	im1 o
7.274	4.296	1.250	39.061	.0975	10.259	.709	im1 o
7.280	5.269	1.834	70.349	.0896	11.167	.652	im1 o
7.280	5.320	1.839	71.224	.0899	11.126	.654	im1 o
7.280	5.290	1.880	72.401	.0885	11.294	.645	im1 o
7.280	6.083	2.369	104.909	.0839	11.924	.611	im1 o
7.280	6.432	2.622	122.775	.0814	12.290	.592	im1 o
7.280	6.845	2.932	146.106	.0785	12.735	.572	im1 o



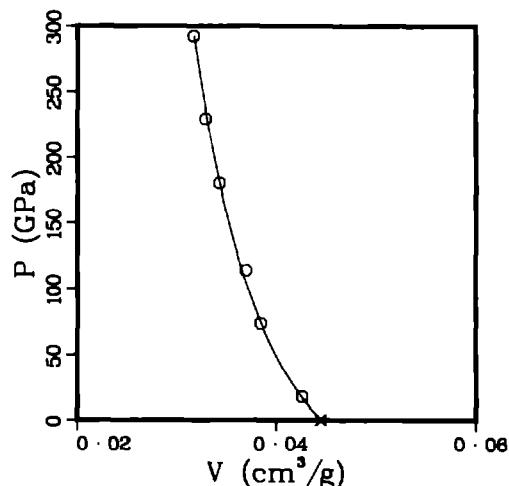
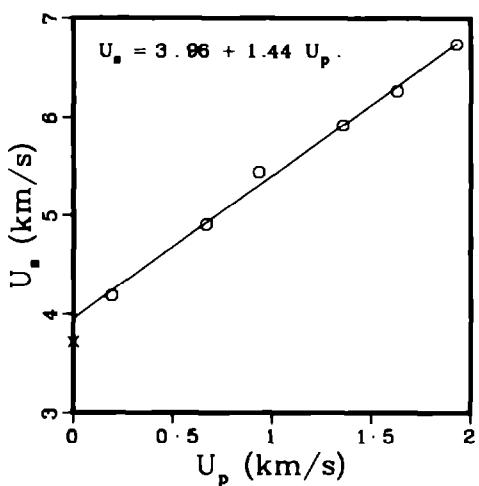
IRIDIUM

Average $\rho_0 = 22.477 \text{ g/cm}^3$.

Sound velocities longitudinal 5.32 km/s .
 shear 3.29 km/s .

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
22.500	3.724	0.000	0.000	.0444	22.500	1.000	s s p x
22.420	4.185	.193	18.109	.0425	23.504	.954	i m1 o
22.500	4.904	.669	73.817	.0384	26.054	.864	i m1 o
22.420	5.438	.933	113.751	.0370	27.063	.828	i m1 o
22.500	5.914	1.358	180.702	.0342	29.207	.770	i m1 o
22.500	6.261	1.629	229.481	.0329	30.413	.740	i m1 o
22.500	6.733	1.930	292.381	.0317	31.541	.713	i m1 o



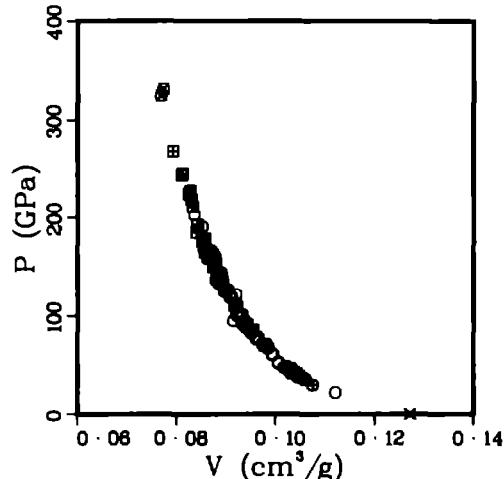
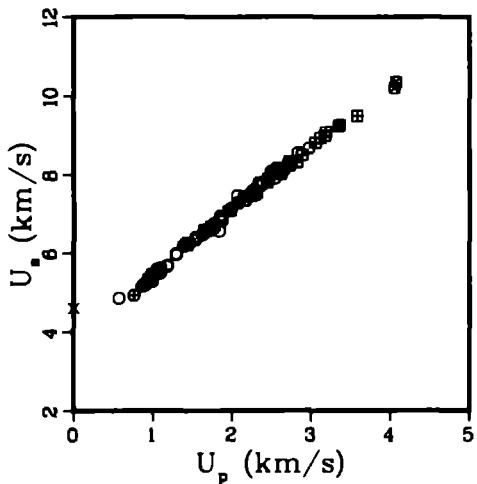
IRON

Average $\rho_0 = 7.856 \text{ g/cm}^3$.

Sound velocities longitudinal 5.94 km/s.
 shear 3.26 km/s.
 References 4, 5, 6, 11, 12, 13, 17, 22

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
7.870	4.595	0.000	0.000	.1271	7.870	1.000	s p x
7.861	4.838	.573	21.792	.1121	8.917	.882	i m1 o
7.850	4.913	.763	29.427	.1076	9.293	.845	s f 1 e
7.840	5.144	.867	34.965	.1061	9.429	.831	s f 1 e
7.840	5.147	.867	34.986	.1061	9.428	.832	s f 1 e
7.840	5.168	.876	35.493	.1059	9.440	.830	s f 1 e
7.850	5.190	.881	35.893	.1058	9.455	.830	s f 1 e
7.840	5.166	.884	35.803	.1057	9.459	.829	s f 1 e
7.882	5.225	.903	37.189	.1049	9.529	.827	i m1 o
7.882	5.172	.906	36.934	.1046	9.556	.825	i m1 o
7.850	5.328	.948	39.650	.1047	9.549	.822	s p 1 e
7.850	5.360	.952	40.056	.1048	9.545	.822	s f 1 e
7.840	5.393	.968	40.928	.1047	9.555	.821	i m1 o
7.840	5.373	.969	40.818	.1045	9.565	.820	i m1 o
7.882	5.339	.984	41.409	.1035	9.663	.816	i m1 o
7.840	5.408	.988	41.890	.1042	9.592	.817	i m1 o
7.864	5.252	.989	40.847	.1032	9.688	.812	i m1 o
7.850	5.443	.995	42.514	.1041	9.606	.817	s f 1 e
7.843	5.458	.998	42.721	.1042	9.598	.817	s p 1 e

(Continued)



IRON
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.856	5.414	1.008	42.873	.1036	9.653	.814	im1 o
7.840	5.584	1.060	46.405	.1033	9.677	.810	im1 o
7.859	5.491	1.061	45.786	.1027	9.741	.807	im1 o
7.865	5.518	1.063	46.133	.1027	9.742	.807	im1 o
7.850	5.556	1.064	46.406	.1030	9.709	.808	sp1 ■
7.857	5.484	1.069	46.061	.1025	9.759	.805	im1 o
7.861	5.480	1.069	46.051	.1024	9.766	.805	im1 o
7.850	5.584	1.069	46.859	.1030	9.709	.809	sf1 ■
7.864	5.516	1.096	47.542	.1019	9.814	.801	im1 o
7.864	5.493	1.098	47.430	.1017	9.829	.800	im1 o
7.861	5.620	1.102	48.685	.1023	9.778	.804	im1 o
7.861	5.673	1.184	52.801	.1007	9.934	.791	im1 o
7.861	5.661	1.185	52.734	.1006	9.942	.791	im1 o
7.862	5.972	1.298	60.944	.0995	10.045	.783	im1 o
7.861	5.953	1.303	60.976	.0994	10.064	.781	im1 o
7.861	6.183	1.391	67.609	.0986	10.143	.775	im1 o
7.861	6.172	1.392	67.537	.0985	10.150	.774	im1 o
7.856	6.200	1.413	68.823	.0983	10.175	.772	im1 o
7.861	6.253	1.421	69.849	.0983	10.173	.773	im1 o
7.847	6.204	1.433	69.762	.0980	10.204	.769	sp1 ■
7.850	6.240	1.445	70.782	.0979	10.216	.768	sp1 ■
7.861	6.239	1.460	71.605	.0974	10.263	.766	im1 o
7.861	6.348	1.541	76.898	.0963	10.381	.757	im1 o
7.861	6.332	1.543	76.804	.0962	10.394	.756	im1 o
7.861	6.403	1.543	77.665	.0966	10.357	.759	im1 o
7.861	6.388	1.545	77.584	.0964	10.369	.758	im1 o
7.860	6.464	1.624	82.511	.0953	10.497	.749	im1 o
7.860	6.495	1.644	83.927	.0950	10.524	.747	im1 o
7.850	6.579	1.649	85.163	.0955	10.476	.749	sp1 ■
7.861	6.584	1.699	87.935	.0944	10.595	.742	im1 o
7.860	6.571	1.726	89.145	.0938	10.660	.737	im1 o
7.850	6.663	1.734	90.696	.0942	10.612	.740	sp1 ■
7.856	6.741	1.768	93.628	.0939	10.649	.738	im1 o
7.860	6.629	1.771	92.276	.0932	10.725	.733	im1 o
7.861	6.744	1.778	94.260	.0937	10.676	.736	im1 o
7.860	6.551	1.840	94.743	.0915	10.930	.719	im1 o
7.861	6.933	1.848	100.717	.0933	10.718	.733	im1 o
7.861	6.862	1.860	100.332	.0927	10.784	.729	im1 o
7.861	6.842	1.863	100.201	.0926	10.802	.728	im1 o
7.860	6.810	1.871	100.148	.0923	10.838	.725	im1 o
7.860	6.867	1.872	101.040	.0925	10.806	.727	im1 o
7.847	7.072	1.957	108.602	.0922	10.849	.723	sp1 ■
7.850	7.076	1.982	110.093	.0917	10.904	.720	sp1 ■

(Continued)

IRON
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.862	7.153	1.990	111.911	.0918	10.892	.722	im1 o
7.861	7.469	2.066	121.303	.0920	10.867	.723	im1 o
7.857	7.291	2.074	118.810	.0911	10.981	.716	im1 o
7.856	7.259	2.081	118.673	.0908	11.013	.713	im1 o
7.860	7.334	2.150	123.937	.0899	11.120	.707	im1 o
7.861	7.450	2.153	126.089	.0904	11.056	.711	im1 o
7.860	7.326	2.166	124.723	.0896	11.159	.704	im1 o
7.861	7.486	2.229	131.171	.0893	11.194	.702	im1 o
7.867	7.556	2.250	133.747	.0893	11.203	.702	im1 o
7.861	7.582	2.258	134.582	.0893	11.195	.702	im1 o
7.867	7.462	2.261	132.729	.0886	11.287	.697	im1 o
7.861	7.552	2.263	134.346	.0891	11.224	.700	im1 o
7.831	7.559	2.273	134.549	.0893	11.198	.699	sp1 s
7.867	7.621	2.283	136.876	.0890	11.232	.700	im1 o
7.867	7.513	2.296	135.705	.0883	11.329	.694	im1 o
7.860	7.566	2.297	136.600	.0886	11.287	.696	im1 o
7.860	7.493	2.312	136.165	.0880	11.367	.691	im1 o
7.861	7.800	2.338	143.356	.0891	11.226	.700	im1 o
7.861	7.749	2.346	142.906	.0887	11.274	.697	im1 o
7.861	7.738	2.371	144.224	.0882	11.334	.694	im1 o
7.861	7.739	2.371	144.243	.0882	11.333	.694	im1 o
7.847	7.806	2.443	149.643	.0876	11.422	.687	sp1 s
7.832	7.896	2.459	152.068	.0879	11.374	.689	sp1 s
7.861	8.085	2.498	158.763	.0879	11.376	.691	im1 o
7.851	8.070	2.520	159.661	.0876	11.416	.688	sf2 s
7.860	7.907	2.545	158.169	.0863	11.591	.678	im1 o
7.859	8.028	2.547	160.695	.0869	11.511	.683	im1 o
7.861	8.167	2.561	164.418	.0873	11.452	.686	im1 o
7.861	8.092	2.574	163.735	.0867	11.528	.682	im1 o
7.861	8.168	2.584	165.915	.0870	11.499	.684	im1 o
7.861	8.047	2.587	163.647	.0863	11.586	.679	im1 o
7.861	8.110	2.594	165.375	.0865	11.558	.680	im1 o
7.809	8.088	2.613	165.035	.0867	11.536	.677	sp1 s
7.850	8.015	2.617	164.656	.0858	11.656	.673	sp1 s
7.860	8.122	2.646	168.918	.0858	11.658	.674	im1 o
7.860	8.102	2.654	169.011	.0856	11.689	.672	im1 o
7.847	8.245	2.717	175.786	.0854	11.704	.670	sp1 s
7.850	8.226	2.720	175.642	.0853	11.728	.669	sp1 s
7.850	8.322	2.727	178.149	.0856	11.676	.672	sp1 s
7.850	8.262	2.733	177.253	.0852	11.730	.669	sp1 s
7.868	8.312	2.821	184.490	.0840	11.910	.661	sp1 s
7.852	8.554	2.834	190.348	.0852	11.742	.669	im1 o
7.840	8.494	2.889	192.387	.0842	11.881	.660	sp1 s

(Continued)

IRON
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.861	8.665	2.973	202.508	.0836	11.967	.657	i m1 o
7.842	8.808	3.056	211.085	.0833	12.008	.653	s p 1 ■
7.850	8.936	3.116	218.580	.0830	12.053	.651	s p 1 ■
7.850	8.990	3.178	224.276	.0824	12.142	.646	s p 1 ■
7.850	9.098	3.188	227.685	.0828	12.084	.650	s p 1 ■
7.860	9.236	3.352	243.338	.0811	12.338	.637	s p 1 ■
7.860	9.279	3.361	245.128	.0811	12.324	.638	s p 1 ■
7.855	9.507	3.586	267.793	.0793	12.612	.623	s p 1 ■
7.851	10.200	4.050	324.325	.0768	13.021	.603	s f 2 ■
7.851	10.350	4.070	330.719	.0773	12.939	.607	s f 2 ■

IRON, sintered, $\rho_0 = 7.0 \text{ g/cm}^3$.

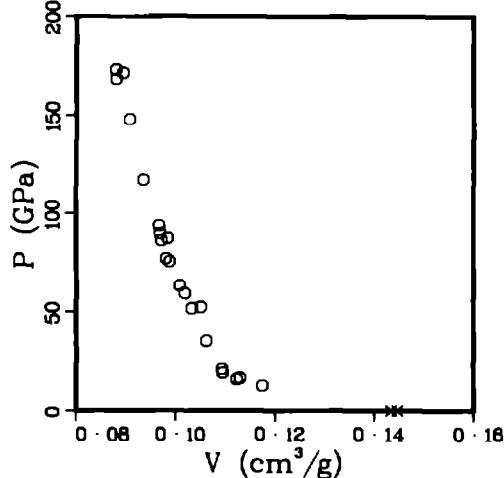
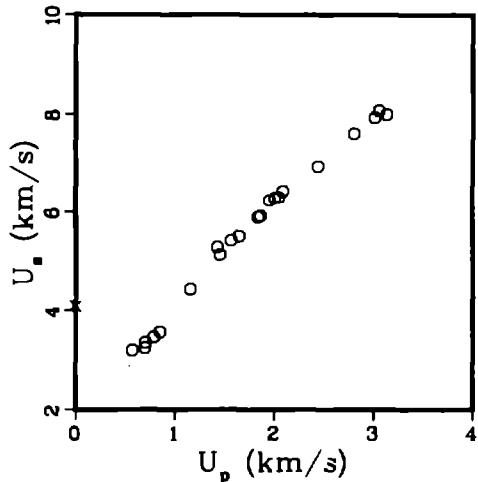
Average $\rho_0 = 6.972 \text{ g/cm}^3$.

Sound velocities longitudinal 5.36 km/s.
shear 3.00 km/s.

References 13, 17

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
6.913	4.090	0.000	0.000	.1447	6.913	1.000	s s p x
7.002	3.214	.569	12.805	.1175	8.508	.823	im1 o
6.992	3.259	.698	15.905	.1124	8.898	.786	im1 o
7.001	3.366	.702	16.543	.1130	8.846	.791	im1 o
7.061	3.474	.786	19.281	.1096	9.126	.774	im1 o
6.965	3.573	.850	21.153	.1094	9.139	.762	im1 o
6.960	4.425	1.153	35.510	.1062	9.413	.739	im1 o
6.945	5.290	1.427	52.427	.1051	9.510	.730	im1 o
6.940	5.137	1.453	51.801	.1033	9.677	.717	im1 o
6.988	5.424	1.566	59.356	.1018	9.824	.711	im1 o
6.954	5.514	1.648	63.191	.1008	9.918	.701	im1 o
6.968	5.898	1.838	75.537	.0988	10.122	.688	im1 o
6.986	5.922	1.864	77.116	.0981	10.195	.685	im1 o
7.070	6.243	1.954	86.246	.0972	10.291	.687	im1 o
6.913	6.291	2.010	87.414	.0984	10.159	.680	im1 o
6.963	6.298	2.049	89.855	.0969	10.321	.675	im1 o
6.979	6.429	2.090	93.774	.0967	10.341	.675	im1 o
6.933	6.937	2.440	117.350	.0935	10.695	.648	im1 o
6.959	7.596	2.800	148.010	.0907	11.022	.631	im1 o

(Continued)



IRON, sintered, $\rho_0 = 7.0 \text{ g/cm}^3$.
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.046	7.932	3.010	168.226	.0881	11.355	.621	i m1 o
6.945	8.071	3.054	171.186	.0895	11.173	.622	i m1 o
6.910	7.994	3.131	172.952	.0880	11.359	.608	i m1 o

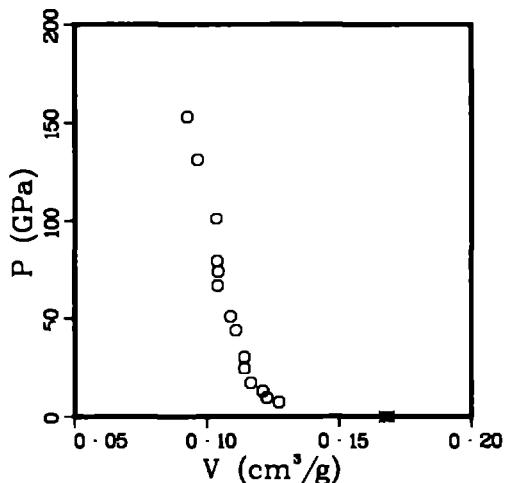
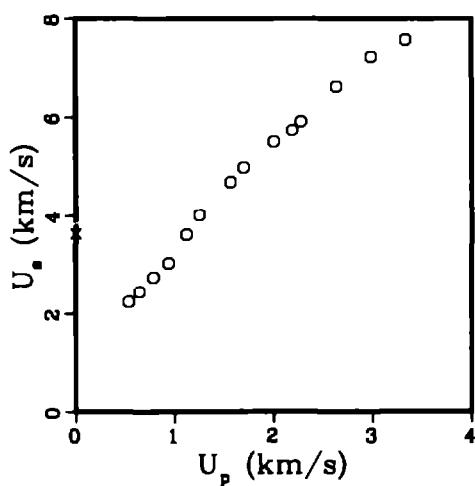
IRON, sintered, $\rho_0 = 6.0 \text{ g/cm}^3$.

Average $\rho_0 = 5.982 \text{ g/cm}^3$.

Sound velocities longitudinal 4.55 km/s.
shear 2.37 km/s.

References 13, 17

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.925	3.635	0.000	0.000	1688	5.925	1.000	s s p x
5.973	2.238	.537	7.178	1272	7.859	.760	i m i o
5.993	2.441	.647	9.465	1226	8.154	.735	i m i o
5.884	2.742	.788	12.714	1211	8.257	.713	i m i o
5.913	3.031	.941	16.865	1166	8.575	.690	i m i o
6.054	3.621	1.118	24.508	1142	8.758	.691	i m i o
6.041	4.021	1.249	30.339	1141	8.763	.689	i m i o
6.000	4.685	1.565	43.992	1110	9.010	.666	i m i o
6.050	4.975	1.696	51.047	1089	9.179	.659	i m i o
6.104	5.498	2.003	67.220	1041	9.602	.636	i m i o
5.920	5.732	2.189	74.280	1044	9.578	.618	i m i o
5.919	5.915	2.276	79.685	1039	9.621	.615	i m i o
5.820	6.620	2.632	101.407	1035	9.661	.602	i m i o
6.080	7.220	2.985	131.034	0.965	10.365	.587	i m i o
6.055	7.584	3.333	153.055	0.926	10.802	.561	i m i o

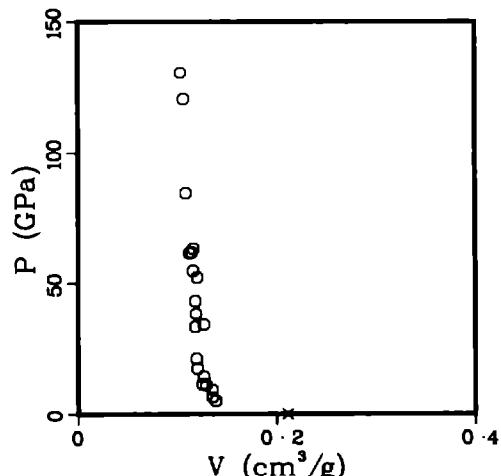
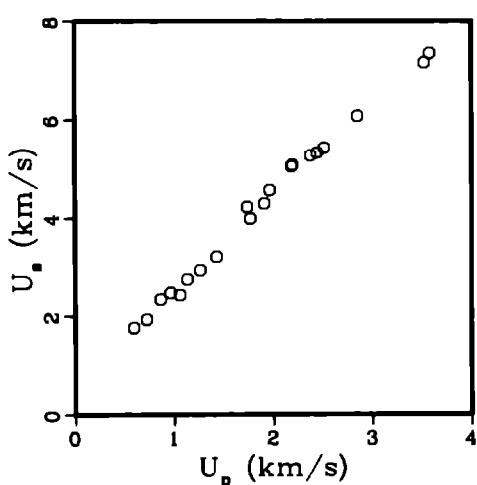


IRON , sintered , $\rho_0 = 4.7 \text{ g/cm}^3$.

Average $\rho_0 = 4.743 \text{ g/cm}^3$.

References 13 , 17

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.808	1.767	.591	5.021	1384	7.224	.666	i m1 o
4.629	1.932	.722	6.457	1353	7.391	.626	i m1 o
4.697	2.352	.862	9.523	1349	7.414	.634	i m1 o
4.761	2.484	.962	11.377	1287	7.770	.613	i m1 o
4.532	2.439	1.058	11.695	1249	8.004	.566	i m1 o
4.662	2.756	1.132	14.544	1264	7.912	.589	i m1 o
4.744	2.934	1.262	17.566	1201	8.325	.570	i m1 o
4.651	3.201	1.428	21.260	1191	8.397	.554	i m1 o
4.650	4.227	1.738	34.161	1266	7.897	.589	i m1 o
4.720	3.991	1.769	33.324	1180	8.478	.557	i m1 o
4.680	4.294	1.910	38.383	1186	8.429	.555	i m1 o
4.827	4.566	1.965	43.309	1180	8.474	.570	i m1 o
4.729	5.052	2.186	52.226	1200	8.336	.567	i m1 o
4.908	5.082	2.194	54.724	1158	8.637	.568	i m1 o
4.901	5.275	2.377	61.452	1121	8.921	.549	i m1 o
4.734	5.331	2.444	61.679	1144	8.742	.542	i m1 o
4.619	5.430	2.515	63.079	1162	8.604	.537	i m1 o
4.880	6.073	2.852	84.523	1087	9.201	.530	i m1 o
4.770	7.163	3.526	120.475	1064	9.394	.508	i m1 o
4.958	7.355	3.580	130.549	1035	9.660	.513	i m1 o

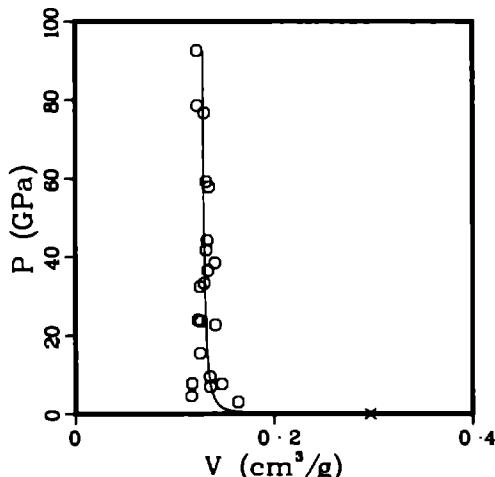
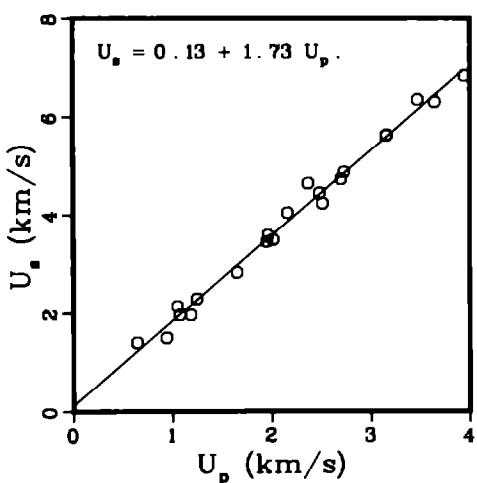


IRON, sintered, $\rho_0 = 3.4 \text{ g/cm}^3$.

Average $\rho_0 = 3.368 \text{ g/cm}^3$.

References 13, 17

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.313	1.407	.644	3.002	.1637	6.109	.542	im1 o
3.222	1.505	.940	4.558	.1165	8.582	.375	im1 o
3.472	2.144	1.048	7.801	.1472	6.792	.511	im1 o
3.351	1.967	1.073	7.073	.1356	7.373	.454	im1 o
3.388	1.967	1.185	7.897	.1173	8.522	.398	im1 o
3.380	2.296	1.245	9.662	.1354	7.384	.458	im1 o
3.323	2.834	1.651	15.548	.1256	7.961	.417	im1 o
3.538	3.459	1.952	23.888	.1231	8.121	.436	im1 o
3.219	3.590	1.962	22.673	.1409	7.098	.453	im1 o
3.351	3.493	2.015	23.586	.1263	7.920	.423	im1 o
3.716	4.046	2.160	32.475	.1254	7.972	.466	im1 o
3.494	4.647	2.368	38.448	.1404	7.124	.490	im1 o
3.310	4.449	2.482	36.550	.1336	7.487	.442	im1 o
3.133	4.236	2.514	33.364	.1298	7.707	.407	im1 o
3.260	4.734	2.701	41.684	.1317	7.591	.429	im1 o
3.317	4.874	2.730	44.136	.1326	7.541	.440	im1 o
3.260	5.622	3.158	57.879	.1344	7.438	.438	im1 o
3.323	5.630	3.164	59.194	.1318	7.587	.438	im1 o
3.486	6.342	3.473	76.782	.1298	7.706	.452	im1 o
3.424	6.295	3.646	78.586	.1229	8.137	.421	im1 o
3.443	6.823	3.946	92.698	.1225	8.165	.422	im1 o



LANTHANUM

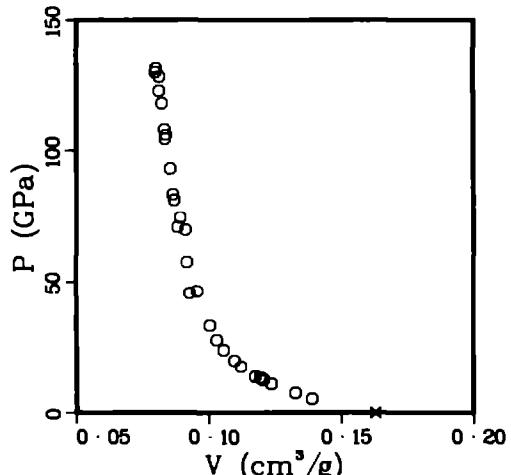
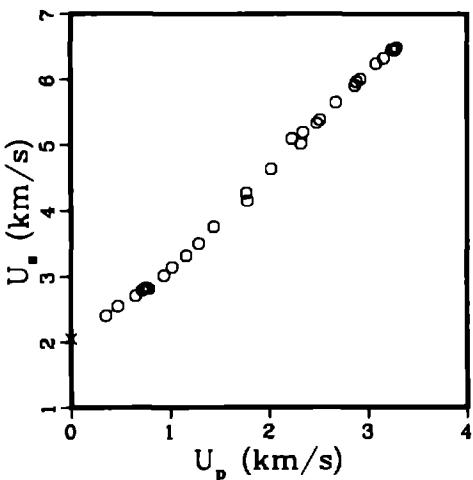
Average $\rho_0 = 6.138 \text{ g/cm}^3$.

Sound velocities longitudinal 2.69 km/s.
shear 1.51 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
6.136	2.048	0.000	0.000	1630	6.136	1.000	s s p x
6.140	2.398	.354	5.212	1388	7.203	.852	im1 o
6.135	2.539	.473	7.368	1326	7.540	.814	im1 o
6.130	2.697	.654	10.812	1236	8.092	.758	im1 o
6.138	2.784	.723	12.355	1206	8.291	.740	im1 o
6.133	2.806	.740	12.735	1201	8.330	.736	im1 o
6.136	2.825	.757	13.122	1193	8.382	.732	im1 o
6.132	2.813	.787	13.575	1175	8.514	.720	im1 o
6.135	3.020	.942	17.453	1122	8.916	.688	im1 o
6.151	3.143	1.023	19.777	1097	9.119	.675	im1 o
6.137	3.322	1.169	23.833	1056	9.469	.648	im1 o
6.137	3.504	1.289	27.719	1030	9.708	.632	im1 o
6.137	3.757	1.442	33.248	1004	9.960	.616	im1 o
6.119	4.279	1.772	46.397	957	10.444	.586	im1 o
6.155	4.160	1.783	45.653	928	10.772	.571	im1 o
6.137	4.637	2.022	57.541	919	10.882	.564	im1 o
6.153	5.089	2.233	69.921	912	10.964	.561	im1 o
6.082	5.015	2.325	70.915	882	11.339	.536	im1 o
6.136	5.184	2.345	74.592	893	11.204	.548	im1 o

(Continued)



LANTHANUM
(Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.140	5.332	2.485	81.355	.0870	11.499	.534	im1	o
6.155	5.388	2.518	83.505	.0865	11.555	.533	im1	o
6.153	5.652	2.678	93.132	.0855	11.694	.526	im1	o
6.154	5.908	2.871	104.383	.0835	11.972	.514	im1	o
6.149	5.967	2.888	105.964	.0839	11.917	.516	im1	o
6.156	6.006	2.927	108.220	.0833	12.008	.513	im1	o
6.134	6.239	3.086	118.101	.0824	12.138	.505	im1	o
6.142	6.319	3.164	122.799	.0813	12.302	.499	im1	o
6.110	6.462	3.246	128.161	.0815	12.277	.498	im1	o
6.157	6.444	3.275	129.938	.0799	12.520	.492	im1	o
6.142	6.490	3.295	131.344	.0802	12.476	.492	im1	o

LEAD

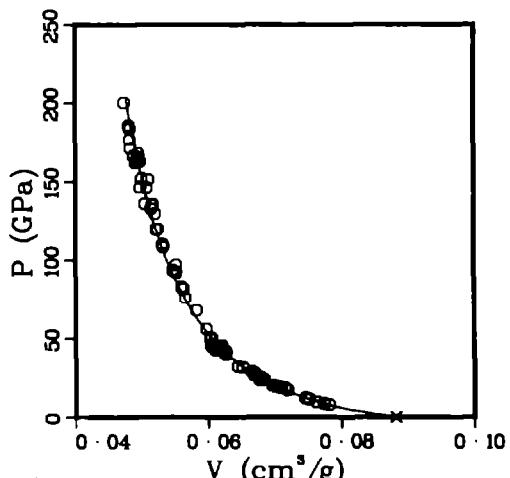
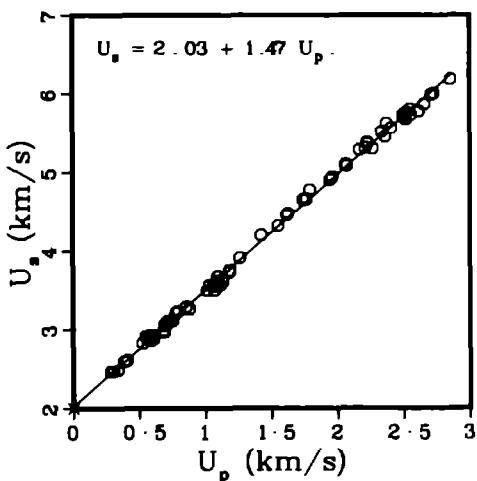
Average $\rho_0 = 11.346 \text{ g/cm}^3$.

Sound velocities longitudinal 2.25 km/s .
 shear .89 km/s .

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U _u (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.340	2.002	0.000	0.000	.0882	11.340	1.000	s s p x
11.340	2.472	.282	7.905	.0781	12.800	.886	im1 o
11.340	2.465	.303	8.470	.0773	12.929	.877	im1 o
11.340	2.479	.336	9.446	.0762	13.118	.864	im1 o
11.360	2.596	.381	11.236	.0751	13.314	.853	im1 o
11.340	2.607	.400	11.825	.0747	13.395	.847	im1 o
11.340	2.614	.404	11.976	.0746	13.413	.845	im1 o
11.330	2.828	.525	16.822	.0719	13.913	.814	im1 o
11.360	2.911	.548	18.122	.0715	13.994	.812	im1 o
11.340	2.879	.566	18.479	.0708	14.115	.803	im1 o
11.360	2.896	.574	18.884	.0706	14.168	.802	im1 o
11.340	2.929	.582	19.331	.0707	14.152	.801	im1 o
11.340	2.859	.587	19.031	.0701	14.270	.795	im1 o
11.340	2.921	.606	20.073	.0699	14.308	.793	im1 o
11.340	2.882	.610	19.936	.0695	14.385	.788	im1 o
11.340	2.987	.687	23.270	.0679	14.727	.770	im1 o
11.330	3.059	.691	23.949	.0683	14.636	.774	im1 o
11.340	2.971	.692	23.314	.0676	14.783	.767	im1 o
11.360	3.051	.697	24.158	.0679	14.724	.772	im1 o

(Continued)



LEAD
 (Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.360	3.098	.711	25.022	.0678	14.744	.770	i m1 o	
11.340	3.094	.723	25.367	.0676	14.798	.766	i m1 o	
11.340	3.119	.751	26.562	.0670	14.936	.759	i m1 o	
11.340	3.111	.752	26.530	.0669	14.955	.758	i m1 o	
11.340	3.211	.777	28.293	.0668	14.960	.758	i m1 o	
11.340	3.229	.794	29.074	.0665	15.038	.754	i m1 o	
11.370	3.288	.856	32.001	.0651	15.372	.740	i m1 o	
11.340	3.260	.880	32.532	.0644	15.533	.730	i m1 o	
11.360	3.497	1.011	40.163	.0626	15.980	.711	i m1 o	
11.360	3.567	1.028	41.656	.0627	15.959	.712	i m1 o	
11.340	3.571	1.061	42.965	.0620	16.134	.703	i m1 o	
11.330	3.571	1.063	43.008	.0620	16.132	.702	i m1 o	
11.340	3.495	1.071	42.447	.0612	16.350	.694	i m1 o	
11.340	3.585	1.072	43.581	.0618	16.177	.701	i m1 o	
11.360	3.613	1.083	44.450	.0616	16.223	.700	i m1 o	
11.360	3.626	1.092	44.981	.0615	16.255	.699	i m1 o	
11.340	3.679	1.092	45.558	.0620	16.127	.703	i m1 o	
11.330	3.542	1.093	43.863	.0610	16.387	.691	i m1 o	
11.390	3.569	1.111	45.163	.0605	16.538	.689	i m1 o	
11.340	3.611	1.131	46.313	.0606	16.512	.687	i m1 o	
11.340	3.731	1.181	49.968	.0603	16.592	.683	i m1 o	
11.340	3.760	1.182	50.399	.0605	16.539	.686	i m1 o	
11.340	3.915	1.265	56.161	.0597	16.753	.677	i m1 o	
11.360	4.202	1.425	68.022	.0582	17.189	.661	i m1 o	
11.340	4.321	1.554	76.146	.0565	17.709	.640	i m1 o	
11.340	4.461	1.620	81.952	.0562	17.806	.637	i m1 o	
11.340	4.464	1.620	82.007	.0562	17.799	.637	i m1 o	
11.390	4.481	1.627	83.040	.0559	17.883	.637	i m1 o	
11.340	4.657	1.743	92.048	.0552	18.123	.626	i m1 o	
11.340	4.660	1.753	92.636	.0550	18.178	.624	i m1 o	
11.360	4.665	1.767	93.641	.0547	18.287	.621	i m1 o	
11.330	4.779	1.792	97.030	.0552	18.127	.625	i m1 o	
11.340	4.910	1.946	108.352	.0532	18.785	.604	i m1 o	
11.340	4.945	1.964	110.134	.0532	18.811	.603	i m1 o	
11.360	5.102	2.064	119.627	.0524	19.078	.595	i m1 o	
11.360	5.083	2.071	119.586	.0522	19.171	.593	i m1 o	
11.340	5.284	2.168	129.908	.0520	19.230	.590	i m1 o	
11.340	5.306	2.211	133.036	.0514	19.441	.583	i m1 o	
11.340	5.377	2.225	135.670	.0517	19.345	.586	i m1 o	
11.340	5.359	2.226	135.276	.0516	19.397	.585	i m1 o	
11.340	5.299	2.266	136.165	.0505	19.812	.572	i m1 o	
11.360	5.510	2.335	146.156	.0507	19.715	.576	i m1 o	
11.390	5.449	2.362	146.595	.0497	20.105	.567	i m1 o	

(Continued)

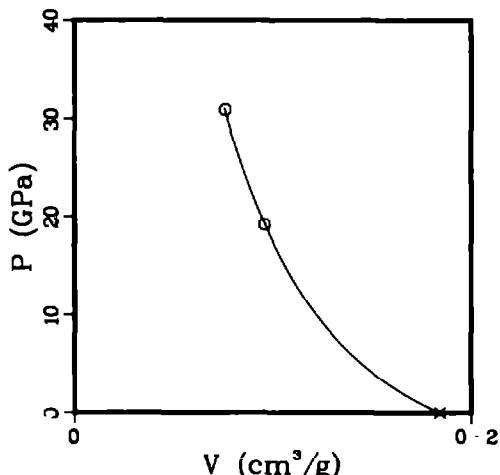
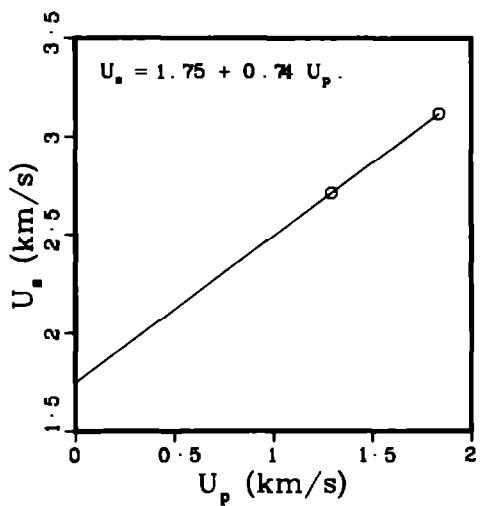
LEAD
 (Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.340	5.623	2.374	151.378	.0510	19.626	.578	i m1	o
11.340	5.561	2.411	152.042	.0500	20.020	.566	i m1	o
11.340	5.732	2.502	162.632	.0497	20.124	.564	i m1	o
11.340	5.675	2.521	162.238	.0490	20.404	.556	i m1	o
11.360	5.706	2.521	163.412	.0491	20.352	.558	i m1	o
11.340	5.763	2.527	165.146	.0495	20.195	.562	i m1	o
11.340	5.802	2.552	167.908	.0494	20.245	.560	i m1	o
11.360	5.731	2.558	166.536	.0487	20.518	.554	i m1	o
11.330	5.776	2.620	171.458	.0482	20.736	.546	i m1	o
11.330	5.866	2.681	176.855	.0482	20.737	.546	i m1	o
11.340	5.984	2.710	183.897	.0482	20.726	.547	i m1	o
11.340	6.003	2.731	185.910	.0481	20.805	.545	i m1	o
11.340	6.181	2.859	200.395	.0474	21.100	.537	i m1	o

LEAD , powdered , unpressed

Average $\rho_0 = 5.432 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
5.463	2.712	1.293	19.157	.0958	10.441	.523	im1 o
5.402	3.116	1.836	30.905	.0760	13.150	.411	im1 o

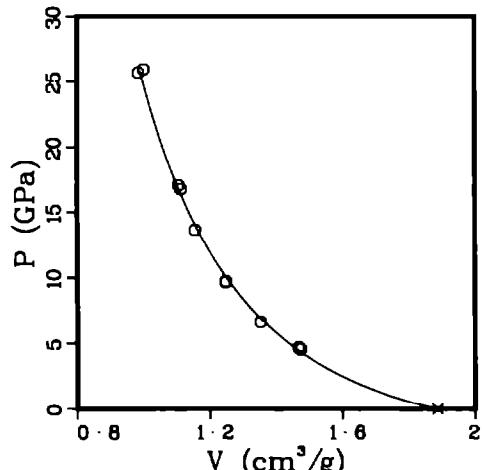
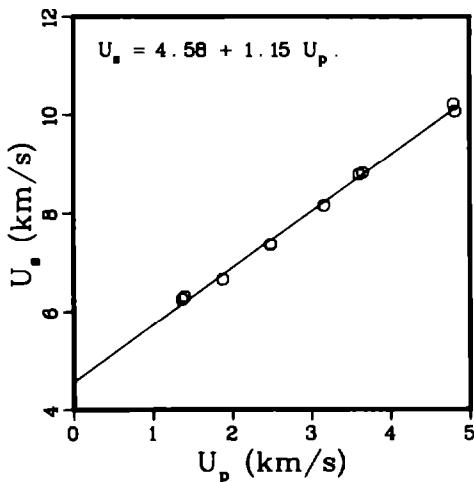


LITHIUM

Average $\rho_0 = 0.530 \text{ g/cm}^3$.

References 6, 16

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
530	6.253	1.370	4.540	1.4734	.679	.781	im1 o
530	6.306	1.401	4.682	1.4676	.681	.778	im1 o
530	6.653	1.882	6.636	1.3531	.739	.717	im1 o
530	7.360	2.487	9.701	1.2492	.800	.662	im1 o
530	7.344	2.488	9.684	1.2476	.802	.661	im1 o
530	8.152	3.159	13.649	1.1556	.865	.612	im1 o
530	8.787	3.602	16.775	1.1134	.898	.590	im1 o
530	8.822	3.650	17.066	1.1062	.904	.586	im1 o
530	10.211	4.794	25.944	1.0010	.999	.531	im1 o
530	10.070	4.814	25.693	.9848	1.015	.522	im1 o



MAGNESIUM

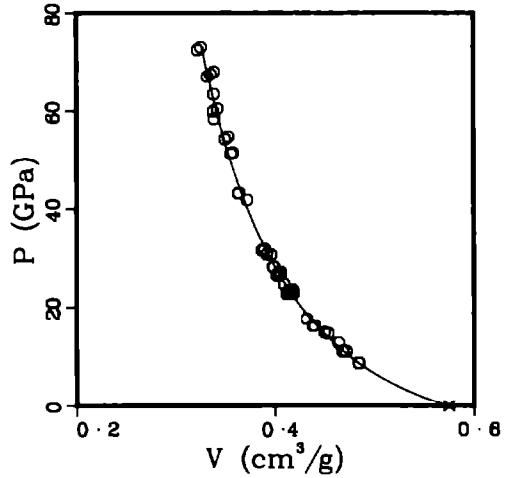
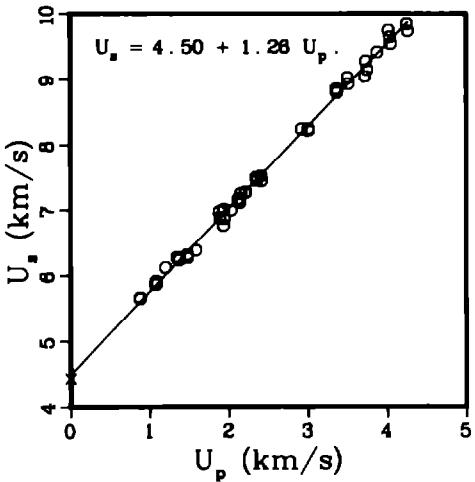
Average $\rho_0 = 1.740 \text{ g/cm}^3$.

Sound velocities longitudinal 5.74 km/s.
shear 3.15 km/s.

References 6, 11, 12, 13, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.740	4.440	0.000	0.000	.5747	1.740	1.000	s s p x
1.745	5.665	.878	8.679	.4842	2.065	.845	i m1 o
1.745	5.651	.879	8.668	.4839	2.066	.844	i m1 o
1.745	5.874	1.077	11.039	.4680	2.137	.817	i m1 o
1.745	5.864	1.078	11.031	.4677	2.138	.816	i m1 o
1.735	5.915	1.078	11.063	.4713	2.122	.818	i m1 o
1.734	6.121	1.199	12.726	.4637	2.156	.804	i m1 o
1.734	6.278	1.343	14.620	.4533	2.206	.786	i m1 o
1.734	6.238	1.374	14.862	.4497	2.224	.780	i m1 o
1.745	6.317	1.473	16.237	.4394	2.276	.767	i m1 o
1.745	6.270	1.477	16.160	.4381	2.283	.764	i m1 o
1.741	6.384	1.584	17.605	.4319	2.316	.752	i m1 o
1.745	6.978	1.879	22.880	.4188	2.388	.731	i m1 o
1.745	6.887	1.887	22.678	.4160	2.404	.726	i m1 o
1.734	7.009	1.933	23.493	.4177	2.394	.724	i m1 o
1.734	6.763	1.934	22.680	.4118	2.428	.714	i m1 o
1.734	6.873	1.947	23.204	.4133	2.419	.717	i m1 o
1.735	6.997	2.030	24.644	.4092	2.444	.710	i m1 o
1.745	7.175	2.123	26.581	.4035	2.478	.704	i m1 o

(Continued)



MAGNESIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.745	7.127	2.128	26.465	.4020	2.488	.701	im1 o
1.740	7.113	2.140	26.486	.4018	2.489	.699	im1 o
1.734	7.253	2.150	27.040	.4058	2.465	.704	im1 o
1.745	7.268	2.214	28.079	.3985	2.509	.695	im1 o
1.745	7.273	2.214	28.099	.3986	2.509	.696	im1 o
1.736	7.504	2.345	30.548	.3960	2.525	.687	im1 o
1.745	7.450	2.354	30.603	.3920	2.551	.684	im1 o
1.745	7.525	2.409	31.633	.3896	2.567	.680	im1 o
1.745	7.448	2.418	31.426	.3870	2.584	.675	im1 o
1.736	8.245	2.921	41.809	.3720	2.688	.646	im1 o
1.745	8.244	3.007	43.258	.3640	2.747	.635	im1 o
1.745	8.222	3.009	43.171	.3633	2.752	.634	im1 o
1.734	8.834	3.359	51.454	.3574	2.798	.620	im1 o
1.734	8.850	3.359	51.547	.3578	2.795	.620	im1 o
1.734	8.795	3.368	51.364	.3559	2.810	.617	im1 o
1.734	9.027	3.502	54.816	.3530	2.833	.612	im1 o
1.734	8.928	3.512	54.370	.3498	2.858	.607	im1 o
1.735	9.040	3.724	58.409	.3389	2.950	.588	im1 o
1.745	9.279	3.735	60.477	.3424	2.921	.597	im1 o
1.745	9.148	3.752	59.894	.3380	2.958	.590	im1 o
1.737	9.416	3.878	63.427	.3386	2.953	.588	im1 o
1.734	9.753	4.022	68.019	.3389	2.951	.588	im1 o
1.734	9.649	4.035	67.511	.3355	2.980	.582	im1 o
1.734	9.545	4.049	67.015	.3321	3.011	.576	im1 o
1.745	9.848	4.251	73.052	.3257	3.070	.568	im1 o
1.745	9.741	4.266	72.514	.3221	3.105	.562	im1 o

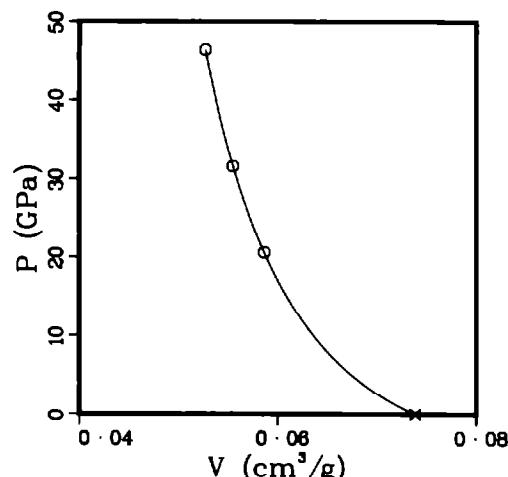
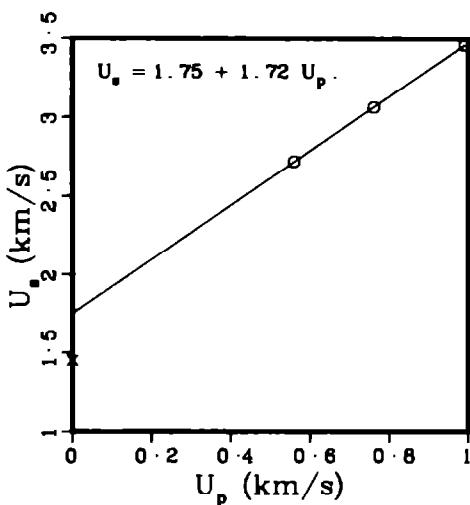
MERCURY

Average $\rho_0 = 13.540 \text{ g/cm}^3$.

Sound velocities longitudinal 1.45 km/s.
shear 0.00 km/s.

Reference 23

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
13.540	1.451	0.000	0.000	.0739	13.540	1.000	s s p x
13.540	2.719	.560	20.617	.0586	17.052	.794	i m1 o
13.540	3.064	.762	31.613	.0555	18.022	.751	i m1 o
13.540	3.462	.991	46.454	.0527	18.970	.714	i m1 o



MOLYBDENUM

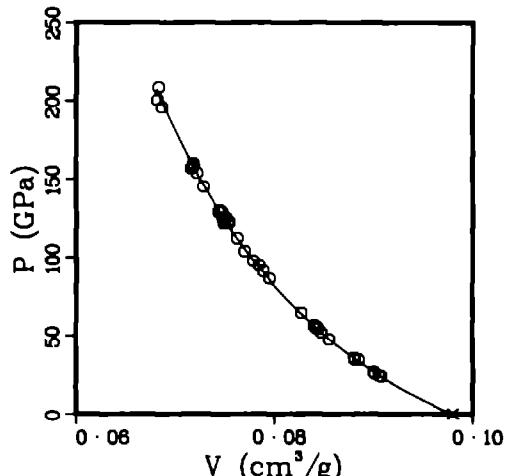
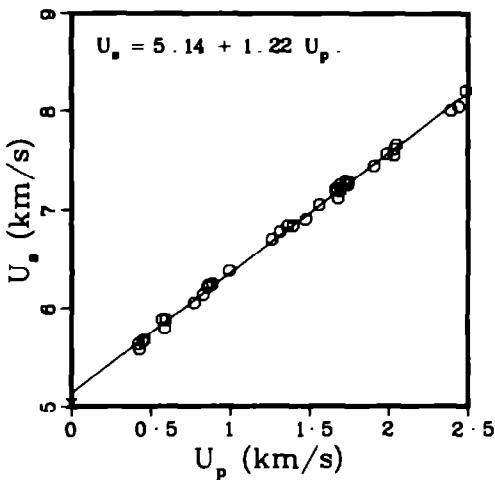
Average $\rho_0 = 10.208 \text{ g/cm}^3$.

Sound velocities longitudinal 6.44 km/s.
shear 3.48 km/s.

References 4, 5, 6, 11, 12, 13, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
10.200	5.033	0.000	0.000	.0980	10.200	1.000	ssp x
10.200	5.631	.420	24.123	.0907	11.022	.925	im1 o
10.200	5.579	.427	24.299	.0905	11.045	.923	im1 o
10.220	5.664	.448	25.933	.0901	11.098	.921	im1 o
10.210	5.671	.459	26.577	.0900	11.109	.919	im1 o
10.200	5.884	.573	34.390	.0885	11.300	.903	im1 o
10.200	5.791	.588	34.732	.0881	11.353	.898	im1 o
10.210	5.876	.594	35.636	.0880	11.358	.899	im1 o
10.200	6.051	.773	47.710	.0855	11.694	.872	im1 o
10.200	6.136	.830	51.947	.0848	11.796	.865	im1 o
10.210	6.216	.858	54.453	.0844	11.845	.862	im1 o
10.220	6.228	.866	55.121	.0842	11.871	.861	im1 o
10.210	6.232	.867	55.166	.0843	11.860	.861	im1 o
10.210	6.242	.888	56.593	.0840	11.903	.858	im1 o
10.210	6.376	.992	64.578	.0827	12.091	.844	im1 o
10.210	6.701	1.264	86.479	.0795	12.584	.811	im1 o
10.220	6.777	1.315	91.078	.0789	12.681	.806	im1 o
10.210	6.833	1.362	95.020	.0784	12.752	.801	im1 o
10.220	6.839	1.397	97.643	.0779	12.844	.796	im1 o

(Continued)



MOLYBDENUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
10.210	6.902	1.476	104.013	.0770	12.987	.786	i m1 o
10.210	7.049	1.560	112.274	.0763	13.112	.779	i m1 o
10.200	7.203	1.664	122.255	.0754	13.264	.769	i m1 o
10.200	7.207	1.671	122.838	.0753	13.279	.768	i m1 o
10.200	7.115	1.680	121.923	.0749	13.353	.764	i m1 o
10.210	7.248	1.692	125.212	.0751	13.319	.767	i m1 o
10.220	7.187	1.694	124.426	.0748	13.372	.764	i m1 o
10.210	7.290	1.731	128.840	.0747	13.389	.763	i m1 o
10.220	7.252	1.741	129.035	.0744	13.449	.760	i m1 o
10.210	7.280	1.746	129.778	.0745	13.431	.760	i m1 o
10.210	7.446	1.908	145.053	.0728	13.728	.744	i m1 o
10.210	7.571	1.989	153.750	.0722	13.848	.737	i m1 o
10.200	7.620	2.035	158.168	.0719	13.917	.733	i m1 o
10.200	7.556	2.036	156.917	.0716	13.962	.731	i m1 o
10.200	7.658	2.045	159.738	.0719	13.916	.733	i m1 o
10.210	8.009	2.394	195.762	.0687	14.563	.701	i m1 o
10.210	8.048	2.442	200.659	.0682	14.658	.697	i m1 o
10.210	8.218	2.487	208.674	.0683	14.641	.697	i m1 o

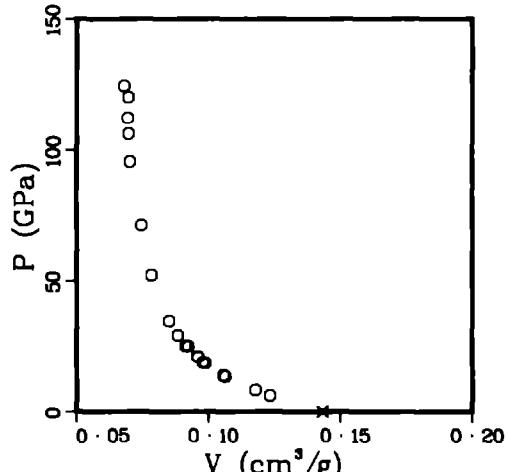
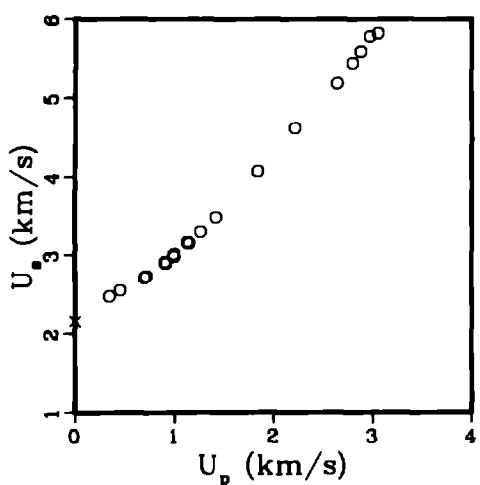
NEODYMIUM

Average $\rho_0 = 6.980 \text{ g/cm}^3$.

Sound velocities longitudinal 2.84 km/s .
shear 1.60 km/s .

Reference 15

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.986	2.157	0.000	0.000	1431	6.986	1.000	s s p x
6.982	2.477	.347	6.001	1232	8.119	.860	im1 o
6.984	2.554	.455	8.116	1177	8.498	.822	im1 o
6.983	2.719	.701	13.310	1063	9.409	.742	im1 o
6.985	2.736	.718	13.722	1056	9.470	.738	im1 o
6.965	2.914	.908	18.429	.0988	10.118	.688	im1 o
6.982	2.898	.918	18.575	.0979	10.219	.683	im1 o
6.983	3.017	.997	21.005	.0959	10.430	.670	im1 o
6.921	2.987	1.001	20.694	.0961	10.409	.665	im1 o
6.976	3.171	1.128	24.952	.0924	10.828	.644	im1 o
6.983	3.154	1.143	25.174	.0913	10.952	.638	im1 o
6.980	3.299	1.263	29.083	.0884	11.310	.617	im1 o
6.983	3.488	1.418	34.538	.0850	11.767	.593	im1 o
6.994	4.074	1.838	52.371	.0785	12.743	.549	im1 o
6.978	4.616	2.213	71.282	.0746	13.404	.521	im1 o
6.984	5.184	2.644	95.726	.0702	14.254	.490	im1 o
6.991	5.437	2.793	106.162	.0696	14.376	.486	im1 o
6.984	5.583	2.879	112.257	.0693	14.420	.484	im1 o
6.990	5.785	2.971	120.139	.0696	14.370	.486	im1 o
6.988	5.827	3.056	124.437	.0681	14.695	.476	im1 o



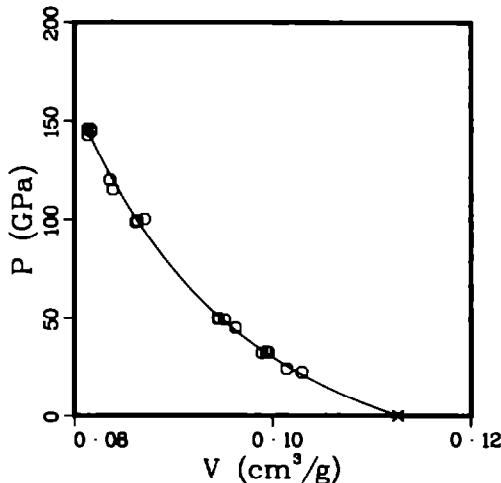
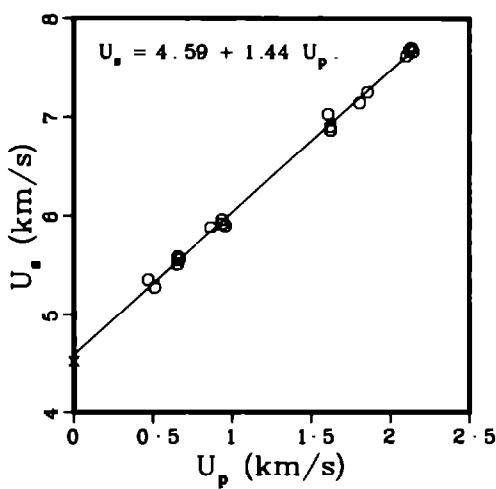
NICKEL

Average $\rho_0 = 8.875 \text{ g/cm}^3$.

Sound velocities longitudinal 5.79 km/s.
 shear 3.13 km/s.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/v ₀	Exp
8.882	4.523	0.000	0.000	.1126	8.882	1.000	s s p x
8.860	5.352	.470	22.287	.1030	9.713	.912	i m i o
8.905	5.275	.511	24.004	.1014	9.860	.903	i m i o
8.905	5.509	.656	32.182	.0989	10.109	.881	i m i o
8.860	5.585	.657	32.510	.0996	10.041	.882	i m i o
8.860	5.553	.666	32.767	.0993	10.067	.880	i m i o
8.860	5.881	.865	45.071	.0963	10.388	.853	i m i o
8.860	5.959	.935	49.365	.0952	10.509	.843	i m i o
8.905	5.917	.938	49.424	.0945	10.583	.841	i m i o
8.860	5.898	.959	50.114	.0945	10.580	.837	i m i o
8.860	7.029	1.607	100.079	.0871	11.486	.771	i m i o
8.860	6.903	1.622	99.202	.0863	11.581	.765	i m i o
8.860	6.864	1.624	98.764	.0862	11.606	.763	i m i o
8.905	7.144	1.808	115.020	.0839	11.922	.747	i m i o
8.905	7.253	1.856	119.875	.0836	11.967	.744	i m i o
8.905	7.624	2.102	142.708	.0813	12.295	.724	i m i o
8.860	7.686	2.123	144.572	.0817	12.241	.724	i m i o
8.860	7.704	2.134	145.661	.0816	12.254	.723	i m i o
8.860	7.670	2.145	145.766	.0813	12.300	.720	i m i o

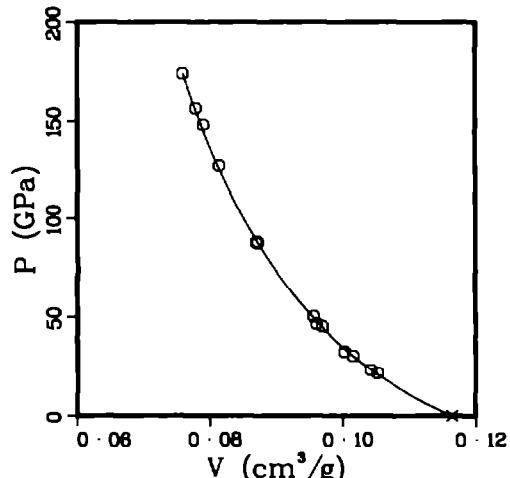
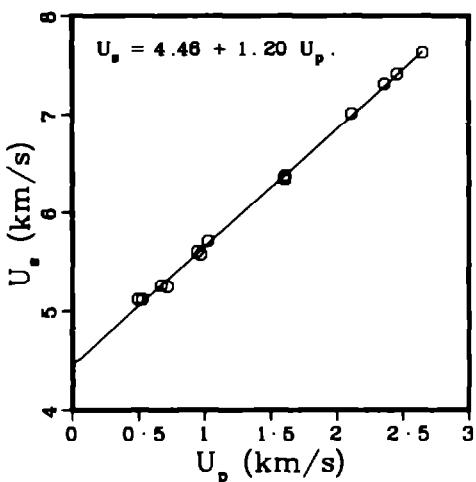


NIOBIUM

Average $\rho_0 = 8.587 \text{ g/cm}^3$.

References 6, 11, 12, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
8.583	5.120	.496	21.797	.1052	9.504	.903	im1 o
8.604	5.115	.528	23.237	.1042	9.594	.897	im1 o
8.586	5.258	.673	30.383	.1016	9.846	.872	im1 o
8.604	5.247	.720	32.505	.1003	9.972	.863	im1 o
8.584	5.605	.943	45.371	.0969	10.320	.832	im1 o
8.604	5.574	.969	46.472	.0960	10.414	.826	im1 o
8.583	5.710	1.025	50.234	.0956	10.461	.820	im1 o
8.584	6.356	1.602	87.405	.0871	11.477	.748	im1 o
8.580	6.340	1.609	87.525	.0870	11.498	.746	im1 o
8.578	6.378	1.610	88.084	.0871	11.475	.748	im1 o
8.584	7.012	2.112	127.123	.0814	12.284	.699	im1 o
8.571	7.311	2.363	148.072	.0790	12.664	.677	im1 o
8.585	7.410	2.459	156.429	.0778	12.849	.668	im1 o
8.584	7.623	2.654	173.667	.0759	13.169	.652	im1 o



NITROGEN , liquid , $T_0 = 75$ K

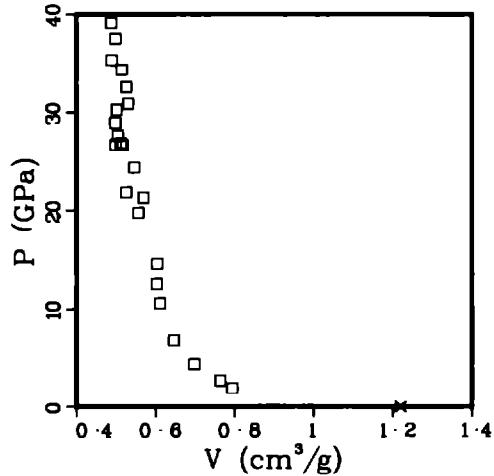
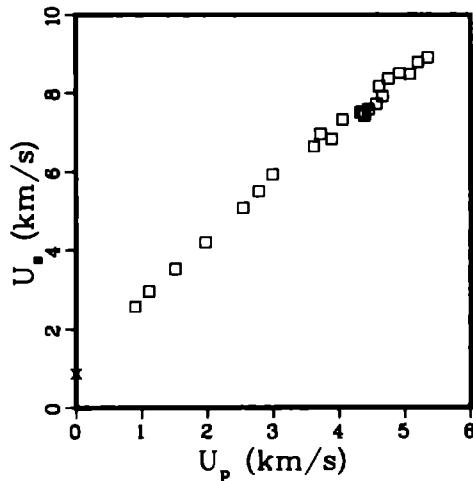
Average $\rho_0 = 0.820$ g/cm³.

Sound velocities longitudinal .88 km/s.
shear 0.00 km/s.

References 24, 25, 26

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
820	.880	0.000	0.000	1.2195	.820	1.000	s s p x
820	2.580	.900	1.904	.7941	1.259	.651	im2 □
820	2.970	1.110	2.703	.7637	1.309	.626	im2 □
820	3.530	1.510	4.371	.6979	1.433	.572	im2 □
820	4.190	1.970	6.769	.6461	1.548	.530	im2 □
820	5.090	2.540	10.601	.6110	1.637	.501	im2 □
820	5.500	2.780	12.538	.6031	1.658	.495	im2 □
820	5.930	2.990	14.539	.6046	1.654	.496	im2 □
820	6.660	3.620	19.770	.5567	1.796	.456	im2 □
820	6.980	3.720	21.292	.5696	1.756	.467	im2 □
820	6.850	3.890	21.850	.5270	1.898	.432	im2 □
820	7.340	4.050	24.376	.5466	1.829	.448	im2 □
820	7.520	4.330	26.701	.5173	1.933	.424	im2 □
820	7.520	4.360	26.886	.5125	1.951	.420	im2 □
820	7.430	4.390	26.747	.4990	2.004	.409	im2 □
820	7.590	4.450	27.696	.5045	1.982	.414	im2 □
820	7.730	4.570	28.967	.4985	2.006	.409	im2 □
820	8.170	4.610	30.884	.5314	1.882	.436	im2 □
820	7.920	4.660	30.264	.5020	1.992	.412	im2 □

(Continued)



NITROGEN liquid, $T_0 = 75$ K
 (Continued)

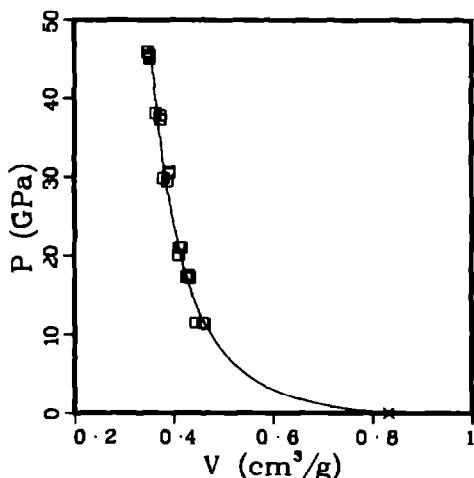
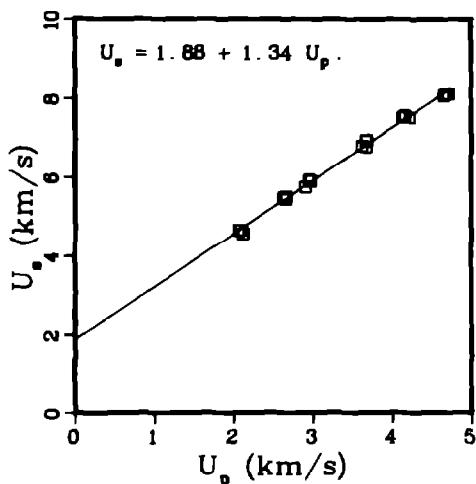
ρ_0 (g/cm ³)	U _• (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.820	8.360	4.750	32.562	.5266	1.899	.432	i m2 □
.820	8.510	4.920	34.333	.5145	1.944	.422	i m2 □
.820	8.480	5.080	35.324	.4890	2.045	.401	i m2 □
.820	8.800	5.200	37.523	.4989	2.004	.409	i m2 □
.820	8.920	5.350	39.132	.4881	2.049	.400	i m2 □

OXYGEN , liquid

Average $\rho_0 = 1.202 \text{ g/cm}^3$.

Reference 27

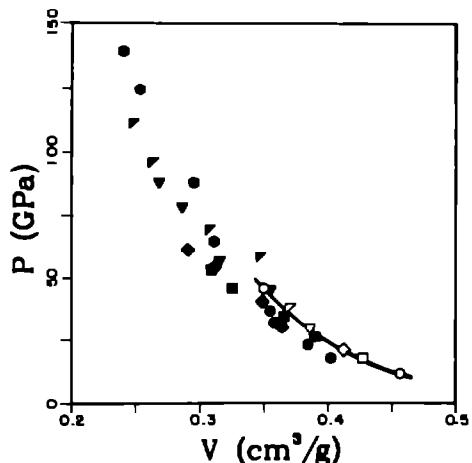
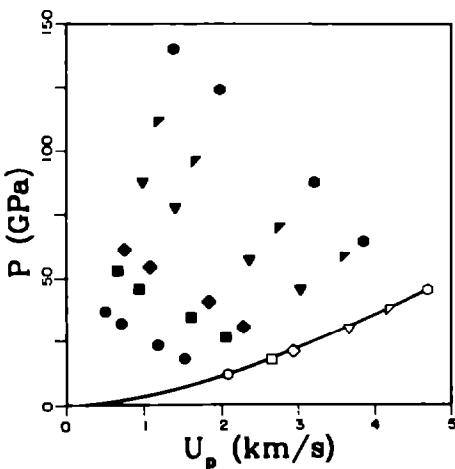
ρ_0 (g/cm^3)	U_0 (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.202	4.644	2.060	11.499	.4629	2.160	.556	i m2 □
1.202	4.640	2.080	11.601	.4590	2.179	.552	i m2 □
1.202	4.552	2.120	11.600	.4445	2.250	.534	i m2 □
1.202	5.473	2.630	17.302	.4322	2.314	.519	i m2 □
1.202	5.505	2.660	17.601	.4300	2.326	.517	i m2 □
1.202	5.442	2.660	17.400	.4253	2.351	.511	i m2 □
1.202	5.746	2.910	20.098	.4106	2.435	.494	i m2 □
1.202	5.930	2.960	21.098	.4167	2.400	.501	i m2 □
1.202	5.891	2.980	21.101	.4111	2.432	.494	i m2 □
1.202	6.780	3.620	29.501	.3878	2.579	.466	i m2 □
1.202	6.914	3.670	30.500	.3903	2.562	.469	i m2 □
1.202	6.940	3.680	30.698	.3908	2.559	.470	i m2 □
1.202	6.760	3.680	29.902	.3791	2.638	.456	i m2 □
1.202	7.516	4.140	37.402	.3737	2.676	.449	i m2 □
1.202	7.561	4.170	37.898	.3731	2.680	.448	i m2 □
1.202	7.513	4.230	38.200	.3635	2.751	.437	i m2 □
1.202	8.070	4.660	45.203	.3515	2.845	.423	i m2 □
1.202	8.106	4.680	45.599	.3516	2.844	.423	i m2 □
1.202	8.108	4.720	46.000	.3476	2.877	.418	i m2 □



OXYGEN, liquid, reflected-shock data
 $\rho_0 = 1.202 \text{ g/cm}^3$.

Initial Shock			Reflected Shock ^a				Std. ^b
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)		
2.05	0.461	11.3	○	1.51	0.416	17.7 •	Mg
				1.17	0.396	23.1 •	Al
2.07	0.457	11.5		1.17	0.388	22.9 •	Al
				0.71	0.367	32.1 •	Cu
				0.49	0.354	36.7 •	Au
2.11	0.451	11.7	○	1.50	0.388	17.6 •	Mg
				1.17	0.370	23.0 •	Al
				0.69	0.349	31.4 •	Cu
2.62	0.433	17.2	□	2.00	0.387	25.7 ■	Mg
				1.58	0.364	33.5 ■	Al
				0.92	0.330	44.2 ■	Cu
2.65	0.424	17.2	□	2.08	0.386	27.0 ■	Mg
				1.59	0.359	33.9 ■	Al
				0.95	0.329	46.3 ■	Cu
2.65	0.430	17.4	□	2.07	0.399	26.8 ■	Mg
				1.65	0.373	35.4 ■	Al
				0.66	0.313	52.6 ■	Au
2.69	0.421	17.7	○	0.95	0.316	46.4 ■	Cu
				0.66	0.304	53.1 ■	Au

(Continued)



2.90	0.410	19.9		1.82	0.358	40.2 ♦	Al
				1.08	0.321	54.1 ♦	Cu
				0.74	0.283	60.3 ♦	Au
2.95	0.415	20.9	◊	2.29	0.368	30.7 ♦	Mg
				1.09	0.314	55.0 ♦	Cu
				0.75	0.300	62.0 ♦	Au
2.95	0.411	20.9		2.25	0.359	30.0 ♦	Mg
				1.83	0.338	40.5 ♦	Al
				1.05	0.299	52.8 ♦	Cu
3.61	0.384	29.0		3.05	0.360	46.3 ▽	Mg
				1.41	0.293	77.7 ▽	Cu
				0.99	0.269	88.9 ▽	Au
3.66	0.380	29.7	▽	2.96	0.350	44.0 ▽	Mg
				2.40	0.316	58.3 ▽	Al
				1.41	0.276	77.4 ▽	Cu
3.66	0.389	30.3		2.37	0.318	57.5 ▽	Al
				1.42	0.289	78.3 ▽	Cu
				0.97	0.268	86.2 ▽	Au
3.67	0.389	30.5		2.30	0.312	54.9 ▽	Al
4.13	0.374	37.2		3.47	0.344	55.5 ▷	Mg
				2.70	0.313	68.7 ▷	Al
				1.65	0.270	95.7 ▷	Cu
4.17	0.372	37.7	▷	3.68	0.348	60.6 ▷	Mg
				1.65	0.273	96.1 ▷	Cu
				1.19	0.260	114.0 ▷	Au
4.22	0.363	38.0		2.76	0.301	70.7 ▷	Al
				1.66	0.244	96.9 ▷	Cu
				1.15	0.233	108.4 ▷	Au
4.66	0.351	45.1		3.20	0.295	87.4 ●	Al
				1.94	0.255	120.5 ●	Cu
				1.36	0.237	137.8 ●	Au
4.67	0.352	45.4	◊	3.78	0.305	62.8 ●	Mg
				1.97	0.255	125.5 ●	Cu
				1.39	0.243	141.9 ●	Au
4.72	0.347	45.8		3.90	0.317	65.8 ●	Mg
				3.20	0.294	87.5 ●	Al
				2.00	0.249	126.1 ●	Cu

*Reflected-shock points for a given standard and nominally identical initial shock states were averaged for purposes of plotting pressure vs particle velocity and pressure vs volume.

^bStandards used for reflected-shock measurements were AZ31B magnesium alloy (Mg), 2024 aluminum alloy (Al), copper (Cu), and gold (Au).

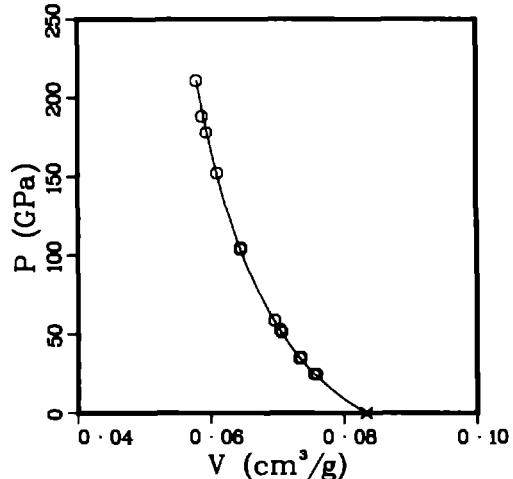
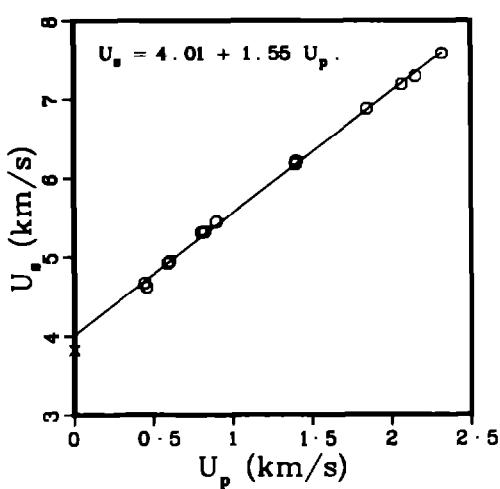
PALLADIUM

Average $\rho_0 = 11.991 \text{ g/cm}^3$.

Sound velocities longitudinal 4.68 km/s.
shear 2.33 km/s.

References 6, 11, 12, 13, 18

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
12.000	3.829	0.000	0.000	.0833	12.000	1.000	s s p x
12.000	4.669	.440	24.652	.0755	13.249	.906	im1 o
11.880	4.617	.455	24.957	.0759	13.179	.901	im1 o
12.000	4.920	.591	34.893	.0733	13.638	.880	im1 o
11.950	4.944	.602	35.567	.0735	13.607	.878	im1 o
12.020	5.310	.803	51.252	.0706	14.162	.849	im1 o
12.000	5.319	.825	52.658	.0704	14.203	.845	im1 o
12.010	5.443	.896	58.572	.0696	14.377	.835	im1 o
12.000	6.181	1.398	103.692	.0645	15.507	.774	im1 o
12.000	6.214	1.399	104.321	.0646	15.487	.775	im1 o
12.000	6.214	1.404	104.693	.0645	15.503	.774	im1 o
12.000	6.881	1.845	152.345	.0610	16.396	.732	im1 o
12.000	7.189	2.066	178.230	.0594	16.839	.713	im1 o
12.000	7.292	2.153	188.396	.0587	17.027	.705	im1 o
12.000	7.581	2.317	210.782	.0579	17.282	.694	im1 o



PLATINUM

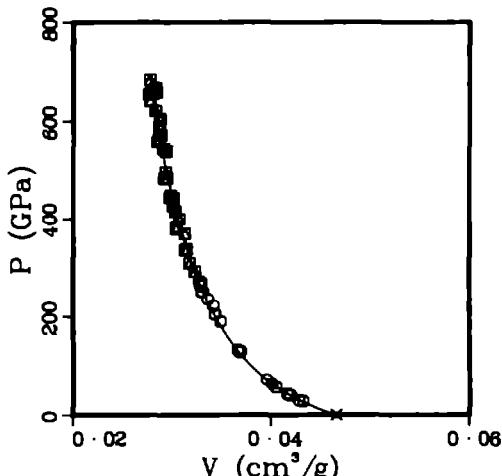
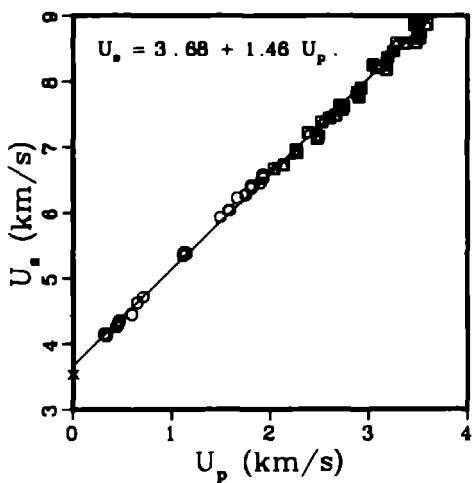
Average $\rho_0 = 21.449 \text{ g/cm}^3$.

Sound velocities longitudinal 4.08 km/s.
shear 1.76 km/s.

References 6, 11, 12, 13, 28

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
21.430	3.538	0.000	0.000	.0467	21.430	1.000	s p x
21.370	4.149	.316	28.018	.0432	23.132	.924	im1 o
21.430	4.119	.339	29.924	.0428	23.352	.918	im1 o
21.370	4.254	.441	40.090	.0419	23.842	.896	im1 o
21.430	4.302	.460	42.408	.0417	23.996	.893	im1 o
21.430	4.339	.466	43.331	.0417	24.008	.893	im1 o
21.370	4.441	.596	56.563	.0405	24.682	.866	im1 o
21.430	4.615	.650	64.285	.0401	24.943	.859	im1 o
21.430	4.709	.713	71.952	.0396	25.254	.849	im1 o
21.430	5.342	1.120	128.217	.0369	27.115	.790	im1 o
21.430	5.387	1.122	129.528	.0369	27.068	.792	im1 o
21.430	5.364	1.150	132.193	.0367	27.278	.786	im1 o
21.430	5.928	1.492	189.539	.0349	28.638	.748	im1 o
21.490	6.033	1.580	204.846	.0343	29.115	.738	im1 o
21.490	6.025	1.581	204.704	.0343	29.135	.738	im1 o
21.430	6.225	1.665	222.114	.0342	29.255	.733	im1 o
21.430	6.276	1.751	235.500	.0336	29.723	.721	im1 o
21.700	6.416	1.806	251.444	.0331	30.201	.719	im1 o
21.700	6.378	1.812	250.786	.0330	30.312	.716	im1 o

(Continued)



PLATINUM
(Continued)

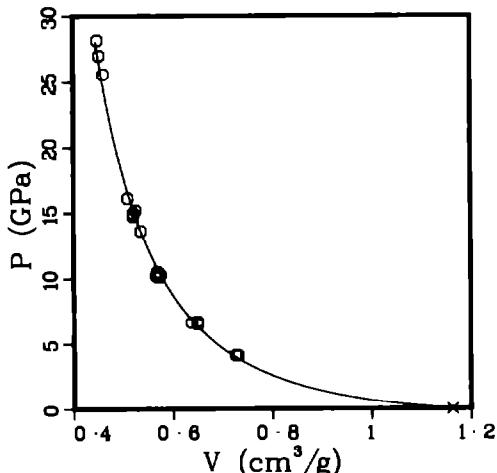
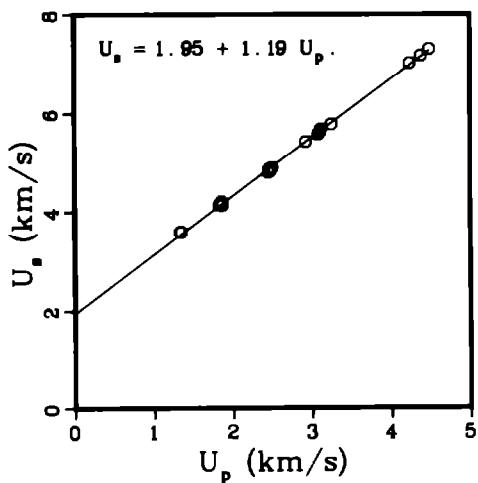
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
21.430	6.454	1.899	262.649	.0329	30.364	.706	im1 o
21.490	6.577	1.921	271.514	.0329	30.356	.708	im1 o
21.490	6.528	1.929	270.613	.0328	30.504	.705	im1 o
21.460	6.670	2.040	292.002	.0323	30.915	.694	sp3 s
21.440	6.730	2.140	308.783	.0318	31.436	.682	sp3 s
21.450	6.960	2.260	337.400	.0315	31.764	.675	sp3 s
21.440	6.910	2.270	336.301	.0313	31.929	.671	sp3 s
21.440	7.230	2.380	368.927	.0313	31.961	.671	sp3 s
21.450	7.130	2.480	379.287	.0304	32.890	.652	sp3 s
21.450	7.170	2.490	382.953	.0304	32.862	.653	sp3 s
21.430	7.390	2.520	399.087	.0308	32.519	.659	sp3 s
21.460	7.450	2.600	415.680	.0303	32.964	.651	sp3 s
21.440	7.490	2.660	427.158	.0301	33.248	.645	sp3 s
21.440	7.640	2.700	442.264	.0302	33.158	.647	sp3 s
21.470	7.580	2.730	444.287	.0298	33.555	.640	sp3 s
21.440	7.620	2.740	447.641	.0299	33.478	.640	sp3 s
21.440	7.830	2.880	483.481	.0295	33.914	.632	sp3 s
21.440	7.770	2.900	483.108	.0292	34.207	.627	sp3 s
21.450	7.900	2.920	494.809	.0294	34.027	.630	sp3 s
21.440	8.250	3.040	537.715	.0295	33.950	.632	sp3 s
21.450	8.210	3.080	542.402	.0291	34.328	.625	sp3 s
21.440	8.180	3.180	557.706	.0285	35.076	.611	sp3 s
21.450	8.250	3.180	562.741	.0287	34.904	.615	sp3 s
21.440	8.370	3.190	572.454	.0289	34.643	.619	sp3 s
21.440	8.460	3.250	589.493	.0287	34.814	.616	sp3 s
21.450	8.590	3.280	604.358	.0288	34.700	.618	sp3 s
21.450	8.590	3.370	620.941	.0283	35.298	.608	sp3 s
21.450	8.870	3.460	658.305	.0284	35.168	.610	sp3 s
21.420	8.600	3.480	641.058	.0278	35.979	.595	sp3 s
21.420	8.880	3.490	663.832	.0283	35.289	.607	sp3 s
21.420	8.910	3.490	666.074	.0284	35.213	.608	sp3 s
21.450	8.750	3.490	655.029	.0280	35.682	.601	sp3 s
21.440	8.670	3.520	654.314	.0277	36.094	.594	sp3 s
21.430	8.870	3.590	682.402	.0278	36.001	.595	sp3 s

POTASSIUM

Average $\rho_0 = 0.860 \text{ g/cm}^3$.

References 6, 16

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.860	3.597	1.335	4.130	.7312	1.368	.629	i m1 o
.860	3.590	1.347	4.159	.7265	1.376	.625	i m1 o
.860	4.148	1.830	6.528	.6498	1.539	.559	i m1 o
.860	4.207	1.857	6.719	.6495	1.540	.559	i m1 o
.860	4.137	1.869	6.650	.6375	1.569	.548	i m1 o
.860	4.806	2.449	10.122	.5703	1.754	.490	i m1 o
.860	4.862	2.457	10.274	.5752	1.739	.495	i m1 o
.860	4.816	2.468	10.222	.5669	1.764	.488	i m1 o
.860	4.890	2.496	10.497	.5693	1.757	.490	i m1 o
.860	4.884	2.497	10.488	.5683	1.760	.489	i m1 o
.860	5.423	2.924	13.637	.5358	1.866	.461	i m1 o
.860	5.573	3.079	14.757	.5204	1.922	.448	i m1 o
.860	5.615	3.103	14.984	.5202	1.922	.447	i m1 o
.860	5.678	3.112	15.196	.5255	1.903	.452	i m1 o
.860	5.775	3.246	16.121	.5092	1.964	.438	i m1 o
.860	7.023	4.240	25.609	.4608	2.170	.396	i m1 o
.860	7.171	4.382	27.024	.4522	2.211	.389	i m1 o
.860	7.304	4.486	28.179	.4486	2.229	.386	i m1 o



PRASEODYMIUM

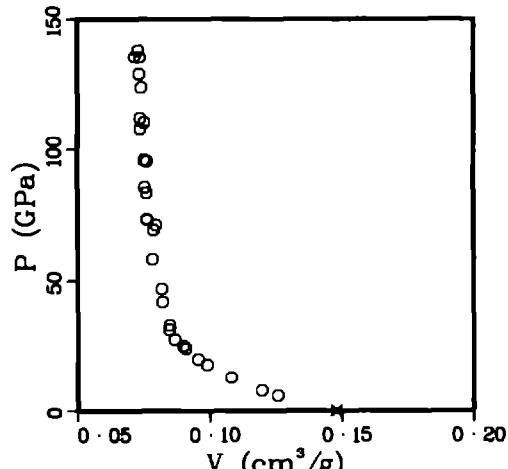
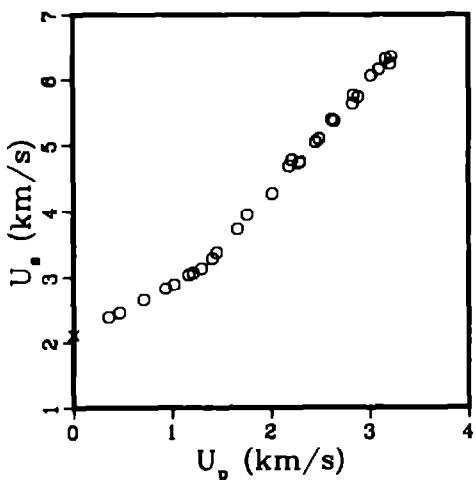
Average $\rho_0 = 6.756 \text{ g/cm}^3$.

Sound velocities longitudinal 2.74 km/s.
shear 1.51 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
6.764	2.114	0.000	0.000	.1478	6.764	1.000	s s p x
6.764	2.386	.354	5.713	.1259	7.942	.852	i m1 o
6.762	2.454	.465	7.716	.1199	8.343	.811	i m1 o
6.757	2.651	.713	12.772	.1082	9.243	.731	i m1 o
6.756	2.823	.934	17.813	.0990	10.096	.669	i m1 o
6.761	2.886	1.020	19.902	.0956	10.457	.647	i m1 o
6.763	3.034	1.167	23.946	.0910	10.990	.615	i m1 o
6.727	3.064	1.210	24.940	.0899	11.117	.605	i m1 o
6.751	3.130	1.296	27.385	.0868	11.522	.586	i m1 o
6.761	3.284	1.404	31.173	.0847	11.810	.572	i m1 o
6.728	3.373	1.449	32.883	.0848	11.795	.570	i m1 o
6.734	3.728	1.664	41.774	.0822	12.163	.554	i m1 o
6.765	3.947	1.761	47.021	.0819	12.215	.554	i m1 o
6.757	4.272	2.013	58.107	.0783	12.778	.529	i m1 o
6.760	4.686	2.188	69.310	.0789	12.681	.533	i m1 o
6.730	4.779	2.214	71.208	.0798	12.539	.537	i m1 o
6.756	4.736	2.291	73.304	.0764	13.086	.516	i m1 o
6.757	4.743	2.299	73.679	.0763	13.113	.515	i m1 o
6.754	5.045	2.454	83.617	.0760	13.151	.514	i m1 o

(Continued)



PRASEODYMIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.762	5.092	2.489	85.702	.0756	13.228	.511	im1 o
6.754	5.403	2.617	95.499	.0763	13.098	.516	im1 o
6.764	5.378	2.640	96.035	.0753	13.286	.509	im1 o
6.764	5.642	2.828	107.924	.0737	13.562	.499	im1 o
6.759	5.769	2.833	110.466	.0753	13.281	.509	im1 o
6.759	5.744	2.883	111.929	.0737	13.570	.498	im1 o
6.755	6.065	3.020	123.727	.0743	13.455	.502	im1 o
6.759	6.153	3.096	128.757	.0735	13.604	.497	im1 o
6.765	6.318	3.165	135.276	.0738	13.556	.499	im1 o
6.763	6.241	3.212	135.572	.0718	13.935	.485	im1 o
6.755	6.354	3.219	138.164	.0730	13.691	.493	im1 o

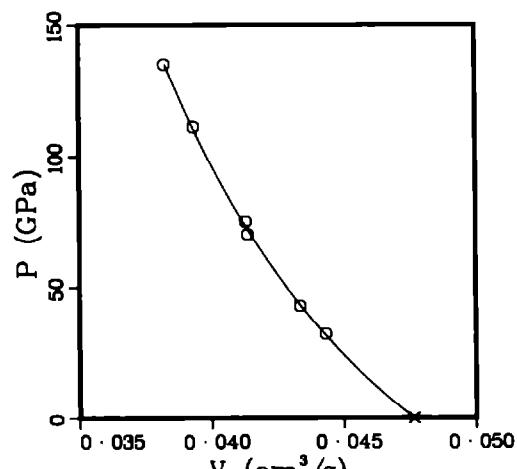
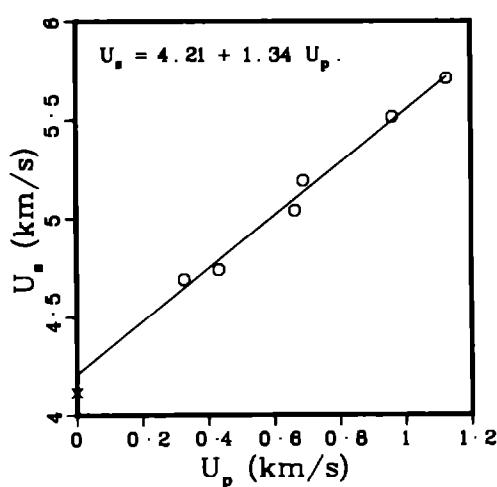
RHENIUM , $\rho_0 = 21.0 \text{ g/cm}^3$.

Average $\rho_0 = 20.984 \text{ g/cm}^3$.

Sound velocities longitudinal 5.30 km/s .
 shear 2.89 km/s .

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
20.990	4.118	0.000	0.000	.0476	20.990	1.000	s s p x
20.990	4.691	.327	32.198	.0443	22.563	.930	i m1 o
20.960	4.740	.433	43.019	.0434	23.067	.909	i m1 o
20.980	5.041	.665	70.331	.0414	24.168	.868	i m1 o
20.990	5.192	.690	75.196	.0413	24.207	.867	i m1 o
20.990	5.515	.961	111.245	.0393	25.419	.826	i m1 o
20.990	5.710	1.127	135.074	.0382	26.152	.803	i m1 o



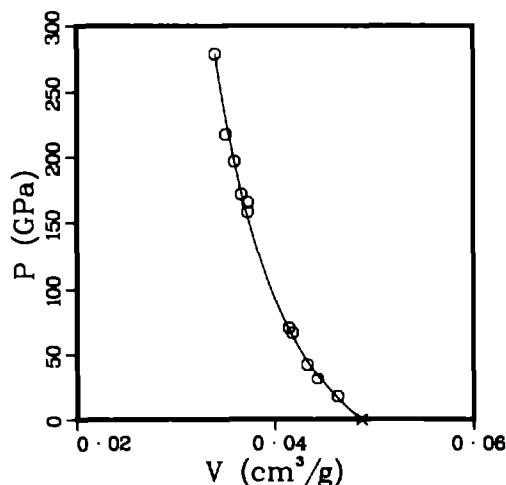
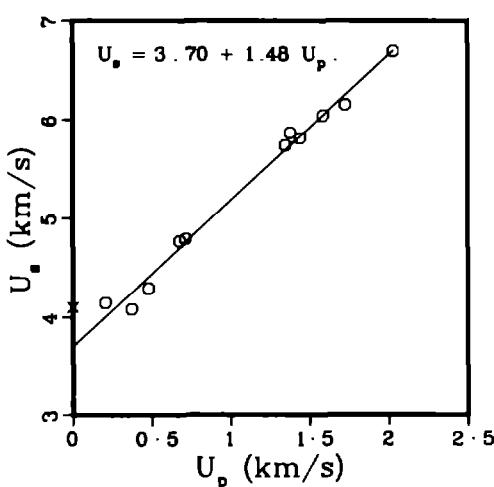
RHENIUM . $\rho_0 = 20.5 \text{ g/cm}^3$.

Average $\rho_0 = 20.530 \text{ g/cm}^3$.

Sound velocities longitudinal 5.28 km/s .
shear 2.89 km/s .

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
20.530	4.101	0.000	0.000	.0487	20.530	1.000	s s p x
20.530	4.150	.206	17.551	.0463	21.602	.950	im1 o
20.530	4.082	.372	31.175	.0443	22.589	.909	im1 o
20.530	4.295	.479	42.236	.0433	23.107	.888	im1 o
20.530	4.770	.679	66.493	.0418	23.937	.858	im1 o
20.530	4.791	.716	70.425	.0414	24.137	.851	im1 o
20.530	5.739	1.346	158.588	.0373	26.820	.765	im1 o
20.530	5.868	1.377	165.887	.0373	26.825	.765	im1 o
20.530	5.813	1.441	171.970	.0366	27.297	.752	im1 o
20.530	6.043	1.585	196.640	.0359	27.829	.738	im1 o
20.530	6.153	1.725	217.904	.0351	28.528	.720	im1 o
20.530	6.694	2.028	278.704	.0340	29.453	.697	im1 o



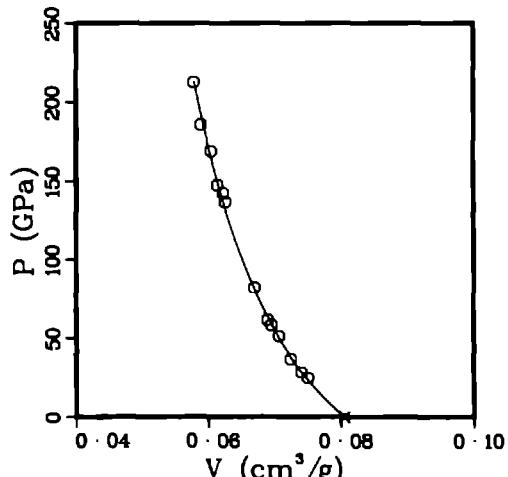
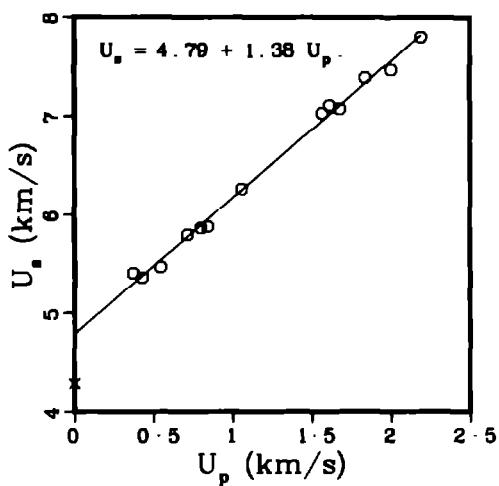
RHODIUM

Average $\rho_0 = 12.429 \text{ g/cm}^3$.

Sound velocities longitudinal 6.00 km/s.
shear 3.64 km/s.

References 11, 12, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
12.430	4.282	0.000	0.000	.0805	12.430	1.000	s s p x
12.420	5.405	.369	24.771	.0750	13.330	.932	i m l o
12.430	5.358	.426	28.372	.0741	13.504	.920	i m l o
12.430	5.468	.543	36.906	.0725	13.800	.901	i m l o
12.420	5.795	.714	51.389	.0706	14.165	.877	i m l o
12.430	5.863	.800	58.302	.0695	14.394	.864	i m l o
12.430	5.877	.843	61.582	.0689	14.512	.857	i m l o
12.430	6.262	1.056	82.196	.0669	14.951	.831	i m l o
12.430	7.034	1.566	136.919	.0625	15.990	.777	i m l o
12.430	7.111	1.612	142.484	.0622	16.074	.773	i m l o
12.430	7.078	1.678	147.630	.0614	16.293	.763	i m l o
12.430	7.391	1.839	168.949	.0604	16.547	.751	i m l o
12.430	7.469	2.004	186.051	.0589	16.988	.732	i m l o
12.430	7.802	2.191	212.481	.0579	17.284	.719	i m l o

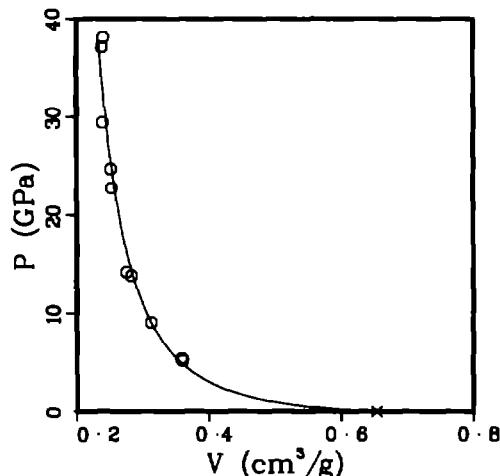
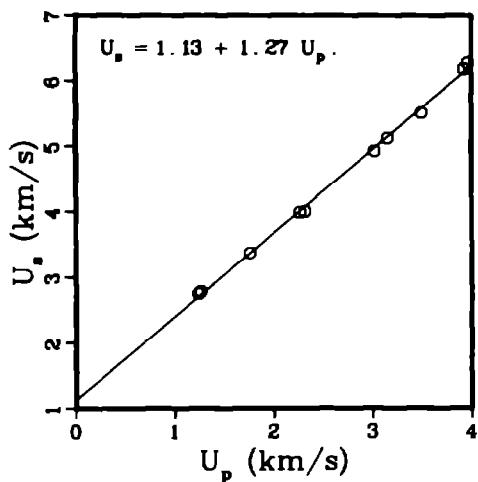


RUBIDIUM

Average $\rho_0 = 1.530 \text{ g/cm}^3$.

References 6, 16

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.530	2.753	1.236	5.206	.3602	2.777	.551	im1 o
1.530	2.786	1.259	5.367	.3582	2.791	.548	im1 o
1.530	3.371	1.758	9.067	.3127	3.198	.478	im1 o
1.530	3.988	2.261	13.796	.2830	3.533	.433	im1 o
1.530	4.002	2.314	14.169	.2757	3.627	.422	im1 o
1.530	4.928	3.019	22.763	.2532	3.950	.387	im1 o
1.530	5.125	3.153	24.723	.2515	3.976	.385	im1 o
1.530	5.507	3.493	29.431	.2390	4.184	.366	im1 o
1.530	6.181	3.925	37.118	.2386	4.192	.365	im1 o
1.530	6.273	3.967	38.074	.2403	4.162	.368	im1 o



SAMARIUM

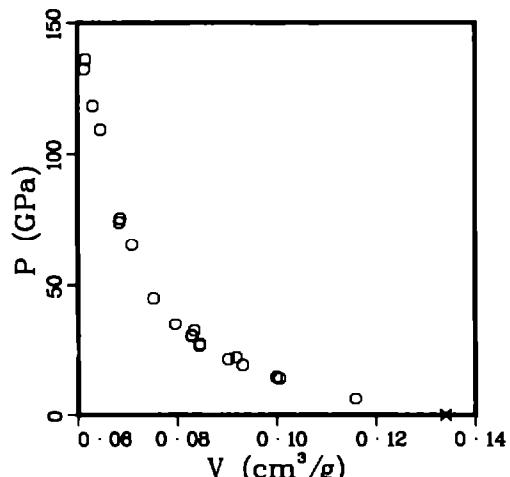
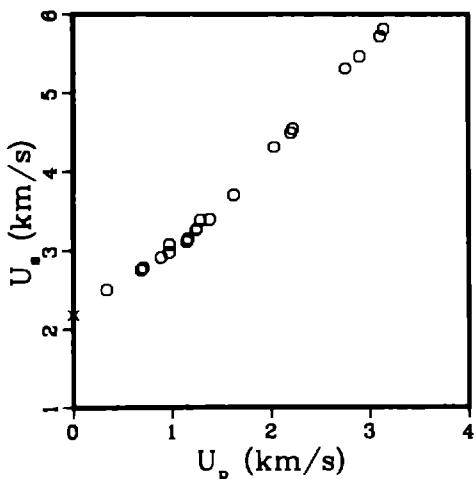
$$\text{Average } \rho_0 = 7.461 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.89 km/s .
shear 1.64 km/s .

Reference 15

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.464	2.183	0.000	0.000	1340	7.464	1.000	ss p x
7.468	2.511	.338	6.338	.1159	8.630	.865	im1 o
7.464	2.760	.688	14.173	.1006	9.942	.751	im1 o
7.469	2.786	.706	14.691	.1000	10.004	.747	im1 o
7.464	2.916	.888	19.327	.0932	10.732	.695	im1 o
7.463	2.976	.971	21.566	.0903	11.077	.674	im1 o
7.445	3.076	.971	22.237	.0919	10.879	.684	im1 o
7.463	3.114	1.150	26.726	.0845	11.833	.631	im1 o
7.460	3.152	1.163	27.347	.0846	11.822	.631	im1 o
7.470	3.268	1.243	30.344	.0830	12.055	.620	im1 o
7.463	3.278	1.250	30.580	.0829	12.063	.619	im1 o
7.443	3.396	1.287	32.531	.0834	11.985	.621	im1 o
7.463	3.404	1.381	35.083	.0796	12.558	.594	im1 o
7.465	3.708	1.625	44.980	.0753	13.289	.562	im1 o
7.454	4.312	2.032	65.312	.0709	14.097	.529	im1 o
7.465	4.498	2.202	73.938	.0684	14.624	.510	im1 o
7.460	4.548	2.221	75.354	.0686	14.580	.512	im1 o
7.459	5.317	2.755	109.262	.0646	15.480	.482	im1 o
7.459	5.472	2.898	118.284	.0631	15.857	.470	im1 o

(Continued)



SAMARIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.454	5.726	3.108	132.654	.0613	16.303	.457	i m1 o
7.460	5.814	3.143	136.320	.0616	16.238	.459	i m1 o

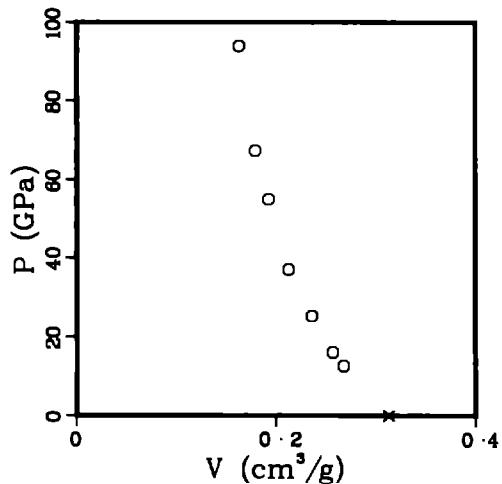
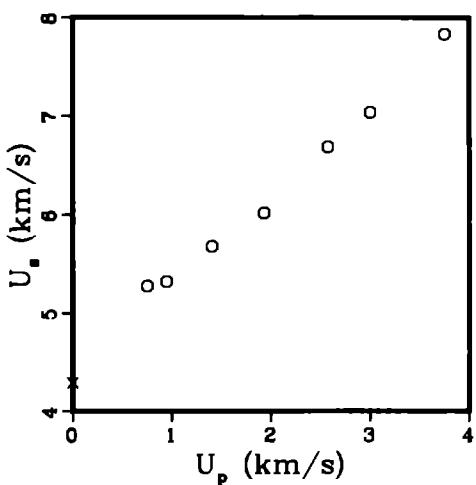
SCANDIUM

$$\text{Average } \rho_0 = 3.195 \text{ g/cm}^3.$$

Sound velocities longitudinal 5.57 km/s .
 shear 3.07 km/s .

Reference 15

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.195	4.296	0.000	0.000	.3130	3.195	1.000	s s p x
3.196	5.274	.755	12.726	.2681	3.730	.857	i m1 o
3.196	5.317	.948	16.109	.2571	3.889	.822	i m1 o
3.193	5.670	1.405	25.437	.2356	4.245	.752	i m1 o
3.192	6.017	1.932	37.107	.2127	4.702	.679	i m1 o
3.191	6.693	2.578	55.059	.1927	5.190	.615	i m1 o
3.197	7.038	3.003	67.569	.1793	5.576	.573	i m1 o
3.198	7.833	3.752	93.987	.1629	6.138	.521	i m1 o



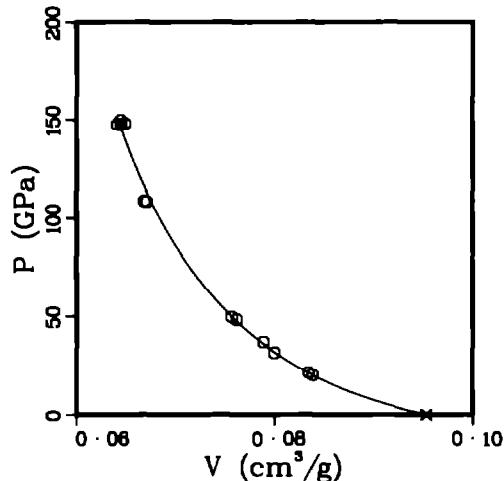
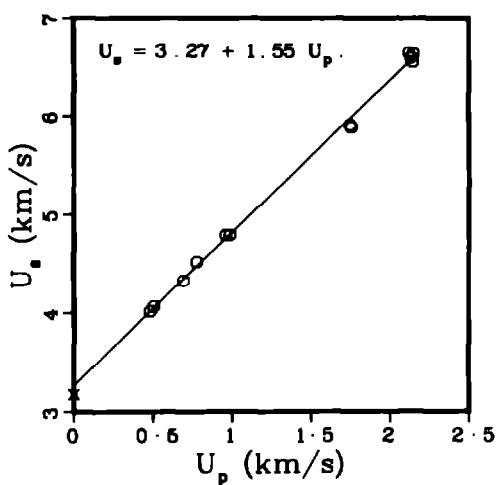
SILVER

Average $\rho_0 = 10.490 \text{ g/cm}^3$.

Sound velocities longitudinal 3.71 km/s.
shear 1.66 km/s.

References 4, 6, 11, 12, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
10.490	3.176	0.000	0.000	.0953	10.490	1.000	s s p x
10.490	4.016	.483	20.348	.0839	11.924	.880	i m1 o
10.490	4.064	.506	21.571	.0835	11.982	.875	i m1 o
10.490	4.326	.695	31.539	.0800	12.498	.839	i m1 o
10.490	4.517	.780	36.959	.0789	12.680	.827	i m1 o
10.490	4.788	.962	48.318	.0762	13.128	.799	i m1 o
10.490	4.790	.987	49.594	.0757	13.212	.794	i m1 o
10.490	5.909	1.749	108.412	.0671	14.900	.704	i m1 o
10.490	5.885	1.758	108.528	.0669	14.958	.701	i m1 o
10.490	6.645	2.120	147.777	.0649	15.405	.681	i m1 o
10.490	6.596	2.133	147.587	.0645	15.503	.677	i m1 o
10.490	6.554	2.146	147.541	.0641	15.597	.673	i m1 o
10.490	6.636	2.149	149.595	.0645	15.514	.676	i m1 o

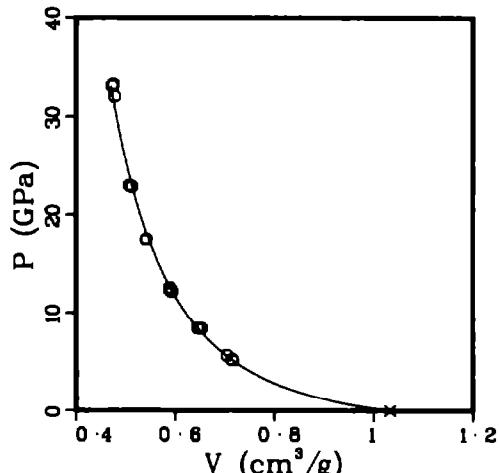
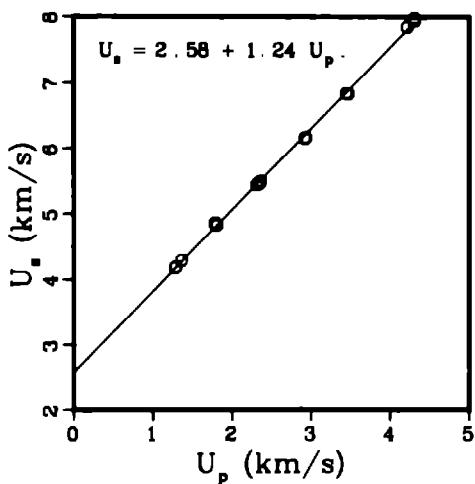


SODIUM

Average $\rho_0 = 0.968 \text{ g/cm}^3$.

References 6, 16, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.968	4.178	1.282	5.185	.7161	1.397	.693	im1 o
.968	4.187	1.293	5.241	.7140	1.400	.691	im1 o
.968	4.284	1.363	5.652	.7044	1.420	.682	im1 o
.968	4.859	1.785	8.396	.6536	1.530	.633	im1 o
.968	4.855	1.793	8.426	.6515	1.535	.631	im1 o
.968	4.825	1.812	8.463	.6451	1.550	.624	im1 o
.968	5.439	2.314	12.183	.5935	1.685	.575	im1 o
.968	5.463	2.342	12.385	.5902	1.694	.571	im1 o
.968	5.455	2.346	12.388	.5888	1.698	.570	im1 o
.968	5.474	2.358	12.495	.5881	1.701	.569	im1 o
.968	5.494	2.362	12.562	.5889	1.698	.570	im1 o
.968	6.150	2.929	17.437	.5411	1.848	.524	im1 o
.968	6.170	2.932	17.512	.5421	1.845	.525	im1 o
.968	6.842	3.446	22.823	.5128	1.950	.496	im1 o
.968	6.828	3.474	22.961	.5075	1.971	.491	im1 o
.968	7.847	4.218	32.039	.4778	2.093	.462	im1 o
.968	7.879	4.309	33.281	.4752	2.105	.460	im1 o
.968	7.940	4.309	33.119	.4724	2.117	.457	im1 o



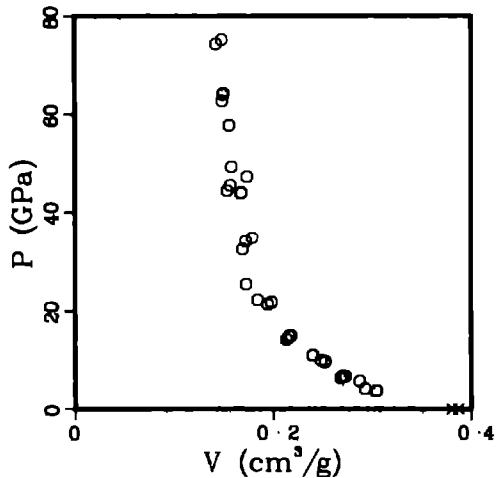
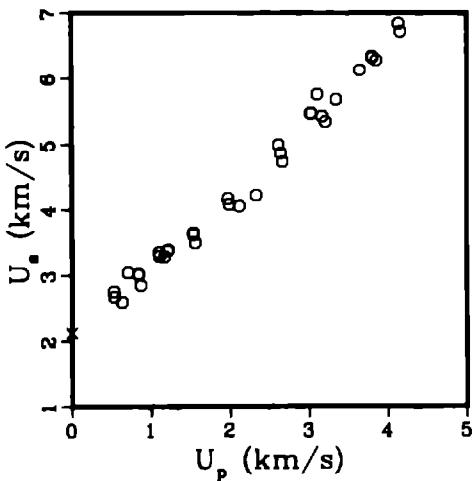
STRONTIUM

Average $\rho_0 = 2.628 \text{ g/cm}^3$.

Sound velocities longitudinal 2.70 km/s.
shear 1.45 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.585	2.118	0.000	0.000	.3868	2.585	1.000	ssp x
2.652	2.756	.531	3.881	.3044	3.285	.807	im1 o
2.628	2.673	.537	3.772	.3041	3.289	.799	im1 o
2.580	2.595	.636	4.258	.2926	3.418	.755	im1 o
2.668	3.042	.710	5.762	.2873	3.480	.767	im1 o
2.664	3.013	.842	6.758	.2705	3.697	.721	im1 o
2.639	3.018	.844	6.722	.2730	3.664	.720	im1 o
2.586	2.847	.873	6.427	.2681	3.730	.693	im1 o
2.652	3.338	1.102	9.755	.2526	3.959	.670	im1 o
2.627	3.286	1.111	9.591	.2520	3.969	.662	im1 o
2.586	3.274	1.171	9.914	.2484	4.026	.642	im1 o
2.663	3.373	1.216	10.922	.2401	4.164	.639	im1 o
2.665	3.367	1.216	10.911	.2397	4.172	.639	im1 o
2.648	3.645	1.538	14.845	.2183	4.581	.578	im1 o
2.654	3.614	1.541	14.781	.2161	4.627	.574	im1 o
2.585	3.486	1.562	14.076	.2135	4.684	.552	im1 o
2.649	4.166	1.974	21.785	.1986	5.035	.526	im1 o
2.628	4.080	1.993	21.369	.1946	5.138	.512	im1 o
2.585	4.054	2.120	22.217	.1845	5.419	.477	im1 o
2.584	4.218	2.332	25.417	.1730	5.779	.447	im1 o

(Continued)



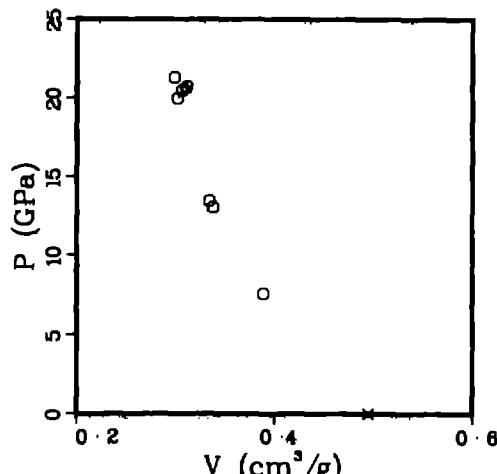
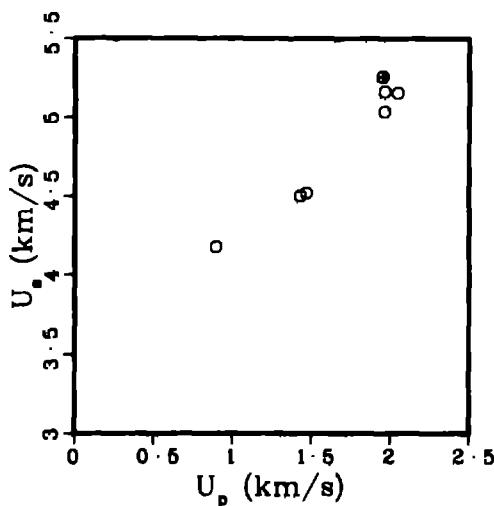
STRONTIUM
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.656	4.994	2.617	34.712	.1792	5.580	.476	i m1 o
2.645	4.865	2.644	34.023	.1726	5.794	.457	i m1 o
2.570	4.728	2.668	32.419	.1695	5.899	.436	i m1 o
2.660	5.471	3.025	44.022	.1681	5.950	.447	i m1 o
2.648	5.467	3.031	43.879	.1683	5.943	.446	i m1 o
2.639	5.756	3.110	47.241	.1742	5.741	.460	i m1 o
2.644	5.423	3.171	45.467	.1571	6.367	.415	i m1 o
2.587	5.342	3.213	44.403	.1541	6.491	.399	i m1 o
2.590	5.679	3.348	49.244	.1585	6.310	.410	i m1 o
2.587	6.127	3.650	57.855	.1563	6.399	.404	i m1 o
2.661	6.342	3.802	64.163	.1505	6.644	.401	i m1 o
2.660	6.323	3.807	64.031	.1496	6.685	.398	i m1 o
2.588	6.280	3.856	62.670	.1491	6.705	.386	i m1 o
2.655	6.841	4.140	75.194	.1487	6.724	.395	i m1 o
2.660	6.716	4.163	74.370	.1429	6.997	.380	i m1 o

SULFUR , rhombic

Average $\rho_0 = 2.020 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.020	4.176	.897	7.567	.3887	2.573	.785	im1 o
2.020	4.503	1.431	13.016	.3377	2.961	.682	im1 o
2.020	4.520	1.470	13.422	.3340	2.994	.675	im1 o
2.020	5.254	1.952	20.717	.3111	3.214	.628	s f 1 e
2.020	5.036	1.964	19.979	.3020	3.311	.610	im1 o
2.020	5.162	1.964	20.479	.3067	3.261	.620	im1 o
2.020	5.153	2.046	21.297	.2985	3.350	.603	im1 o



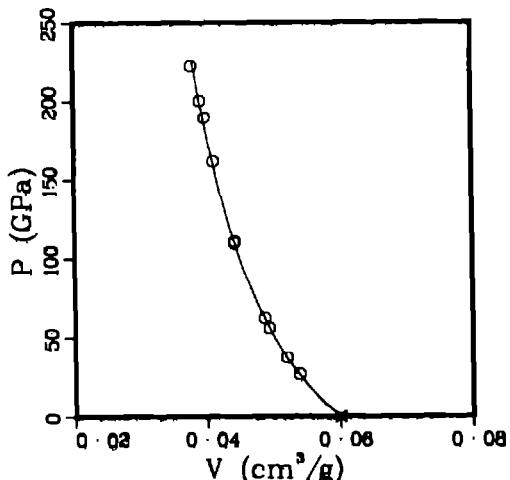
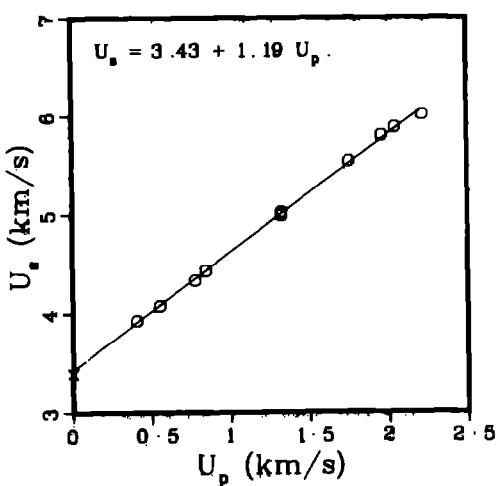
TANTALUM

Average $\rho_0 = 16.656 \text{ g/cm}^3$.

Sound velocities longitudinal 4.16 km/s.
shear 2.09 km/s.

References 6, 11, 12, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
16.690	3.388	0.000	0.000	.0599	16.690	1.000	s s p x
16.660	3.924	.404	26.411	.0538	18.572	.897	i m1 o
16.640	4.075	.549	37.227	.0520	19.231	.865	i m1 o
16.650	4.332	.775	55.899	.0493	20.278	.821	i m1 o
16.660	4.430	.842	62.143	.0486	20.570	.810	i m1 o
16.650	4.988	1.324	109.958	.0441	22.667	.735	i m1 o
16.660	5.020	1.324	110.730	.0442	22.628	.736	i m1 o
16.660	5.540	1.752	161.703	.0410	24.365	.684	i m1 o
16.640	5.804	1.962	189.487	.0398	25.138	.662	i m1 o
16.660	5.881	2.045	200.364	.0392	25.542	.652	i m1 o
16.650	6.015	2.219	222.232	.0379	26.383	.631	i m1 o



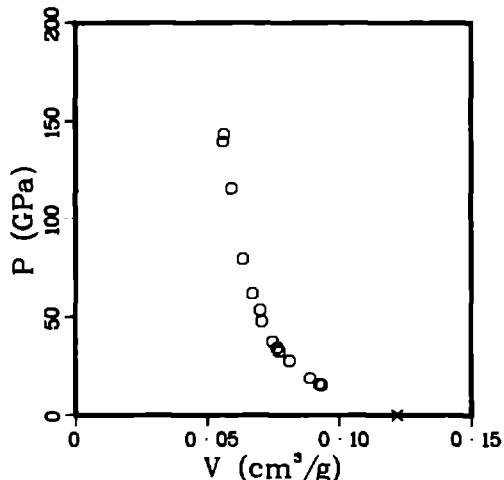
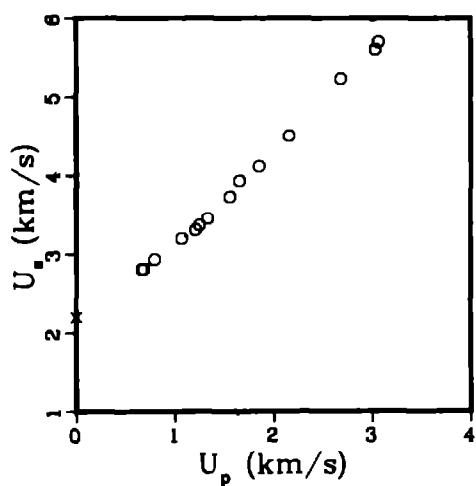
TERBIUM

Average $\rho_0 = 8.209 \text{ g/cm}^3$.

Sound velocities longitudinal 2.94 km/s .
 shear 1.69 km/s .

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.202	2.199	0.000	0.000	.1219	8.202	1.000	s s p x
8.194	2.812	.663	15.277	.0933	10.722	.764	i m l o
8.199	2.811	.682	15.718	.0924	10.825	.757	i m l o
8.218	2.933	.792	19.090	.0888	11.258	.730	i m l o
8.210	3.197	1.068	28.032	.0811	12.328	.666	i m l o
8.199	3.307	1.209	32.781	.0774	12.924	.634	i m l o
8.209	3.366	1.250	34.539	.0766	13.058	.629	i m l o
8.205	3.448	1.333	37.712	.0748	13.376	.613	i m l o
8.214	3.730	1.562	47.857	.0708	14.132	.581	i m l o
8.247	3.930	1.654	53.607	.0702	14.240	.579	i m l o
8.181	4.118	1.853	62.426	.0672	14.874	.550	i m l o
8.194	4.506	2.160	79.752	.0635	15.738	.521	i m l o
8.247	5.231	2.680	115.615	.0591	16.911	.488	i m l o
8.204	5.611	3.032	139.571	.0560	17.849	.460	i m l o
8.209	5.704	3.065	143.516	.0564	17.743	.463	i m l o

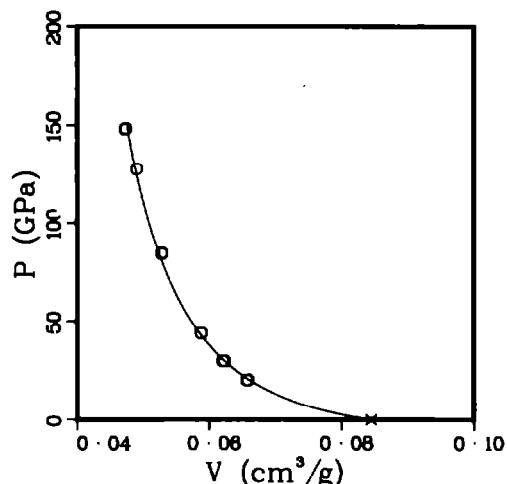
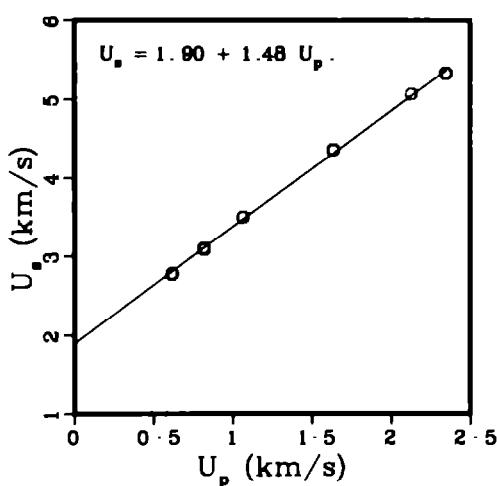


THALLIUM

Average $\rho_0 = 11.840 \text{ g/cm}^3$.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.840	2.783	.614	20.232	.0658	15.192	.779	im1 o
11.840	2.770	.617	20.236	.0656	15.233	.777	im1 o
11.840	3.107	.815	29.981	.0623	16.050	.738	im1 o
11.840	3.083	.820	29.932	.0620	16.130	.734	im1 o
11.840	3.499	1.063	44.038	.0588	17.007	.696	im1 o
11.840	3.496	1.064	44.042	.0588	17.020	.696	im1 o
11.840	4.360	1.635	84.403	.0528	18.944	.625	im1 o
11.840	4.361	1.635	84.422	.0528	18.941	.625	im1 o
11.840	4.368	1.635	84.557	.0528	18.923	.626	im1 o
11.840	5.069	2.128	127.716	.0490	20.407	.580	im1 o
11.840	5.338	2.345	148.209	.0474	21.117	.561	im1 o
11.840	5.335	2.347	148.252	.0473	21.140	.560	im1 o
11.840	5.327	2.347	148.029	.0472	21.165	.559	im1 o

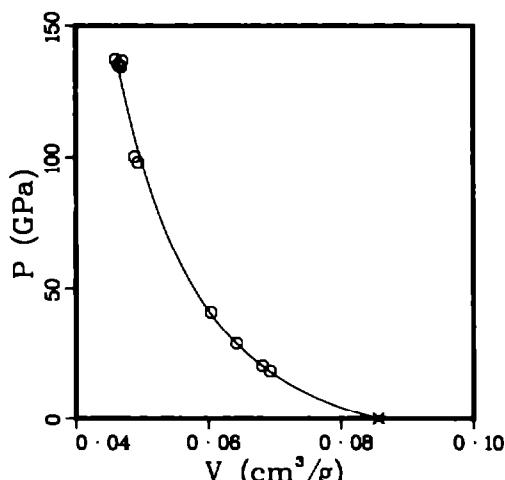
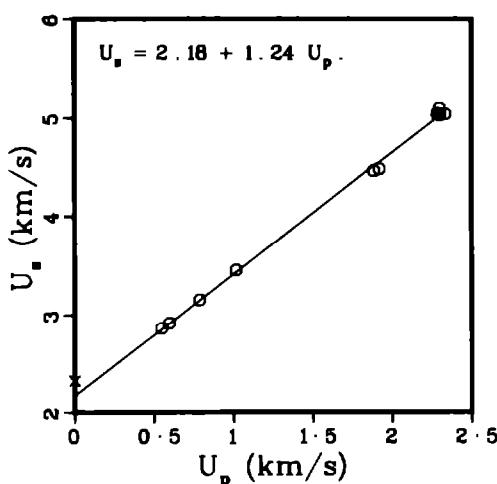


THORIUM

Average $\rho_0 = 11.680 \text{ g/cm}^3$.

References 4, 6, 11, 12

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.680	2.327	0.000	0.000	.0856	11.680	1.000	s s p x
11.680	2.865	.547	18.304	.0693	14.436	.809	i m1 c
11.680	2.919	.596	20.320	.0681	14.677	.796	i m1 c
11.680	3.154	.787	28.992	.0643	15.563	.750	i m1 c
11.680	3.455	1.017	41.040	.0604	16.552	.706	i m1 c
11.680	4.458	1.885	98.151	.0494	20.237	.577	i m1 c
11.680	4.477	1.920	100.399	.0489	20.450	.571	i m1 c
11.680	5.048	2.285	134.725	.0469	21.339	.547	i m1 c
11.680	5.099	2.299	136.920	.0470	21.270	.549	i m1 c
11.680	5.032	2.303	135.356	.0464	21.537	.542	i m1 c
11.680	5.041	2.334	137.423	.0460	21.751	.537	i m1 c



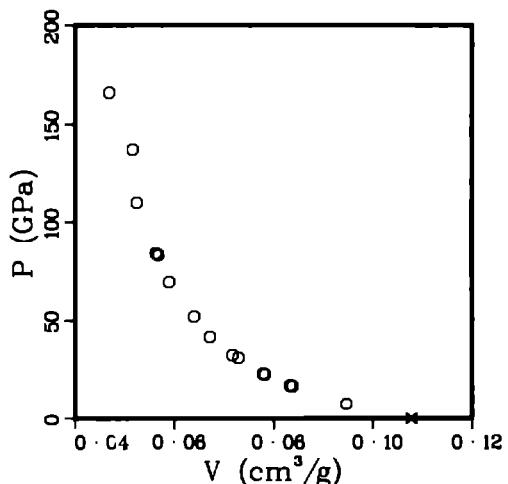
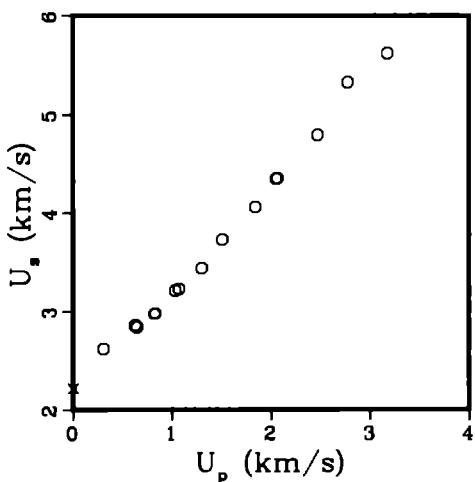
THULIUM

Average $\rho_0 = 9.291 \text{ g/cm}^3$.

Sound velocities longitudinal 3.02 km/s.
 shear 1.77 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
9.268	2.223	0.000	0.000	.1079	9.268	1.000	s s p ×
9.318	2.620	.309	7.544	.0947	10.564	.882	im1 o
9.317	2.855	.626	16.652	.0838	11.934	.781	im1 o
9.271	2.837	.646	16.991	.0833	12.004	.772	im1 o
9.260	2.977	.820	22.605	.0782	12.780	.725	im1 o
9.269	2.980	.829	22.898	.0779	12.841	.722	im1 o
9.310	3.213	1.032	30.870	.0729	13.715	.679	im1 o
9.325	3.228	1.070	32.208	.0717	13.949	.669	im1 o
9.266	3.437	1.298	41.338	.0672	14.889	.622	im1 o
9.303	3.721	1.507	52.167	.0640	15.635	.595	im1 o
9.263	4.061	1.845	69.403	.0589	16.975	.546	im1 o
9.305	4.347	2.051	82.961	.0568	17.617	.528	im1 o
9.339	4.350	2.065	83.890	.0562	17.779	.525	im1 o
9.269	4.801	2.469	109.872	.0524	19.083	.486	im1 o
9.289	5.328	2.776	137.389	.0516	19.393	.479	im1 o
9.289	5.626	3.175	165.925	.0469	21.322	.436	im1 o



TIN

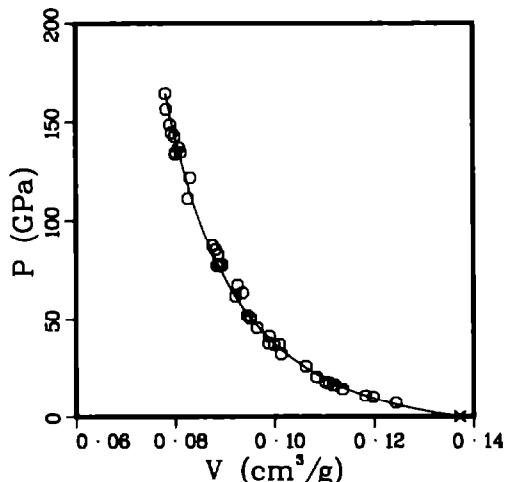
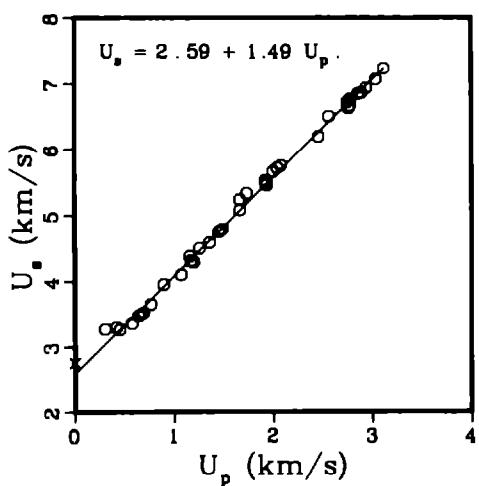
Average $\rho_0 = 7.287 \text{ g/cm}^3$.

Sound velocities longitudinal 3.43 km/s .
 shear 1.77 km/s .

References 4, 5, 6, 11, 12

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.291	2.755	0.000	0.000	1372	7.291	1.000	s s p x
7.294	3.273	.304	7.257	1244	8.041	.907	i m i o
7.290	3.299	.418	10.053	1198	8.348	.873	i m i o
7.289	3.263	.451	10.727	1182	8.458	.862	i m i o
7.290	3.361	.577	14.137	1136	8.801	.828	i m i o
7.280	3.482	.642	16.274	1120	8.926	.816	i m i o
7.291	3.476	.645	16.347	1117	8.952	.814	i m i o
7.280	3.514	.677	17.319	1109	9.017	.807	i m i o
7.290	3.524	.693	17.803	1102	9.075	.803	i m i o
7.292	3.658	.767	20.459	1084	9.227	.790	i m i o
7.280	3.956	.896	25.805	1063	9.412	.774	i m i o
7.290	4.102	1.073	32.087	1013	9.872	.738	i m i o
7.280	4.382	1.161	37.037	1010	9.904	.735	i m i o
7.289	4.309	1.171	36.779	0999	10.009	.728	i m i o
7.289	4.292	1.201	37.573	0988	10.121	.720	i m i o
7.280	4.500	1.260	41.278	0989	10.111	.720	i m i o
7.290	4.587	1.361	45.511	0965	10.366	.703	i m i o
7.289	4.755	1.456	50.464	0952	10.506	.694	i m i o
7.289	4.766	1.465	50.893	0950	10.524	.693	i m i o

(Continued)



TIN
 (Continued)

<u>ρ_0</u> <u>(g/cm³)</u>	<u>U_s</u> <u>(km/s)</u>	<u>U_p</u> <u>(km/s)</u>	<u>P</u> <u>(GPa)</u>	<u>V</u> <u>(cm³/g)</u>	<u>ρ</u> <u>(g/cm³)</u>	<u>V/V_o</u>	<u>Exp</u>
7.286	4.793	1.493	52.138	.0945	10.582	.689	im1 o
7.290	5.239	1.665	63.590	.0936	10.686	.682	im1 o
7.289	5.083	1.669	61.836	.0921	10.852	.672	im1 o
7.290	5.331	1.734	67.388	.0926	10.804	.675	im1 o
7.280	5.527	1.926	77.496	.0895	11.174	.652	im1 o
7.280	5.504	1.929	77.293	.0892	11.208	.650	im1 o
7.280	5.481	1.933	77.130	.0889	11.246	.647	im1 o
7.289	5.458	1.940	77.180	.0884	11.309	.645	im1 o
7.289	5.661	2.002	82.609	.0887	11.277	.648	im1 o
7.289	5.717	2.044	85.176	.0881	11.345	.642	im1 o
7.289	5.752	2.082	87.291	.0875	11.424	.638	im1 o
7.291	6.193	2.461	111.122	.0827	12.099	.603	im1 o
7.290	6.500	2.564	121.495	.0831	12.039	.606	im1 o
7.280	6.721	2.751	134.603	.0811	12.325	.591	im1 o
7.280	6.626	2.764	133.328	.0801	12.490	.583	im1 o
7.280	6.664	2.777	134.723	.0801	12.481	.583	im1 o
7.289	6.765	2.780	137.082	.0808	12.374	.589	im1 o
7.290	6.349	2.859	142.748	.0799	12.514	.583	im1 o
7.289	6.858	2.893	144.615	.0793	12.607	.578	im1 o
7.289	6.935	2.942	148.716	.0790	12.659	.576	im1 o
7.289	7.068	3.038	156.514	.0782	12.784	.570	im1 o
7.290	7.236	3.118	164.476	.0781	12.810	.569	im1 o

TITANIUM

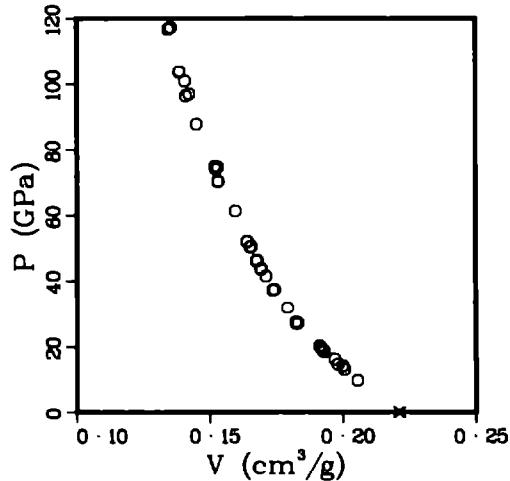
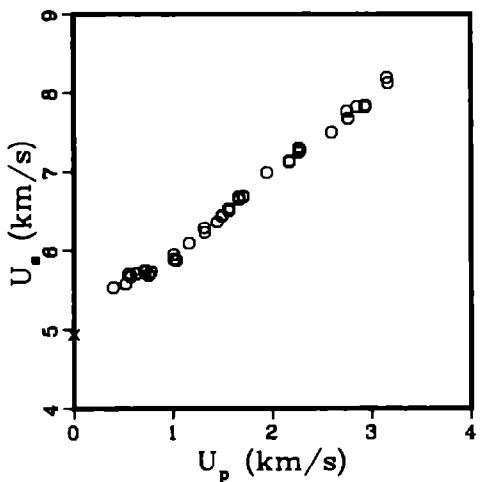
Average $\rho_0 = 4.527 \text{ g/cm}^3$.

Sound velocities longitudinal 6.16 km/s.
shear 3.19 km/s.

References 4, 6, 11, 12, 13

ρ_0 (g/cm ³)	U _L (km/s)	U _P (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.517	4.937	0.000	0.000	.2214	4.517	1.000	ssp x
4.517	5.538	.397	9.931	.2055	4.866	.928	im1 o
4.517	5.585	.524	13.219	.2006	4.985	.906	im1 o
4.517	5.709	.552	14.235	.2000	5.000	.903	im1 o
4.539	5.676	.572	14.737	.1981	5.048	.899	im1 o
4.517	5.711	.631	16.278	.1969	5.078	.890	im1 o
4.539	5.749	.714	18.632	.1930	5.183	.876	im1 o
4.539	5.731	.715	18.599	.1928	5.186	.875	im1 o
4.517	5.691	.755	19.408	.1920	5.208	.867	im1 o
4.517	5.730	.779	20.162	.1913	5.228	.864	im1 o
4.539	5.947	1.004	27.101	.1831	5.461	.831	im1 o
4.539	5.887	1.009	26.962	.1826	5.478	.829	im1 o
4.517	5.873	1.035	27.457	.1824	5.483	.824	im1 o
4.517	6.090	1.159	31.882	.1793	5.579	.810	im1 o
4.539	6.286	1.312	37.434	.1743	5.736	.791	im1 o
4.539	6.226	1.318	37.246	.1737	5.758	.788	im1 o
4.517	6.361	1.444	41.490	.1711	5.844	.773	im1 o
4.539	6.446	1.491	43.624	.1694	5.905	.769	im1 o
4.539	6.437	1.492	43.593	.1692	5.909	.768	im1 o

(Continued)



TITANIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/V ₀	Exp
4.539	6.534	1.557	46.177	.1678	5.959	.762	im1 o
4.539	6.505	1.561	46.090	.1674	5.972	.760	im1 o
4.539	6.682	1.660	50.347	.1656	6.039	.752	im1 o
4.539	6.650	1.664	50.227	.1652	6.054	.750	im1 o
4.539	6.689	1.707	51.827	.1641	6.094	.745	im1 o
4.539	6.683	1.708	51.811	.1640	6.097	.744	im1 o
4.517	6.988	1.945	61.394	.1598	6.259	.722	im1 o
4.539	7.136	2.171	70.319	.1533	6.524	.696	im1 o
4.539	7.122	2.173	70.246	.1531	6.532	.695	im1 o
4.510	7.310	2.265	74.673	.1530	6.535	.690	im1 o
4.510	7.247	2.268	74.127	.1523	6.564	.687	im1 o
4.510	7.262	2.275	74.510	.1523	6.567	.687	im1 o
4.517	7.275	2.279	74.891	.1520	6.577	.687	im1 o
4.510	7.508	2.596	87.903	.1451	6.894	.654	im1 o
4.539	7.769	2.750	96.975	.1423	7.026	.646	im1 o
4.539	7.682	2.764	96.377	.1410	7.090	.640	im1 o
4.517	7.828	2.852	100.844	.1407	7.106	.636	im1 o
4.510	7.825	2.935	103.578	.1386	7.217	.625	im1 o
4.510	7.845	2.935	103.843	.1388	7.206	.626	im1 o
4.539	8.189	3.154	117.234	.1355	7.382	.615	im1 o
4.539	8.125	3.165	116.723	.1345	7.435	.610	im1 o

TUNGSTEN . $\rho_0 = 19.2 \text{ g/cm}^3$.

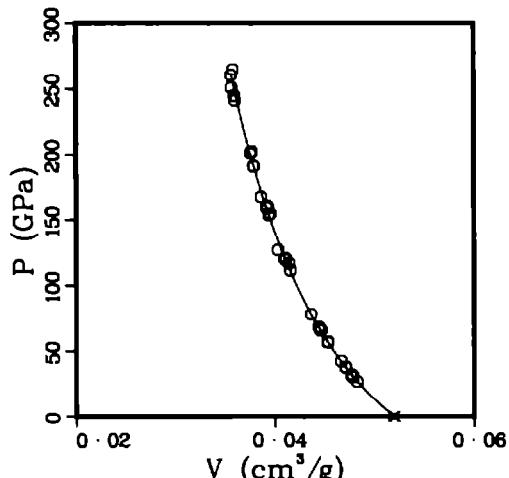
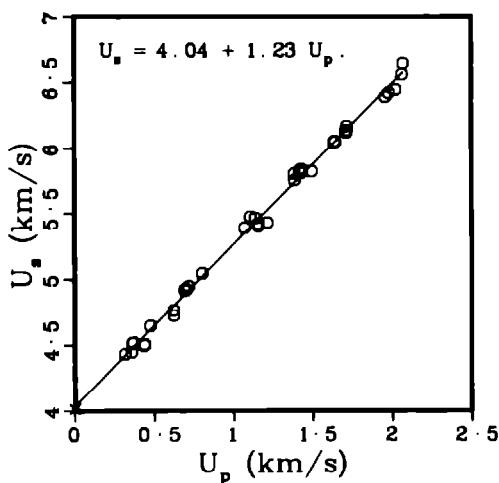
Average $\rho_0 = 19.235 \text{ g/cm}^3$.

Sound velocities longitudinal 5.22 km/s .
 shear 2.89 km/s .

References 4 , 6 , 13

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
19.270	4.014	0.000	0.000	.0519	19.270	1.000	ssp x
19.250	4.434	.316	26.972	.0482	20.727	.929	im1 o
19.250	4.449	.358	30.660	.0478	20.935	.920	im1 o
19.250	4.517	.364	31.651	.0478	20.937	.919	im1 o
19.270	4.519	.367	31.959	.0477	20.973	.919	im1 o
19.170	4.508	.437	37.765	.0471	21.228	.903	im1 o
19.170	4.499	.437	37.689	.0471	21.232	.903	im1 o
19.250	4.648	.475	42.500	.0466	21.441	.898	im1 o
19.170	4.766	.623	56.920	.0453	22.053	.869	im1 o
19.170	4.727	.625	56.635	.0453	22.091	.868	im1 o
19.250	4.921	.692	65.553	.0446	22.400	.859	im1 o
19.250	4.920	.700	66.297	.0446	22.443	.858	im1 o
19.250	4.925	.700	66.364	.0446	22.439	.858	im1 o
19.250	4.947	.717	68.280	.0444	22.513	.855	im1 o
19.270	5.046	.803	78.081	.0436	22.917	.841	im1 o
19.270	5.390	1.071	111.240	.0416	24.048	.801	im1 o
19.260	5.476	1.106	116.647	.0414	24.134	.798	im1 o
19.270	5.465	1.137	119.738	.0411	24.332	.792	im1 o
19.170	5.422	1.156	120.154	.0410	24.365	.787	im1 o

(Continued)



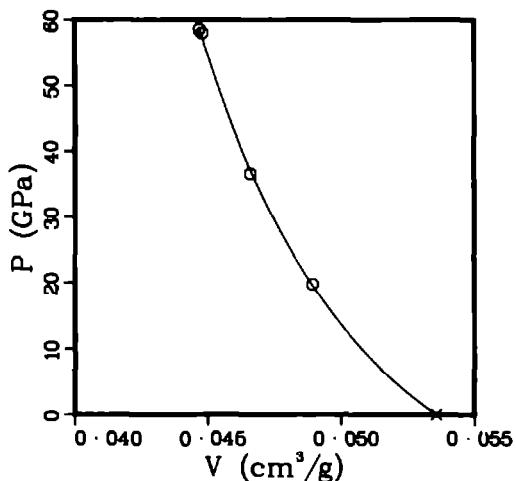
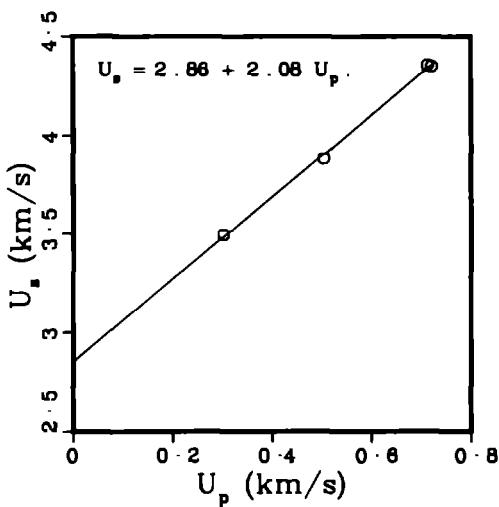
TUNGSTEN, $\rho_0 = 19.2 \text{ g/cm}^3$.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
19.170	5.402	1.158	119.918	.0410	24.401	.786	i m1 o
19.260	5.429	1.213	126.834	.0403	24.801	.777	i m1 o
19.250	5.804	1.384	154.630	.0396	25.278	.762	i m1 o
19.270	5.754	1.386	153.679	.0394	25.385	.759	i m1 o
19.260	5.830	1.418	159.221	.0393	25.450	.757	i m1 o
19.270	5.809	1.426	159.626	.0392	25.539	.755	i m1 o
19.250	5.838	1.429	160.593	.0392	25.489	.755	i m1 o
19.250	5.823	1.494	167.467	.0386	25.893	.743	i m1 o
19.250	6.053	1.637	190.744	.0379	26.386	.730	i m1 o
19.250	6.046	1.641	190.989	.0378	26.421	.729	i m1 o
19.170	6.120	1.712	200.853	.0376	26.615	.720	i m1 o
19.170	6.137	1.713	201.528	.0376	26.593	.721	i m1 o
19.170	6.169	1.714	202.697	.0377	26.545	.722	i m1 o
19.260	6.390	1.959	241.097	.0360	27.775	.693	i m1 o
19.250	6.421	1.981	244.860	.0359	27.839	.691	i m1 o
19.250	6.446	2.023	251.025	.0356	28.055	.686	i m1 o
19.250	6.560	2.064	260.642	.0356	28.087	.685	i m1 o
19.250	6.650	2.070	264.986	.0358	27.950	.689	i m1 o

TUNGSTEN , $\rho_0 = 18.7 \text{ g/cm}^3$.

Average $\rho_0 = 18.670 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.670	3.495	.302	19.706	.0489	20.436	.914	im1 o
18.670	3.883	.505	36.610	.0466	21.461	.870	im1 o
18.670	4.356	.713	57.986	.0448	22.324	.836	im1 o
18.670	4.349	.721	58.542	.0447	22.380	.834	im1 o



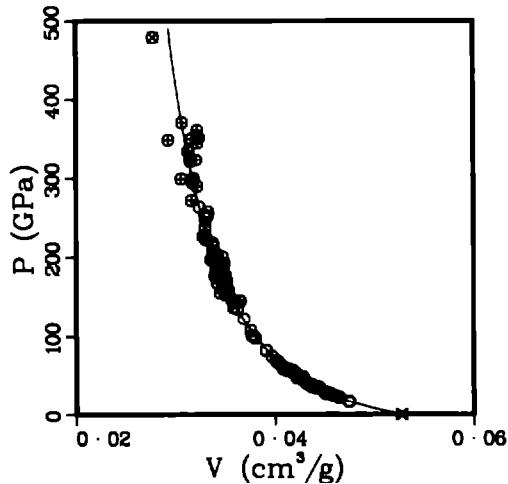
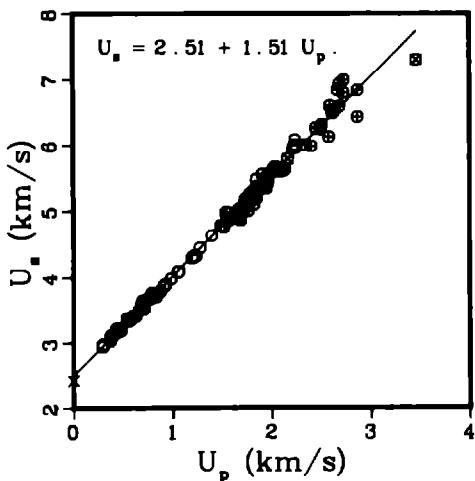
URANIUM

Average $\rho_0 = 18.930 \text{ g/cm}^3$.

Sound velocities longitudinal 3.45 km/s.
shear 2.12 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
19.000	2.431	0.000	0.000	.0526	19.000	1.000	s s p x
18.980	2.961	.294	16.523	.0475	21.072	.901	i m1 o
18.990	2.979	.296	16.745	.0474	21.085	.901	i m1 o
18.970	2.945	.296	16.537	.0474	21.090	.899	i m1 o
18.910	3.032	.371	21.271	.0464	21.546	.878	s f 1 e
18.910	3.099	.378	22.152	.0464	21.537	.878	s f 1 e
18.920	3.115	.379	22.337	.0464	21.541	.878	i m1 o
18.910	3.133	.410	24.290	.0460	21.757	.869	s f 1 e
18.980	3.221	.435	26.594	.0456	21.943	.865	i m1 o
18.970	3.190	.447	27.050	.0453	22.061	.860	i m1 o
18.930	3.206	.453	27.492	.0454	22.045	.859	i m1 o
18.950	3.185	.454	27.402	.0452	22.100	.857	i m1 o
18.980	3.194	.456	27.644	.0452	22.141	.857	i m1 o
18.990	3.177	.457	27.571	.0451	22.181	.856	i m1 o
18.910	3.211	.474	28.781	.0451	22.185	.852	s f 1 e
18.910	3.191	.477	28.783	.0450	22.234	.851	s f 1 e
18.910	3.378	.540	34.494	.0444	22.508	.840	s f 1 e
18.910	3.343	.544	34.390	.0443	22.585	.837	s f 1 e
18.910	3.343	.546	34.516	.0442	22.601	.837	s f 1 e
18.940	3.364	.546	34.788	.0442	22.610	.838	i m1 o

(Continued)



URANIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.910	3.339	.556	35.106	.0441	22.688	.833	sf1*
18.930	3.359	.563	35.799	.0440	22.742	.832	im1o
19.000	3.356	.570	36.345	.0437	22.887	.830	im1o
18.980	3.360	.570	36.350	.0437	22.858	.830	im1o
18.960	3.357	.570	36.280	.0438	22.838	.830	im1o
18.970	3.393	.598	38.490	.0434	23.029	.824	im1o
18.910	3.414	.598	38.606	.0436	22.926	.825	sf1*
18.910	3.409	.627	40.419	.0432	23.172	.816	sf1*
18.910	3.508	.665	44.114	.0429	23.333	.810	sf1*
18.910	3.577	.686	46.402	.0427	23.397	.808	sf1*
18.910	3.575	.693	46.849	.0426	23.457	.806	sf1*
18.910	3.633	.695	47.747	.0428	23.383	.809	sf1*
18.910	3.642	.696	47.934	.0428	23.378	.809	sf1*
18.910	3.612	.702	47.949	.0426	23.472	.806	sf1*
18.910	3.517	.709	47.153	.0422	23.685	.798	sf1*
18.910	3.678	.751	52.233	.0421	23.762	.796	sf1*
18.910	3.679	.754	52.456	.0420	23.785	.795	sf1*
18.910	3.683	.763	53.140	.0419	23.851	.793	sf1*
18.910	3.685	.770	53.656	.0418	23.905	.791	sf1*
18.910	3.766	.791	56.331	.0418	23.938	.790	sf1*
18.960	3.707	.805	56.579	.0413	24.219	.783	im1o
18.910	3.711	.808	56.701	.0414	24.173	.782	sf1*
18.970	3.711	.817	57.515	.0411	24.325	.780	im1o
18.950	3.754	.818	58.191	.0413	24.230	.782	im1o
18.960	3.747	.832	59.108	.0410	24.372	.778	im1o
18.990	3.707	.833	58.640	.0408	24.494	.775	im1o
18.940	3.791	.875	62.826	.0406	24.623	.769	im1o
18.970	3.880	.915	67.347	.0403	24.824	.764	im1o
18.980	3.870	.917	67.356	.0402	24.874	.763	im1o
18.970	3.895	.932	68.864	.0401	24.937	.761	im1o
18.970	3.983	.986	74.500	.0397	25.211	.752	im1o
18.930	4.083	1.059	81.851	.0391	25.559	.741	im1o
18.940	4.085	1.061	82.089	.0391	25.585	.740	im1o
18.960	4.292	1.197	97.407	.0380	26.293	.721	im1o
18.970	4.309	1.214	99.234	.0379	26.411	.718	im1o
19.010	4.324	1.226	100.776	.0377	26.533	.716	im1o
18.930	4.313	1.235	100.832	.0377	26.525	.714	im1o
18.970	4.441	1.277	107.582	.0376	26.626	.712	im1o
18.930	4.632	1.398	122.582	.0369	27.113	.698	im1o
19.000	4.784	1.489	135.344	.0363	27.586	.689	im1o
19.000	4.757	1.519	137.292	.0358	27.913	.681	im1o
18.910	4.980	1.543	145.307	.0365	27.399	.690	sf1*
18.910	4.980	1.543	145.307	.0365	27.399	.690	sf1*

(Continued)

URANIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.930	4.851	1.559	143.162	.0358	27.895	.679	im1 o
18.890	4.886	1.589	146.659	.0357	27.994	.675	im1 o
18.910	4.898	1.652	153.010	.0350	28.534	.663	sf 1 e
18.910	4.989	1.667	157.268	.0352	28.399	.666	sf 1 e
18.910	5.023	1.669	158.530	.0353	28.320	.668	sf 1 e
18.910	4.869	1.692	155.787	.0345	28.981	.652	sf 1 e
18.910	5.042	1.693	161.418	.0351	28.469	.664	sf 1 e
18.910	4.997	1.698	160.450	.0349	28.643	.660	sf 1 e
18.910	5.091	1.732	166.741	.0349	28.661	.660	sf 1 e
18.910	5.142	1.733	168.509	.0351	28.523	.663	sf 1 e
18.910	5.183	1.739	170.440	.0351	28.458	.664	sf 1 e
18.930	5.164	1.749	170.973	.0349	28.625	.661	im1 o
19.010	5.159	1.750	171.627	.0348	28.769	.661	im1 o
19.000	5.148	1.752	171.367	.0347	28.802	.660	im1 o
18.910	5.014	1.769	167.727	.0342	29.219	.647	sf 1 e
18.910	5.230	1.782	176.239	.0349	28.683	.659	sf 1 e
18.880	5.260	1.785	177.266	.0350	28.578	.661	im1 o
18.910	5.151	1.788	174.161	.0345	28.964	.653	sf 1 e
18.910	5.188	1.790	175.608	.0346	28.871	.655	sf 1 e
18.910	5.188	1.790	175.608	.0346	28.871	.655	sf 1 e
18.910	5.106	1.823	176.019	.0340	29.410	.643	sf 1 e
18.910	5.297	1.823	182.603	.0347	28.833	.656	sf 1 e
18.910	5.329	1.838	185.218	.0346	28.866	.655	sf 1 e
18.980	5.478	1.849	192.245	.0349	28.650	.662	im1 o
18.910	5.202	1.852	182.181	.0341	29.364	.644	sf 1 e
18.860	5.369	1.860	188.342	.0347	28.857	.654	im1 o
18.890	5.555	1.910	200.424	.0347	28.788	.656	im1 o
18.910	5.367	1.921	194.962	.0340	29.452	.642	sf 1 e
18.910	5.356	1.928	195.272	.0338	29.545	.640	sf 1 e
18.910	5.386	1.939	197.486	.0338	29.547	.640	sf 1 e
18.940	5.448	1.948	201.005	.0339	29.481	.642	im1 o
18.910	5.345	1.949	196.993	.0336	29.763	.635	sf 1 e
18.910	5.516	1.950	203.400	.0342	29.251	.646	sf 1 e
18.910	5.415	1.955	200.187	.0338	29.595	.639	sf 1 e
18.910	5.453	1.959	202.005	.0339	29.512	.641	sf 1 e
18.910	5.503	1.964	204.377	.0340	29.404	.643	sf 1 e
18.910	5.427	1.966	201.760	.0337	29.652	.638	sf 1 e
18.980	5.629	2.018	215.600	.0338	29.587	.641	im1 o
18.910	5.596	2.023	214.075	.0338	29.617	.638	sf 1 e
18.990	5.665	2.037	219.137	.0337	29.652	.640	im1 o
18.990	5.642	2.092	224.140	.0331	30.181	.629	im1 o
18.910	5.602	2.098	222.249	.0331	30.232	.625	sf 1 e
18.910	5.632	2.134	227.273	.0328	30.446	.621	sf 1 e

(Continued)

URANIUM
(Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.910	5.622	2.134	226.870	.0328	30.479	.620	s f 1	+
18.950	5.789	2.167	237.723	.0330	30.288	.626	s f 2	+
18.990	5.951	2.217	250.542	.0330	30.265	.627	i m 1	o
18.880	6.000	2.234	253.068	.0332	30.080	.628	i m 1	o
18.980	6.079	2.237	258.104	.0333	30.031	.632	i m 1	o
18.860	5.959	2.242	251.971	.0331	30.236	.624	i m 1	o
18.880	5.967	2.252	253.703	.0330	30.325	.623	i m 1	o
18.840	6.002	2.334	263.923	.0324	30.828	.611	i m 1	o
18.910	5.987	2.404	272.167	.0316	31.598	.598	s f 1	+
18.910	6.264	2.448	289.971	.0322	31.041	.609	s f 1	+
18.910	6.244	2.493	294.359	.0318	31.478	.601	s f 1	+
18.910	6.314	2.511	299.808	.0319	31.396	.602	s f 1	+
18.910	6.126	2.582	299.106	.0306	32.687	.579	s f 1	+
18.910	6.600	2.591	323.372	.0321	31.131	.607	s f 1	+
18.910	6.489	2.617	321.124	.0316	31.691	.597	s f 1	+
18.910	6.510	2.624	323.025	.0316	31.679	.597	s f 1	+
18.910	6.531	2.639	325.920	.0315	31.732	.596	s f 1	+
18.910	6.841	2.671	345.529	.0322	31.022	.610	s f 1	+
18.910	6.929	2.686	351.940	.0324	30.881	.612	s f 1	+
18.910	6.591	2.688	335.021	.0313	31.933	.592	s f 1	+
18.910	6.798	2.727	350.556	.0317	31.577	.599	s f 1	+
18.910	6.995	2.732	361.377	.0322	31.029	.609	s f 1	+
18.910	6.837	2.871	371.185	.0307	32.599	.580	s f 1	+
18.910	6.432	2.871	349.197	.0293	34.156	.554	s f 1	+
18.950	7.307	3.463	479.513	.0278	36.022	.526	s f 2	+

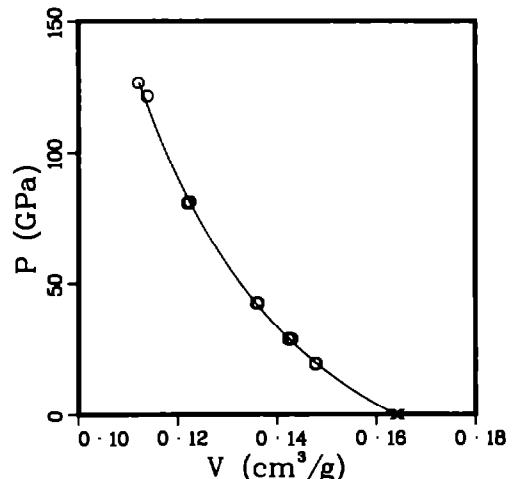
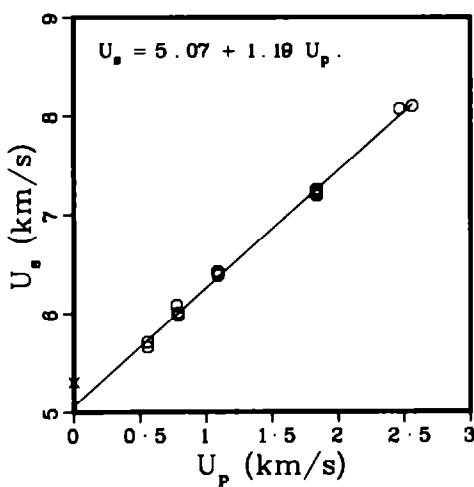
VANADIUM

Average $\rho_0 = 6.099 \text{ g/cm}^3$.

Sound velocities longitudinal 6.15 km/s.
shear 2.69 km/s.

References 4, 6, 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.079	5.307	0.000	0.000	.1645	6.079	1.000	s s p x
6.100	5.711	.556	19.369	.1480	6.758	.903	im1 o
6.100	5.659	.559	19.297	.1477	6.769	.901	im1 o
6.100	6.085	.777	28.841	.1430	6.993	.872	im1 o
6.100	6.001	.787	28.809	.1424	7.021	.869	im1 o
6.100	6.002	.787	28.814	.1424	7.021	.869	im1 o
6.100	6.002	.789	28.887	.1424	7.023	.869	im1 o
6.100	5.982	.790	28.827	.1423	7.028	.868	im1 o
6.100	6.421	1.086	42.537	.1362	7.342	.831	im1 o
6.100	6.413	1.089	42.601	.1361	7.348	.830	im1 o
6.100	6.383	1.092	42.518	.1359	7.359	.829	im1 o
6.100	7.252	1.834	81.131	.1225	8.165	.747	im1 o
6.100	7.232	1.836	80.996	.1223	8.176	.746	im1 o
6.100	7.203	1.837	80.715	.1221	8.188	.745	im1 o
6.100	7.192	1.839	80.679	.1220	8.196	.744	im1 o
6.100	8.070	2.464	121.295	.1139	8.781	.695	im1 o
6.100	8.098	2.561	126.508	.1121	8.921	.684	im1 o



YTTERBIUM

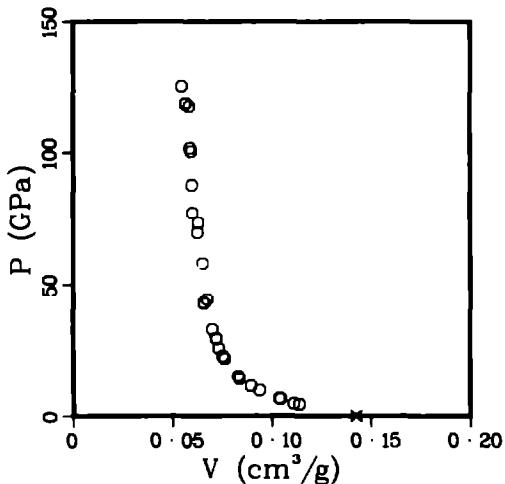
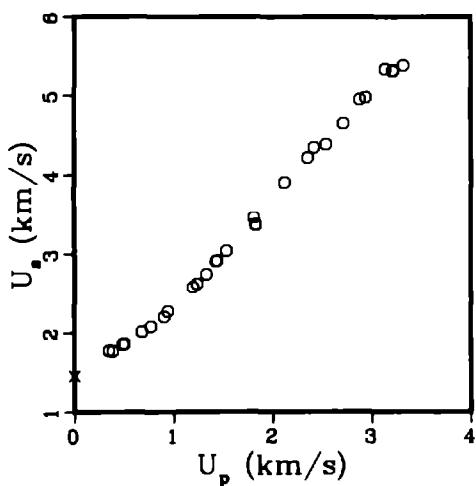
Average $\rho_0 = 7.019 \text{ g/cm}^3$.

Sound velocities longitudinal 1.94 km/s.
 shear 1.12 km/s.

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.031	1.446	0.000	0.000	.1422	7.031	1.000	s s p x
7.064	1.779	.348	4.373	.1139	6.782	.804	im1 o
7.038	1.768	.386	4.803	.1111	9.004	.782	im1 o
7.058	1.853	.488	6.382	.1044	9.581	.737	im1 o
7.031	1.860	.504	6.591	.1037	9.644	.729	im1 o
7.050	2.013	.681	9.665	.0939	10.654	.662	im1 o
7.028	2.078	.771	11.260	.0895	11.174	.629	im1 o
7.028	2.203	.906	14.027	.0838	11.937	.589	im1 o
7.028	2.271	.944	15.067	.0831	12.028	.584	im1 o
7.037	2.582	1.194	21.694	.0764	13.090	.538	im1 o
7.028	2.623	1.235	22.767	.0753	13.281	.529	im1 o
7.027	2.745	1.330	25.655	.0734	13.632	.515	im1 o
7.049	2.913	1.428	29.322	.0723	13.827	.510	im1 o
7.049	2.913	1.436	29.486	.0719	13.902	.507	im1 o
7.068	3.041	1.533	32.950	.0702	14.253	.496	im1 o
7.070	3.465	1.813	44.414	.0674	14.829	.477	im1 o
6.954	3.372	1.830	42.911	.0658	15.207	.457	im1 o
6.955	3.375	1.830	42.956	.0658	15.193	.458	im1 o
7.016	3.905	2.120	58.083	.0652	15.349	.457	im1 o

(Continued)



YTTERBIUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.039	4.214	2.354	69.825	.0627	15.947	.441	im1 o
7.019	4.341	2.417	73.645	.0631	15.837	.443	im1 o
6.965	4.379	2.539	77.439	.0603	16.576	.420	im1 o
6.958	4.652	2.716	87.913	.0598	16.719	.416	im1 o
7.036	4.952	2.881	100.381	.0594	16.824	.418	im1 o
6.943	4.976	2.942	101.641	.0589	16.985	.409	im1 o
7.040	5.332	3.135	117.679	.0585	17.086	.412	im1 o
6.961	5.315	3.211	118.800	.0569	17.584	.396	im1 o
6.962	5.305	3.213	118.667	.0566	17.655	.394	im1 o
7.019	5.381	3.319	125.356	.0546	18.317	.383	im1 o

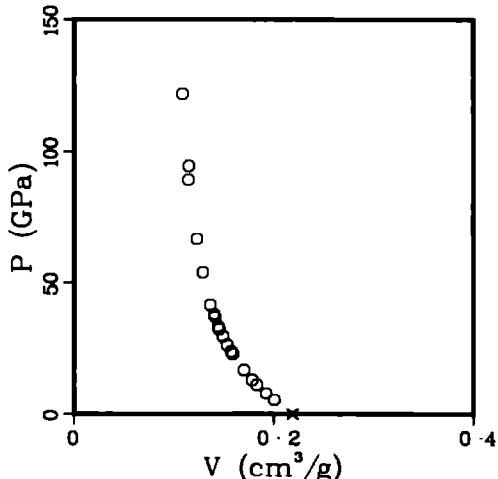
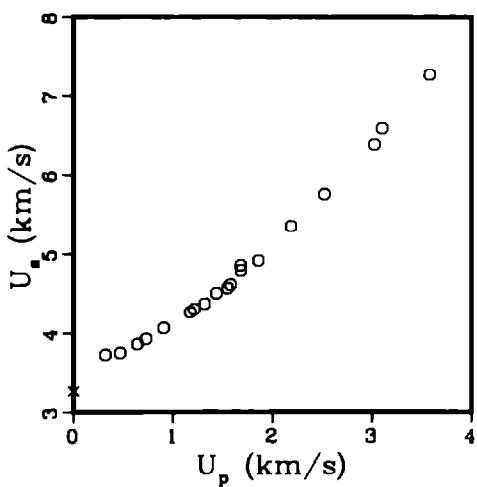
YTTRIUM

Average $\rho_0 = 4.579 \text{ g/cm}^3$.

Sound velocities longitudinal 4.38 km/s .
 shear 2.52 km/s .

Reference 15

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.565	3.274	0.000	0.000	.2191	4.565	1.000	ssp x
4.556	3.729	.320	5.437	.2007	4.984	.914	im1 o
4.548	3.749	.469	7.997	.1924	5.198	.875	im1 o
4.551	3.864	.642	11.290	.1832	5.458	.834	im1 o
4.564	3.928	.729	13.069	.1784	5.604	.814	im1 o
4.564	4.066	.906	16.813	.1703	5.873	.777	im1 o
4.562	4.268	1.172	22.820	.1590	6.289	.725	im1 o
4.564	4.306	1.213	23.839	.1574	6.354	.718	im1 o
4.561	4.375	1.317	26.280	.1532	6.525	.699	im1 o
4.570	4.507	1.435	29.557	.1491	6.705	.682	im1 o
4.553	4.571	1.547	32.196	.1453	6.882	.662	im1 o
4.553	4.616	1.578	33.164	.1446	6.918	.658	im1 o
4.663	4.853	1.681	38.040	.1402	7.134	.654	im1 o
4.599	4.791	1.683	37.083	.1411	7.089	.649	im1 o
4.558	4.915	1.860	41.669	.1364	7.333	.622	im1 o
4.595	5.354	2.187	53.804	.1287	7.768	.592	im1 o
4.576	5.758	2.522	66.451	.1228	8.142	.562	im1 o
4.598	6.395	3.028	89.036	.1145	8.733	.527	im1 o
4.605	6.592	3.104	94.226	.1149	8.703	.529	im1 o
4.672	7.269	3.583	121.681	.1085	9.213	.507	im1 o



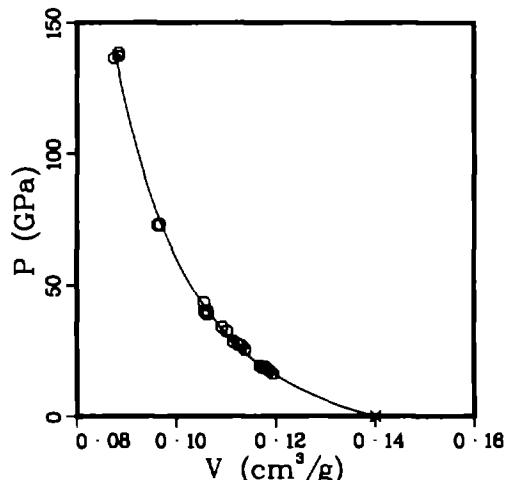
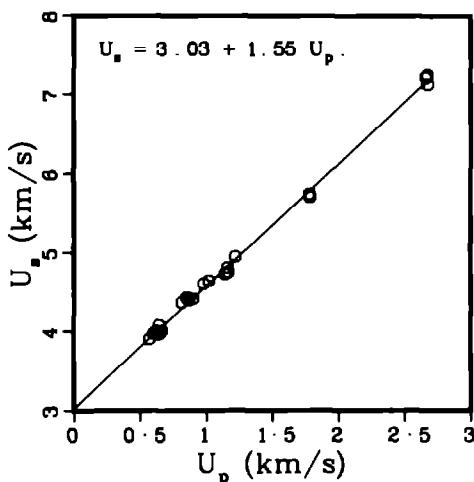
ZINC

Average $\rho_0 = 7.139 \text{ g/cm}^3$.

References 2, 4, 5, 6, 11, 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
7.141	3.907	.573	15.987	.1195	8.368	.853	im1 o
7.135	3.974	.604	17.126	.1189	8.414	.848	im1 o
7.135	4.004	.623	17.798	.1183	8.450	.844	im1 o
7.141	3.971	.642	18.205	.1174	8.518	.838	im1 o
7.135	3.981	.647	18.378	.1174	8.520	.837	sf1 *
7.140	4.081	.647	18.853	.1179	8.485	.841	im1 o
7.135	4.010	.665	19.027	.1169	8.553	.834	sf1 *
7.141	4.365	.815	25.404	.1139	8.780	.813	im1 o
7.135	4.427	.852	26.912	.1132	8.835	.808	im1 o
7.135	4.397	.867	27.200	.1125	8.887	.803	im1 o
7.135	4.412	.901	28.363	.1115	8.966	.796	sf1 *
7.141	4.607	.980	32.241	.1102	9.070	.787	im1 o
7.141	4.644	1.020	33.826	.1093	9.151	.780	im1 o
7.141	4.735	1.143	38.648	.1062	9.413	.759	im1 o
7.140	4.812	1.161	39.889	.1063	9.410	.759	im1 o
7.141	4.757	1.168	39.677	.1057	9.465	.754	im1 o
7.135	4.954	1.221	43.158	.1056	9.469	.754	im1 o
7.140	5.750	1.782	73.160	.0967	10.347	.690	im1 o
7.140	5.737	1.782	72.995	.0966	10.357	.689	im1 o
7.140	5.711	1.786	72.827	.0963	10.389	.687	im1 o
7.140	7.215	2.663	137.185	.0884	11.317	.631	im1 o

(Continued)



ZINC
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.140	7.250	2.676	138.523	.0884	11.317	.631	i m1 o
7.140	7.130	2.679	136.383	.0874	11.437	.624	i m1 o

ZIRCONIUM

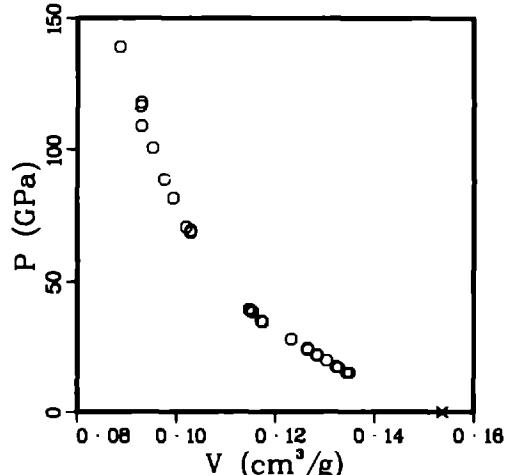
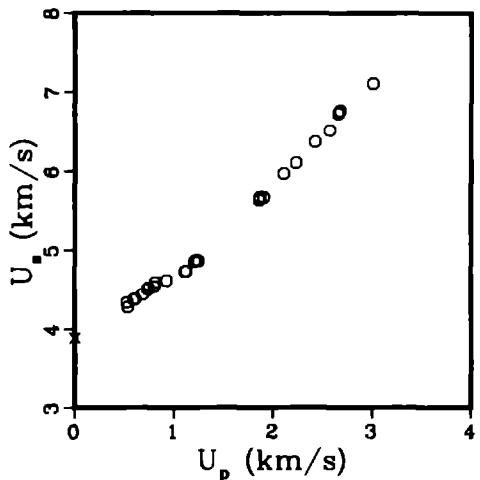
Average $\rho_0 = 6.506 \text{ g/cm}^3$.

Sound velocities longitudinal 4.77 km/s.
shear 2.39 km/s.

References 6, 11, 12, 13

ρ_0 (g/cm ³)	U _L (km/s)	U _P (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.510	3.891	0.000	0.000	.1536	6.510	1.000	s p x
6.510	4.338	.528	14.911	.1349	7.412	.878	im1 o
6.510	4.277	.536	14.924	.1344	7.443	.875	im1 o
6.506	4.376	.598	17.025	.1327	7.536	.863	im1 o
6.510	4.379	.608	17.332	.1323	7.560	.861	im1 o
6.488	4.440	.685	19.733	.1304	7.672	.846	im1 o
6.510	4.508	.738	21.658	.1285	7.784	.836	im1 o
6.510	4.518	.743	21.853	.1283	7.791	.836	im1 o
6.506	4.543	.803	23.734	.1265	7.903	.823	im1 o
6.509	4.594	.812	24.281	.1265	7.906	.823	im1 o
6.488	4.618	.927	27.774	.1232	8.117	.799	im1 o
6.510	4.731	1.114	34.310	.1174	8.515	.765	im1 o
6.503	4.735	1.127	34.702	.1172	8.534	.762	im1 o
6.510	4.858	1.208	38.204	.1154	8.665	.751	im1 o
6.505	4.867	1.225	38.783	.1150	8.693	.748	im1 o
6.488	4.861	1.244	39.233	.1147	8.719	.744	im1 o
6.505	5.638	1.863	68.326	.1029	9.715	.670	im1 o
6.512	5.675	1.870	69.107	.1030	9.712	.670	im1 o
6.505	5.670	1.908	70.373	.1020	9.804	.663	im1 o

(Continued)



ZIRCONIUM
(Continued)

ρ_o (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V _o	Exp
6.509	5.971	2.105	81.811	.0995	10.053	.647	im1 o
6.510	6.108	2.230	88.672	.0975	10.254	.635	im1 o
6.506	6.374	2.424	100.521	.0953	10.499	.620	im1 o
6.510	6.522	2.573	109.245	.0930	10.752	.605	im1 o
6.510	6.730	2.661	116.585	.0929	10.767	.605	im1 o
6.506	6.768	2.678	117.919	.0929	10.766	.604	im1 o
6.505	7.107	3.008	139.063	.0887	11.279	.577	im1 o

ALLOYS

ALUMINUM , 921T

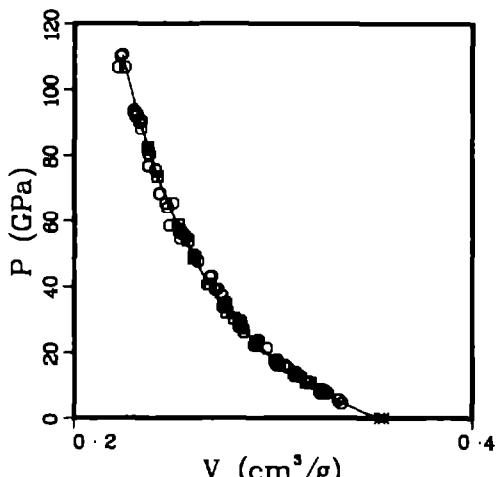
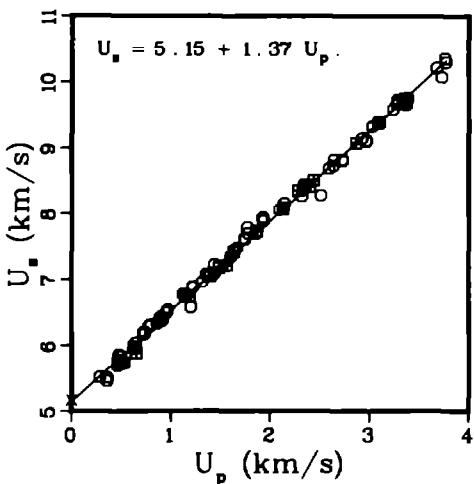
Average $\rho_0 = 2.828 \text{ g/cm}^3$.

Sound velocities longitudinal 6.29 km/s.
shear 3.11 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.813	5.164	0.000	0.000	3555	2.813	1.000	ssp x
2.838	5.518	.281	4.400	3344	2.990	.949	im1 o
2.812	5.457	.353	5.417	3326	3.006	.935	im1 o
2.812	5.509	.355	5.499	3327	3.006	.936	im1 o
2.838	5.693	.462	7.464	3238	3.089	.919	im1 o
2.812	5.776	.464	7.536	3271	3.058	.920	im1 o
2.812	5.749	.468	7.566	3267	3.061	.919	im1 o
2.842	5.857	.474	7.890	3234	3.092	.919	im1 o
2.812	5.712	.477	7.662	3259	3.068	.916	im1 o
2.814	5.755	.492	7.968	3250	3.077	.915	im1 o
2.812	5.833	.494	8.103	3255	3.072	.915	im1 o
2.810	5.725	.498	8.011	3249	3.078	.913	sp1 ■
2.810	5.738	.526	8.481	3232	3.094	.908	sp1 ■
2.810	5.977	.625	10.497	3187	3.138	.895	sp1 ■
2.812	6.035	.642	10.895	3178	3.147	.894	im1 o
2.811	5.884	.651	10.767	3164	3.161	.889	sp1 ■
2.814	6.192	.725	12.633	3138	3.187	.883	im1 o
2.838	6.174	.728	12.756	3108	3.217	.882	im1 o
2.814	6.175	.730	12.685	3134	3.191	.882	im1 o

(Continued)



ALUMINUM, 921T
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.838	6.188	.737	12.943	.3104	3.222	.881	im1 o
2.812	6.290	.779	13.779	.3116	3.209	.876	im1 o
2.812	6.303	.792	14.037	.3109	3.216	.874	im1 o
2.812	6.294	.792	14.017	.3109	3.217	.874	im1 o
2.812	6.333	.862	15.351	.3072	3.255	.864	im1 o
2.842	6.403	.893	16.250	.3028	3.303	.861	im1 o
2.838	6.401	.899	16.331	.3029	3.302	.860	im1 o
2.814	6.421	.899	16.244	.3056	3.272	.860	im1 o
2.838	6.400	.899	16.329	.3029	3.302	.860	im1 o
2.842	6.368	.899	16.270	.3022	3.309	.859	im1 o
2.842	6.386	.912	16.552	.3016	3.315	.857	im1 o
2.842	6.373	.913	16.536	.3015	3.317	.857	im1 o
2.838	6.487	.953	17.545	.3006	3.327	.853	im1 o
2.822	6.528	.967	17.814	.3019	3.313	.852	im1 o
2.812	6.762	1.121	21.316	.2967	3.371	.834	im1 o
2.842	6.757	1.151	22.103	.2919	3.426	.830	im1 o
2.842	6.739	1.153	22.083	.2917	3.429	.829	im1 o
2.828	6.723	1.188	22.587	.2911	3.435	.823	sp1 ■
2.814	6.572	1.201	22.211	.2904	3.443	.817	im1 o
2.812	6.882	1.221	23.629	.2925	3.419	.823	im1 o
2.812	6.872	1.221	23.595	.2924	3.420	.822	im1 o
2.842	6.952	1.316	26.001	.2853	3.506	.811	im1 o
2.838	7.076	1.358	27.271	.2847	3.512	.808	im1 o
2.842	7.048	1.384	27.722	.2828	3.536	.804	im1 o
2.828	7.041	1.398	27.837	.2834	3.529	.801	sp1 ■
2.814	7.083	1.437	28.642	.2833	3.530	.797	im1 o
2.822	7.221	1.440	29.344	.2837	3.525	.801	im1 o
2.828	7.176	1.486	30.156	.2804	3.567	.793	sp1 ■
2.828	7.211	1.566	31.935	.2768	3.613	.783	sp1 ■
2.842	7.348	1.608	33.580	.2749	3.638	.781	im1 o
2.842	7.355	1.608	33.612	.2749	3.637	.781	im1 o
2.828	7.417	1.631	34.211	.2758	3.625	.780	sp1 ■
2.828	7.416	1.635	34.290	.2756	3.628	.780	sp1 ■
2.814	7.468	1.658	34.843	.2765	3.617	.778	im1 o
2.814	7.618	1.740	37.300	.2742	3.647	.772	im1 o
2.814	7.605	1.742	37.280	.2740	3.650	.771	im1 o
2.838	7.788	1.770	39.121	.2723	3.673	.773	im1 o
2.838	7.697	1.775	38.773	.27.1	3.689	.769	im1 o
2.842	7.696	1.857	40.616	.2670	3.746	.759	im1 o
2.828	7.730	1.863	40.726	.2684	3.726	.759	sp1 ■
2.814	7.938	1.926	43.022	.2691	3.715	.757	im1 o
2.814	7.885	1.929	42.801	.2684	3.725	.755	im1 o
2.822	8.060	2.091	47.560	.2624	3.811	.741	im1 o

(Continued)

ALUMINUM, 921T
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.828	8.064	2.128	48.529	.2603	3.842	.736	sp1 ■
2.828	8.094	2.132	48.801	.2605	3.839	.737	sp1 ■
2.838	8.163	2.141	49.600	.2599	3.847	.738	im1 ○
2.828	8.354	2.281	53.889	.2571	3.890	.727	sp1 ■
2.842	8.272	2.320	54.541	.2532	3.950	.720	im1 ○
2.814	8.364	2.333	54.910	.2562	3.903	.721	im1 ○
2.842	8.447	2.340	56.175	.2544	3.931	.723	im1 ○
2.842	8.417	2.344	56.071	.2539	3.939	.722	im1 ○
2.828	8.420	2.403	57.220	.2527	3.957	.715	sp1 ■
2.828	8.511	2.440	58.729	.2522	3.965	.713	sp1 ■
2.812	8.284	2.511	58.493	.2478	4.035	.697	im1 ○
2.842	8.691	2.593	64.047	.2469	4.050	.702	im1 ○
2.838	8.735	2.637	65.371	.2460	4.065	.698	im1 ○
2.803	8.822	2.647	65.455	.2497	4.005	.700	im1 ○
2.842	8.825	2.726	68.370	.2432	4.112	.691	im1 ○
2.842	8.810	2.731	68.379	.2428	4.119	.690	im1 ○
2.828	9.075	2.868	73.605	.2419	4.135	.684	sp1 ■
2.822	9.150	2.930	75.656	.2409	4.151	.680	im1 ○
2.838	9.116	2.971	76.863	.2375	4.210	.674	im1 ○
2.838	9.098	2.972	76.737	.2373	4.215	.673	im1 ○
2.842	9.338	3.025	80.279	.2379	4.204	.676	im1 ○
2.842	9.332	3.026	80.254	.2378	4.206	.676	im1 ○
2.828	9.378	3.088	81.897	.2372	4.216	.671	sp1 ■
2.828	9.405	3.097	82.372	.2372	4.216	.671	sp1 ■
2.838	9.591	3.237	88.109	.2334	4.284	.662	im1 ○
2.842	9.685	3.278	90.226	.2328	4.296	.662	im1 ○
2.838	9.731	3.279	90.555	.2336	4.280	.663	im1 ○
2.842	9.671	3.280	90.151	.2325	4.301	.661	im1 ○
2.842	9.747	3.331	92.272	.2316	4.317	.658	im1 ○
2.838	9.751	3.356	92.872	.2311	4.327	.656	im1 ○
2.822	9.662	3.371	91.914	.2307	4.334	.651	im1 ○
2.838	9.714	3.376	93.071	.2299	4.350	.652	im1 ○
2.842	9.756	3.381	93.743	.2299	4.349	.653	im1 ○
2.838	10.212	3.676	106.537	.2255	4.434	.640	im1 ○
2.838	10.074	3.727	106.555	.2220	4.504	.630	im1 ○
2.838	10.351	3.763	110.542	.2243	4.459	.636	im1 ○
2.838	10.298	3.771	110.210	.2233	4.478	.634	im1 ○

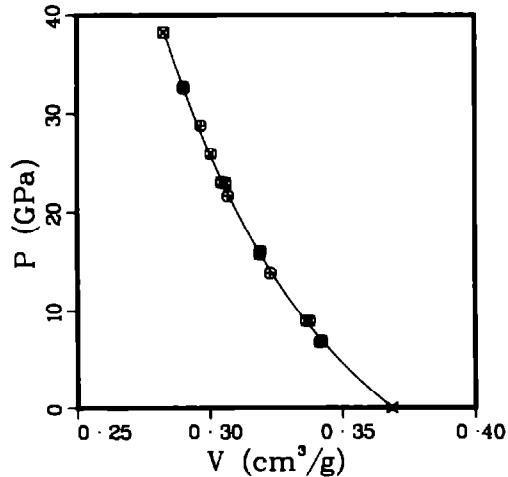
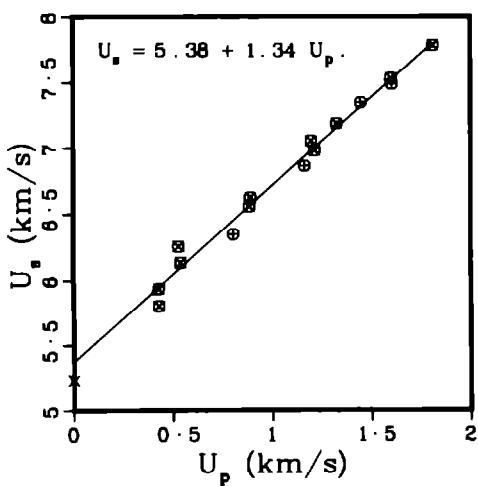
ALUMINUM , 1100

Average $\rho_0 = 2.712 \text{ g/cm}^3$.

Sound velocities longitudinal 6.38 km/s .
 shear 3.16 km/s .

Reference 29

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.715	5.234	0.000	0.000	3683	2.715	1.000	s s p x
2.713	5.934	.426	6.859	3421	2.923	.928	s f 2 ⊗ ⊗
2.713	5.804	.428	6.741	3414	2.930	.926	s f 2 ⊗ ⊗
2.713	6.254	.526	8.926	3375	2.963	.916	s f 2 ⊗ ⊗
2.713	6.132	.537	8.935	3363	2.974	.912	s f 2 ⊗ ⊗
2.706	6.347	.804	13.809	3227	3.098	.873	s f 1 ⊗ ⊗
2.713	6.558	.884	15.731	3189	3.136	.865	s f 2 ⊗ ⊗
2.713	6.624	.890	15.997	3190	3.135	.866	s f 2 ⊗ ⊗
2.706	6.862	1.164	21.614	3069	3.259	.830	s f 1 ⊗ ⊗
2.713	7.054	1.197	22.912	3060	3.268	.830	s f 2 ⊗ ⊗
2.713	6.979	1.214	22.990	3044	3.285	.826	s f 2 ⊗ ⊗
2.713	7.187	1.327	25.879	3005	3.328	.815	s f 2 ⊗ ⊗
2.706	7.348	1.448	28.792	2967	3.370	.803	s f 1 ⊗ ⊗
2.713	7.534	1.600	32.710	2903	3.445	.788	s f 2 ⊗ ⊗
2.706	7.489	1.606	32.546	2903	3.445	.786	s f 1 ⊗ ⊗
2.713	7.785	1.812	38.278	2828	3.537	.767	s f 2 ⊗ ⊗



ALUMINUM , 2024

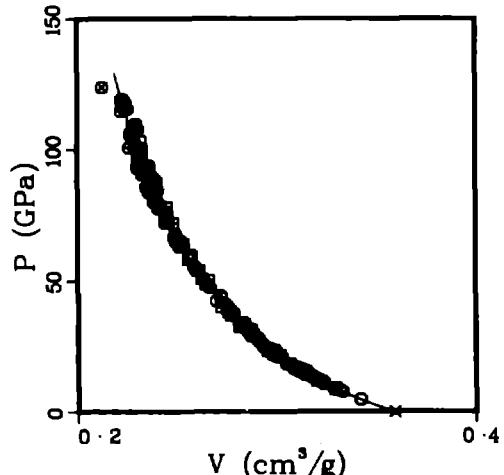
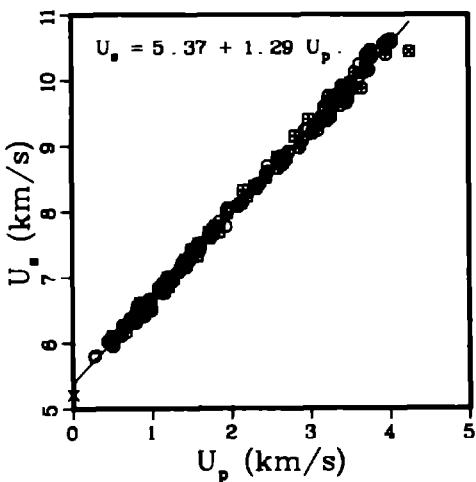
Average $\rho_0 = 2.784 \text{ g/cm}^3$.

Sound velocities longitudinal 6.36 km/s.
shear 3.16 km/s.

References 2, 6, 11, 12, 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.785	5.209	0.000	0.000	3591	2.785	1.000	ssp x
2.784	5.811	.278	4.497	3420	2.924	.952	im1 o
2.784	5.782	.279	4.491	3419	2.925	.952	im1 o
2.784	6.021	.440	7.375	3329	3.003	.927	im1 o
2.782	6.054	.472	7.950	3314	3.017	.922	im1 o
2.785	6.025	.497	8.339	3294	3.035	.918	sp1 ■
2.785	6.098	.502	8.525	3295	3.035	.918	sp1 ■
2.784	5.996	.503	8.397	3291	3.039	.916	im1 o
2.785	6.055	.507	8.550	3290	3.040	.916	sp1 ■
2.783	5.947	.509	8.424	3286	3.043	.914	im1 o
2.784	5.953	.509	8.436	3285	3.044	.914	im1 o
2.785	6.125	.608	10.371	3234	3.092	.901	im1 o
2.785	6.103	.609	10.351	3232	3.094	.900	im1 o
2.782	6.262	.626	10.905	3235	3.091	.900	im1 o
2.782	6.228	.627	10.864	3233	3.093	.899	im1 o
2.784	6.226	.650	11.267	3217	3.109	.896	im1 o
2.782	6.164	.671	11.506	3203	3.122	.891	sp1 ■
2.782	6.277	.677	11.822	3207	3.118	.892	im1 o
2.785	6.367	.722	12.803	3183	3.141	.887	im1 o

(Continued)



ALUMINUM, 2024
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.784	6.323	.727	12.798	.3179	3.146	.885	im1 o
2.784	6.310	.728	12.789	.3178	3.147	.885	im1 o
2.785	6.348	.768	13.578	.3156	3.168	.879	sp 1 s
2.783	6.388	.778	13.831	.3156	3.169	.878	im1 o
2.785	6.312	.786	13.817	.3144	3.181	.875	sf 1 e
2.785	6.304	.790	13.870	.3141	3.184	.875	sf 1 e
2.784	6.365	.792	14.034	.3145	3.180	.876	im1 o
2.785	6.314	.792	13.927	.3140	3.184	.875	sf 1 e
2.785	6.308	.793	13.931	.3139	3.185	.874	sf 1 e
2.785	6.342	.798	14.095	.3139	3.186	.874	sf 1 e
2.785	6.418	.798	14.264	.3144	3.180	.876	sf 1 e
2.785	6.353	.799	14.137	.3139	3.186	.874	sf 1 e
2.785	6.393	.800	14.244	.3141	3.183	.875	sf 1 e
2.782	6.459	.800	14.375	.3149	3.175	.876	im1 o
2.782	6.393	.802	14.264	.3144	3.181	.875	im1 o
2.785	6.355	.802	14.194	.3138	3.187	.874	sf 1 e
2.785	6.397	.802	14.288	.3140	3.184	.875	sf 1 e
2.785	6.432	.803	14.384	.3142	3.182	.875	sf 1 e
2.785	6.432	.803	14.384	.3142	3.182	.875	sf 1 e
2.785	6.394	.805	14.335	.3139	3.186	.874	sf 1 e
2.785	6.422	.809	14.469	.3138	3.186	.874	sf 1 e
2.785	6.422	.809	14.469	.3138	3.186	.874	sf 1 e
2.785	6.540	.812	14.790	.3145	3.180	.876	sf 2 s
2.782	6.470	.814	14.652	.3142	3.182	.874	sf 2 s
2.785	6.366	.818	14.503	.3129	3.196	.872	sf 1 e
2.785	6.436	.831	14.895	.3127	3.198	.871	sf 1 e
2.785	6.483	.833	15.040	.3129	3.196	.872	sf 1 e
2.785	6.419	.839	14.999	.3121	3.204	.869	sf 1 e
2.785	6.482	.842	15.200	.3124	3.201	.870	sf 2 s
2.785	6.589	.843	15.469	.3131	3.194	.872	sf 2 s
2.785	6.439	.844	15.135	.3120	3.205	.869	sf 2 s
2.785	6.602	.848	15.592	.3129	3.195	.872	sf 2 s
2.785	6.415	.850	15.186	.3115	3.210	.867	sf 1 e
2.785	6.443	.854	15.324	.3115	3.211	.867	sf 1 e
2.785	6.488	.858	15.503	.3116	3.209	.868	sf 1 e
2.785	6.445	.859	15.418	.3112	3.213	.867	sf 1 e
2.785	6.470	.859	15.478	.3114	3.211	.867	sf 1 e
2.785	6.446	.860	15.439	.3112	3.214	.867	sf 1 e
2.785	6.472	.862	15.537	.3112	3.213	.867	sf 1 e
2.782	6.486	.863	15.572	.3116	3.209	.867	sp 1 s
2.785	6.418	.864	15.443	.3107	3.218	.865	sf 1 e
2.784	6.518	.865	15.696	.3115	3.210	.867	im1 o
2.785	6.561	.871	15.915	.3114	3.211	.867	sf 1 e

(Continued)

ALUMINUM, 2024
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.785	6.522	.873	15.857	.3110	3.215	.866	sp1 ■
2.785	6.544	.873	15.910	.3112	3.214	.867	sf2 ■
2.785	6.541	.888	16.176	.3103	3.222	.864	sf1 ■
2.782	6.589	.891	16.333	.3108	3.217	.865	im1 ○
2.785	6.442	.892	16.003	.3093	3.233	.862	sf1 ■
2.784	6.589	.896	16.436	.3104	3.222	.864	im1 ○
2.784	6.579	.897	16.429	.3102	3.224	.864	im1 ○
2.785	6.402	.901	16.064	.3085	3.241	.859	sf1 ■
2.785	6.534	.910	16.559	.3091	3.236	.861	im1 ○
2.785	6.530	.910	16.549	.3090	3.236	.861	im1 ○
2.784	6.617	.953	17.556	.3075	3.252	.856	im1 ○
2.784	6.616	.953	17.553	.3075	3.253	.856	im1 ○
2.782	6.659	.966	17.895	.3073	3.254	.855	im1 ○
2.782	6.607	.975	17.921	.3064	3.264	.852	sp1 ■
2.784	6.560	.979	17.880	.3056	3.272	.851	im1 ○
2.784	6.507	.988	17.898	.3047	3.282	.848	im1 ○
2.780	6.490	.990	17.862	.3048	3.280	.847	im1 ○
2.782	6.824	1.081	20.522	.3025	3.306	.842	im1 ○
2.785	6.779	1.107	20.900	.3004	3.329	.837	sf1 ■
2.785	6.844	1.110	21.157	.3008	3.324	.838	sf1 ■
2.785	6.843	1.116	21.268	.3005	3.328	.837	sf1 ■
2.785	6.846	1.119	21.335	.3004	3.329	.837	sf1 ■
2.784	6.840	1.121	21.347	.3003	3.330	.836	im1 ○
2.785	6.818	1.124	21.343	.2999	3.335	.835	sf1 ■
2.770	6.850	1.126	21.365	.3017	3.315	.836	sf2 ■
2.785	6.756	1.128	21.224	.2991	3.343	.833	sf1 ■
2.785	6.823	1.130	21.472	.2996	3.338	.834	sf1 ■
2.785	6.826	1.134	21.558	.2994	3.340	.834	sf1 ■
2.785	6.831	1.136	21.612	.2994	3.341	.834	sf1 ■
2.785	6.795	1.141	21.592	.2988	3.347	.832	sf1 ■
2.785	6.783	1.144	21.611	.2985	3.350	.831	sf1 ■
2.789	6.861	1.146	21.929	.2987	3.348	.833	sp1 ■
2.789	6.893	1.157	22.243	.2984	3.352	.832	sp1 ■
2.785	6.752	1.157	21.757	.2975	3.361	.829	sf1 ■
2.780	6.915	1.159	22.280	.2994	3.340	.832	sp1 ■
2.777	7.005	1.198	23.305	.2985	3.350	.829	sf2 ■
2.789	6.857	1.206	23.064	.2955	3.384	.824	sp1 ■
2.784	7.014	1.220	23.823	.2967	3.370	.826	im1 ○
2.784	6.981	1.220	23.711	.2964	3.374	.825	im1 ○
2.785	6.955	1.260	24.406	.2940	3.401	.819	im1 ○
2.777	6.938	1.263	24.334	.2945	3.395	.818	im1 ○
2.784	6.943	1.277	24.684	.2931	3.411	.816	im1 ○
2.782	7.062	1.318	25.894	.2924	3.420	.813	im1 ○

(Continued)

ALUMINUM, 2024
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.781	7.092	1.352	26.665	.2910	3.436	.809	im1 o
2.784	7.143	1.362	27.085	.2907	3.440	.809	im1 o
2.784	7.139	1.362	27.070	.2907	3.440	.809	im1 o
2.782	7.225	1.383	27.798	.2906	3.441	.809	im1 o
2.789	7.268	1.426	28.906	.2882	3.470	.804	sp1 s
2.785	7.228	1.432	28.826	.2879	3.473	.802	sf1 s
2.785	7.156	1.437	28.639	.2870	3.485	.799	im1 o
2.785	7.268	1.445	29.249	.2877	3.476	.801	sf1 s
2.782	7.211	1.446	29.008	.2874	3.480	.799	im1 o
2.785	7.269	1.461	29.577	.2869	3.486	.799	sf1 s
2.785	7.295	1.465	29.764	.2870	3.485	.799	sf1 s
2.785	7.305	1.467	29.845	.2870	3.485	.799	sf1 s
2.785	7.266	1.479	29.929	.2860	3.497	.796	sf1 s
2.785	7.268	1.481	29.977	.2859	3.498	.796	sf1 s
2.785	7.342	1.498	30.630	.2858	3.499	.796	sf1 s
2.779	7.426	1.498	30.914	.2873	3.481	.798	sf2 s
2.779	7.426	1.516	31.285	.2864	3.492	.796	sf2 s
2.785	7.366	1.539	31.572	.2840	3.521	.791	sf1 s
2.785	7.462	1.557	32.357	.2841	3.519	.791	sf1 s
2.785	7.444	1.558	32.300	.2839	3.522	.791	sf1 s
2.785	7.413	1.568	32.372	.2831	3.532	.788	sf1 s
2.785	7.426	1.574	32.553	.2830	3.534	.788	sf1 s
2.785	7.479	1.574	32.785	.2835	3.527	.790	sf1 s
2.789	7.326	1.578	32.242	.2813	3.555	.785	sp1 s
2.785	7.416	1.588	32.798	.2822	3.544	.786	sf1 s
2.779	7.523	1.590	33.241	.2838	3.524	.789	sf2 s
2.785	7.407	1.605	33.109	.2813	3.555	.783	sf1 s
2.779	7.508	1.617	33.738	.2823	3.542	.785	sp1 s
2.789	7.678	1.722	36.875	.2781	3.595	.776	sp1 s
2.781	7.612	1.728	36.580	.2780	3.598	.773	im1 o
2.789	7.596	1.728	36.608	.2770	3.610	.773	sp1 s
2.781	7.615	1.728	36.594	.2780	3.597	.773	im1 o
2.785	7.690	1.742	37.308	.2777	3.601	.773	im1 o
2.784	7.616	1.744	36.978	.2769	3.611	.771	im1 o
2.789	7.659	1.770	37.809	.2757	3.627	.769	sp1 s
2.784	7.758	1.779	38.423	.2768	3.612	.771	im1 o
2.789	7.775	1.812	39.292	.2750	3.637	.767	sp1 s
2.789	7.690	1.851	39.699	.2723	3.673	.759	sp1 s
2.782	7.850	1.858	40.576	.2744	3.645	.763	im1 o
2.785	7.773	1.939	41.975	.2695	3.711	.751	im1 o
2.779	7.973	1.948	43.162	.2719	3.678	.756	sp1 s
2.782	8.054	1.957	43.849	.2721	3.675	.757	im1 o
2.782	8.015	1.959	43.681	.2716	3.682	.756	im1 o

(Continued)

ALUMINUM, 2024
(Continued)

ρ_o (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/Vo	Exp
2.782	8.114	2.095	47.291	.2666	3.750	.742	im1 o
2.781	8.076	2.096	47.075	.2663	3.756	.740	im1 o
2.789	8.127	2.130	48.279	.2646	3.780	.738	sp1 s
2.784	8.150	2.154	48.873	.2643	3.784	.736	im1 o
2.784	8.149	2.154	48.867	.2643	3.784	.736	im1 o
2.789	8.332	2.156	50.101	.2658	3.763	.741	sp1 s
2.789	8.231	2.206	50.642	.2625	3.810	.732	sp1 s
2.779	8.396	2.306	53.805	.2610	3.831	.725	sp1 s
2.782	8.358	2.327	54.107	.2594	3.855	.722	im1 o
2.785	8.421	2.335	54.762	.2595	3.854	.723	im1 o
2.784	8.436	2.371	55.685	.2582	3.872	.719	im1 o
2.781	8.570	2.446	58.296	.2570	3.892	.715	im1 o
2.789	8.529	2.449	58.255	.2556	3.912	.713	sp1 s
2.783	8.699	2.467	59.724	.2574	3.885	.716	im1 o
2.783	8.618	2.477	59.408	.2560	3.906	.713	im1 o
2.789	8.829	2.595	63.899	.2532	3.950	.706	sp1 s
2.782	8.748	2.604	63.373	.2525	3.961	.702	im1 o
2.789	8.762	2.604	63.635	.2520	3.968	.703	sp1 s
2.785	8.744	2.605	63.437	.2521	3.967	.702	sf1 s
2.785	8.664	2.608	62.929	.2510	3.984	.699	sf1 s
2.784	8.848	2.641	65.055	.2520	3.969	.702	im1 o
2.784	8.797	2.645	64.778	.2512	3.981	.699	im1 o
2.789	8.803	2.650	65.062	.2506	3.990	.699	sp1 s
2.785	8.724	2.664	64.725	.2494	4.009	.695	sf1 s
2.785	8.764	2.671	65.193	.2496	4.006	.695	sf1 s
2.785	8.853	2.687	66.250	.2501	3.999	.696	sf1 s
2.785	8.792	2.709	66.332	.2484	4.025	.692	sf1 s
2.785	8.816	2.710	66.537	.2487	4.021	.693	sf1 s
2.782	8.909	2.735	67.787	.2491	4.014	.693	im1 o
2.782	8.916	2.738	67.914	.2491	4.015	.693	im1 o
2.789	9.144	2.817	71.841	.2481	4.031	.692	sp1 s
2.785	8.971	2.878	71.905	.2439	4.100	.679	sf1 s
2.785	9.070	2.911	73.532	.2438	4.101	.679	sf1 s
2.782	9.231	2.935	75.373	.2452	4.079	.682	im1 o
2.784	9.236	2.974	76.471	.2435	4.106	.678	im1 o
2.789	9.401	2.987	78.317	.2446	4.088	.682	sp1 s
2.785	9.177	3.030	77.441	.2405	4.158	.670	sf1 s
2.785	9.180	3.031	77.491	.2405	4.158	.670	sf1 s
2.785	9.198	3.035	77.746	.2406	4.156	.670	sf1 s
2.785	9.317	3.081	79.945	.2403	4.161	.669	sf1 s
2.785	9.317	3.086	80.075	.2401	4.164	.669	sf1 s
2.785	9.228	3.108	79.876	.2381	4.199	.663	sf1 s
2.785	9.369	3.148	82.140	.2384	4.194	.664	sf1 s

(Continued)

ALUMINUM, 2024
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.785	9.446	3.148	82.815	.2394	4.177	.667	s f 1 ⊕
2.781	9.596	3.181	84.890	.2404	4.160	.669	i m1 ○
2.781	9.549	3.187	84.633	.2396	4.174	.666	i m1 ○
2.785	9.365	3.217	83.904	.2357	4.242	.656	s f 1 ⊕
2.789	9.666	3.225	86.941	.2389	4.185	.666	s p 1 ⊕
2.784	9.762	3.238	88.000	.2401	4.166	.668	i m1 ○
2.785	9.409	3.251	85.189	.2350	4.255	.654	s f 1 ⊕
2.785	9.477	3.260	86.043	.2356	4.245	.656	s f 1 ⊕
2.784	9.426	3.269	85.785	.2346	4.262	.653	i m1 ○
2.779	9.617	3.274	87.500	.2373	4.213	.660	i m1 ○
2.789	9.642	3.287	88.392	.2363	4.232	.659	s p 1 ⊕
2.784	9.758	3.293	89.459	.2380	4.202	.663	i m1 ○
2.784	9.721	3.297	89.228	.2374	4.213	.661	i m1 ○
2.782	9.775	3.347	91.018	.2364	4.231	.658	i m1 ○
2.780	9.751	3.361	91.109	.2357	4.242	.655	i m1 ○
2.782	9.746	3.376	91.535	.2349	4.256	.654	i m1 ○
2.780	9.803	3.376	92.004	.2358	4.240	.656	i m1 ○
2.784	9.670	3.381	91.021	.2336	4.281	.650	i m1 ○
2.784	9.609	3.387	90.607	.2326	4.299	.648	i m1 ○
2.782	9.821	3.395	92.758	.2352	4.252	.654	i m1 ○
2.781	9.916	3.400	93.760	.2363	4.232	.657	i m1 ○
2.781	9.872	3.406	93.508	.2355	4.246	.655	i m1 ○
2.778	9.866	3.419	93.707	.2352	4.251	.653	s p 1 ⊕
2.785	9.654	3.463	93.108	.2303	4.343	.641	s f 1 ⊕
2.785	9.697	3.472	93.765	.2305	4.338	.642	s f 1 ⊕
2.785	9.727	3.481	94.299	.2306	4.337	.642	s f 1 ⊕
2.785	9.732	3.487	94.510	.2304	4.340	.642	s f 1 ⊕
2.785	9.870	3.500	96.208	.2317	4.315	.645	s f 1 ⊕
2.785	9.880	3.508	96.525	.2316	4.318	.645	s f 1 ⊕
2.785	9.861	3.508	96.340	.2313	4.323	.644	s f 1 ⊕
2.785	9.960	3.510	97.362	.2325	4.301	.648	s f 2 ⊕
2.785	9.880	3.538	97.351	.2305	4.339	.642	s f 1 ⊕
2.785	10.117	3.563	100.391	.2326	4.299	.648	s f 1 ⊕
2.780	10.040	3.618	100.983	.2301	4.346	.640	i m1 ○
2.784	10.238	3.629	103.436	.2319	4.313	.646	i m1 ○
2.785	9.876	3.658	100.612	.2261	4.423	.630	s f 1 ⊕
2.785	10.113	3.680	103.646	.2284	4.378	.636	s f 1 ⊕
2.778	10.190	3.717	105.220	.2287	4.373	.635	s p 1 ⊕
2.784	10.388	3.718	107.525	.2306	4.336	.642	i m1 ○
2.789	10.138	3.736	105.635	.2264	4.417	.631	i m1 ○
2.785	10.162	3.745	105.988	.2267	4.410	.631	s f 1 ⊕
2.789	10.370	3.748	108.399	.2290	4.368	.639	s p 1 ⊕
2.784	10.458	3.772	109.822	.2296	4.355	.639	i m1 ○

(Continued)

ALUMINUM , 2024
 (Continued)

<u>ρ_0</u> (g/cm ³)	<u>U_s</u> (km/s)	<u>U_p</u> (km/s)	<u>P</u> (GPa)	<u>V</u> (cm ³ /g)	<u>ρ</u> (g/cm ³)	<u>V/V₀</u>	<u>Exp</u>
2.784	10.409	3.777	109.452	.2289	4.370	.637	i m1 o
2.784	10.431	3.778	109.713	.2291	4.365	.638	i m1 o
2.784	10.341	3.786	108.996	.2277	4.392	.634	i m1 o
2.785	10.552	3.930	115.492	.2253	4.438	.628	s f 1 e
2.785	10.513	3.966	116.119	.2236	4.472	.623	s f 1 e
2.785	10.384	3.967	114.723	.2219	4.507	.618	s f 1 e
2.785	10.611	3.983	117.704	.2243	4.459	.625	s f 1 e
2.785	10.572	3.988	117.419	.2236	4.472	.623	s f 1 e
2.785	10.542	3.991	117.174	.2231	4.482	.621	s f 1 e
2.785	10.572	4.001	117.802	.2232	4.481	.622	s f 1 e
2.785	10.631	4.026	119.199	.2231	4.483	.621	s f 1 e
2.785	10.572	4.041	118.979	.2218	4.508	.618	s f 1 e
2.785	10.430	4.260	123.743	.2124	4.708	.592	s f 2 e

ALUMINUM, 2024, sintered, $\rho_0 = 2.6 \text{ g/cm}^3$.

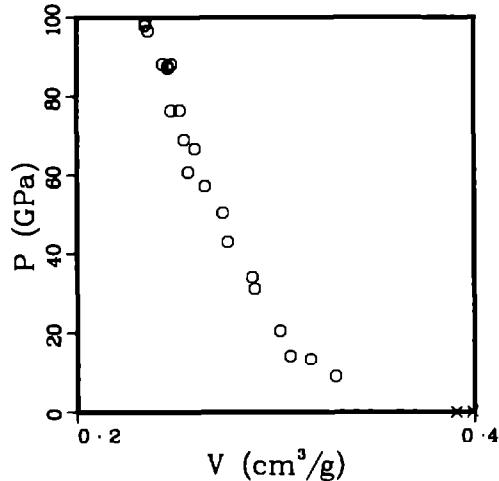
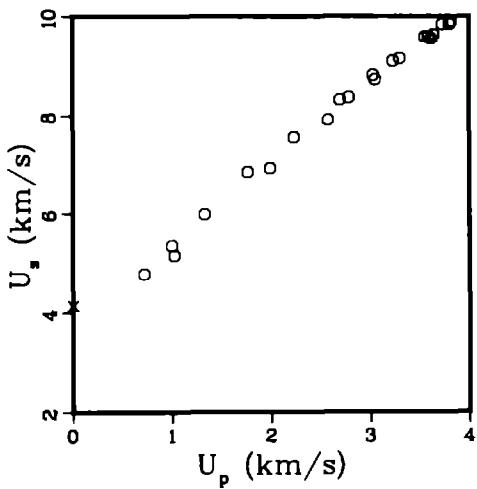
Average $\rho_0 = 2.559 \text{ g/cm}^3$.

Sound velocities longitudinal 5.25 km/s.
shear 2.80 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.507	4.136	0.000	0.000	.3989	2.507	1.000	ss p x
2.571	4.782	.724	8.901	.3301	3.030	.849	im1 o
2.647	5.358	1.001	14.197	.3072	3.255	.813	im1 o
2.524	5.160	1.026	13.362	.3174	3.150	.801	im1 o
2.575	5.985	1.330	20.497	.3020	3.311	.778	im1 o
2.566	6.854	1.761	30.971	.2896	3.453	.743	im1 o
2.472	6.926	1.990	34.071	.2883	3.469	.713	im1 o
2.554	7.553	2.229	42.998	.2760	3.623	.705	im1 o
2.465	7.912	2.579	50.298	.2734	3.657	.674	im1 o
2.554	8.318	2.698	57.317	.2645	3.780	.676	im1 o
2.605	8.366	2.787	60.738	.2560	3.906	.667	im1 o
2.583	8.808	3.031	68.958	.2539	3.938	.656	im1 o
2.506	8.718	3.052	66.678	.2593	3.856	.650	im1 o
2.603	9.095	3.233	76.539	.2476	4.039	.645	im1 o
2.535	9.146	3.302	76.557	.2521	3.967	.639	im1 o
2.585	9.586	3.555	88.092	.2434	4.109	.629	im1 o
2.543	9.583	3.590	87.487	.2459	4.066	.625	im1 o
2.522	9.544	3.619	87.109	.2462	4.062	.621	im1 o
2.510	9.629	3.643	88.047	.2477	4.038	.622	im1 o

(Continued)



ALUMINUM, 2024, sintered. $\rho_0 = 2.6$ g/cm³.
(Continued)

ρ_0 (g/cm ³)	U _n (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.631	9.842	3.731	96.612	.2360	4.237	.621	im1 o
2.618	9.843	3.804	98.025	.2344	4.267	.614	im1 o
2.617	9.899	3.817	98.882	.2348	4.259	.614	im1 o

ALUMINUM, 2024, sintered, $\rho_0 = 2.2 \text{ g/cm}^3$.

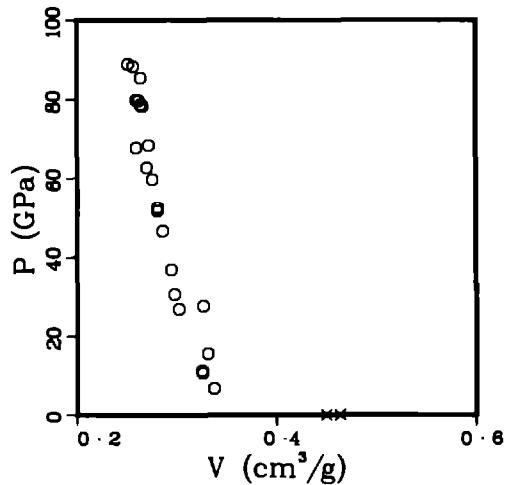
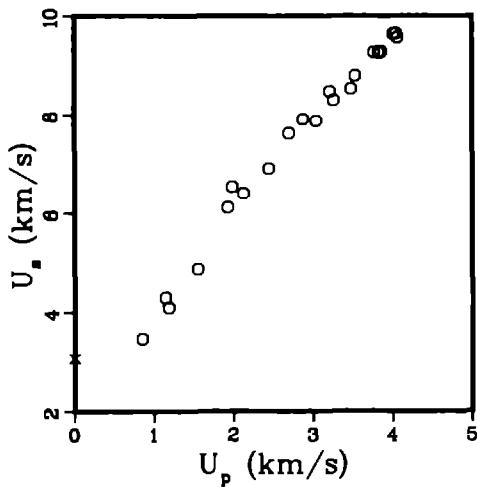
Average $\rho_0 = 2.224 \text{ g/cm}^3$.

Sound velocities longitudinal 4.04 km/s.
shear 2.28 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.158	3.064	0.000	0.000	4634	2.158	1.000	s sp x
2.241	3.474	.849	6.610	3372	2.966	.756	im1 o
2.261	4.303	1.140	11.091	3251	3.076	.735	im1 o
2.183	4.098	1.182	10.574	3260	3.068	.712	im1 o
2.062	4.889	1.552	15.646	3310	3.021	.683	im1 o
2.271	6.120	1.927	26.782	3017	3.315	.685	im1 o
2.136	6.537	1.981	27.661	3263	3.065	.697	im1 o
2.247	6.401	2.124	30.550	2974	3.363	.668	im1 o
2.193	6.905	2.442	36.978	2947	3.393	.646	im1 o
2.260	7.627	2.702	46.574	2857	3.500	.646	im1 o
2.266	7.914	2.878	51.612	2808	3.561	.636	im1 o
2.186	7.882	3.044	52.448	2808	3.561	.614	im1 o
2.301	8.471	3.214	62.647	2697	3.708	.621	im1 o
2.203	8.299	3.262	59.638	2755	3.630	.607	im1 o
2.280	8.533	3.481	67.724	2597	3.851	.592	im1 o
2.198	8.798	3.533	68.321	2723	3.673	.598	im1 o
2.287	9.271	3.770	79.934	2594	3.854	.593	im1 o
2.208	9.271	3.830	78.402	2658	3.762	.587	im1 o
2.217	9.259	3.839	78.804	2640	3.787	.585	im1 o

(Continued)



ALUMINUM, 2024, sintered, $\rho_0 = 2.2 \text{ g/cm}^3$.
(Continued)

ρ_0 (g/cm ³)	U _b (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.229	9.277	3.860	79.819	.2620	3.817	.584	im1 o
2.211	9.640	4.012	85.512	.2641	3.787	.584	im1 o
2.265	9.648	4.045	88.394	.2564	3.900	.581	im1 o
2.289	9.568	4.064	89.006	.2513	3.979	.575	im1 o

ALUMINUM, 2024, sintered, $\rho_0 = 2.0 \text{ g/cm}^3$.

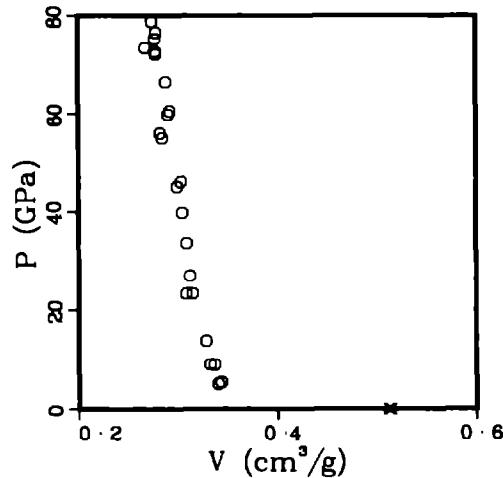
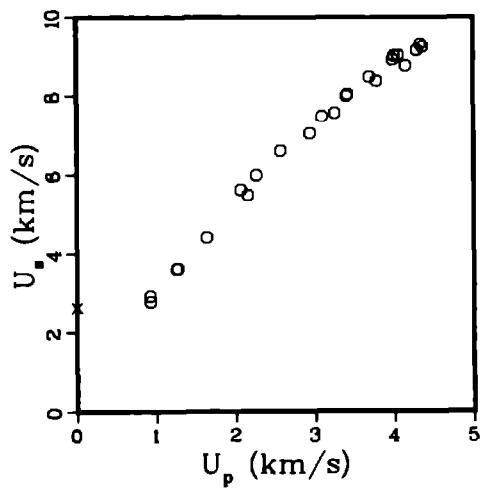
Average $\rho_0 = 1.955 \text{ g/cm}^3$.

Sound velocities longitudinal 3.46 km/s.
shear 1.96 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.947	2.617	0.000	0.000	.5136	1.947	1.000	s p x
1.993	2.912	.921	5.345	.3431	2.915	.684	im1 o
1.957	2.766	.926	5.012	.3399	2.942	.665	im1 o
1.966	3.620	1.254	8.925	.3324	3.008	.654	im1 o
1.929	3.625	1.270	8.881	.3368	2.969	.650	im1 o
1.908	4.397	1.642	13.776	.3284	3.045	.627	im1 o
2.010	5.624	2.068	23.377	.3146	3.179	.632	im1 o
1.970	5.494	2.158	23.356	.3082	3.244	.607	im1 o
1.995	5.993	2.263	27.057	.3120	3.205	.622	im1 o
1.981	6.611	2.566	33.605	.3089	3.238	.612	im1 o
1.916	7.054	2.938	39.708	.3045	3.284	.583	im1 o
1.959	7.474	3.089	45.228	.2995	3.339	.587	im1 o
1.880	7.563	3.250	46.210	.3033	3.297	.570	im1 o
2.019	8.000	3.405	54.998	.2845	3.515	.574	im1 o
2.037	8.041	3.418	55.985	.2822	3.543	.575	im1 o
1.933	8.479	3.694	60.544	.2919	3.425	.564	im1 o
1.888	8.376	3.785	59.856	.2903	3.445	.548	im1 o
2.065	8.918	3.987	73.423	.2678	3.735	.553	im1 o
1.996	9.016	4.006	72.092	.2784	3.592	.556	im1 o

(Continued)



ALUMINUM, 2024, sintered, $\rho_0 = 2.0 \text{ g/cm}^3$.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.983	9.031	4.057	72.655	.2777	3.600	.551	im1 o
1.825	8.765	4.151	66.400	.2884	3.467	.526	im1 o
1.916	9.158	4.289	75.258	.2775	3.604	.532	im1 o
1.951	9.321	4.334	78.815	.2742	3.647	.535	im1 o
1.899	9.247	4.361	76.579	.2782	3.594	.528	im1 o

ALUMINUM, 2024, sintered, $\rho_0 = 1.7 \text{ g/cm}^3$.

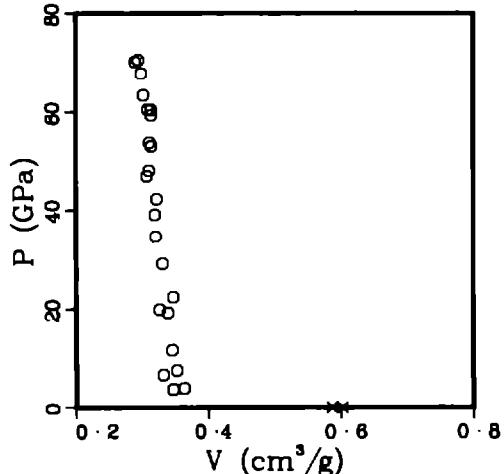
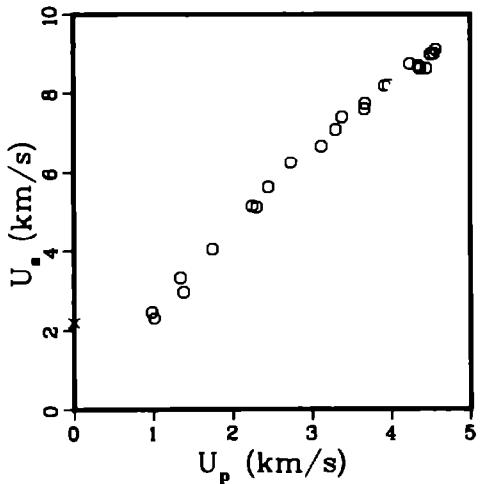
$$\text{Average } \rho_0 = 1.661 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.82 km/s.
shear 1.53 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.706	2.198	0.000	0.000	5862	1.706	1.000	ss p x
1.659	2.473	.983	4.033	3632	2.753	.603	im1 o
1.622	2.310	1.012	3.792	3464	2.887	.562	im1 o
1.699	3.335	1.340	7.593	3521	2.840	.598	im1 o
1.618	2.978	1.379	6.645	3319	3.013	.537	im1 o
1.648	4.050	1.747	11.660	3450	2.898	.569	im1 o
1.663	5.153	2.248	19.264	3390	2.950	.564	im1 o
1.687	5.127	2.307	19.954	3260	3.067	.550	im1 o
1.626	5.636	2.454	22.489	3472	2.880	.565	im1 o
1.700	6.260	2.739	29.148	3309	3.022	.562	im1 o
1.661	6.677	3.124	34.647	3204	3.121	.532	im1 o
1.671	7.092	3.302	39.131	3198	3.127	.534	im1 o
1.687	7.408	3.384	42.291	3220	3.106	.543	im1 o
1.685	7.604	3.667	46.984	3073	3.254	.518	im1 o
1.691	7.742	3.674	48.099	3107	3.218	.525	im1 o
1.657	8.182	3.924	53.200	3141	3.184	.520	im1 o
1.656	8.198	3.971	53.910	3114	3.212	.516	im1 o
1.707	8.762	4.240	63.417	3023	3.308	.516	im1 o
1.596	8.708	4.349	60.442	3136	3.188	.501	im1 o

(Continued)



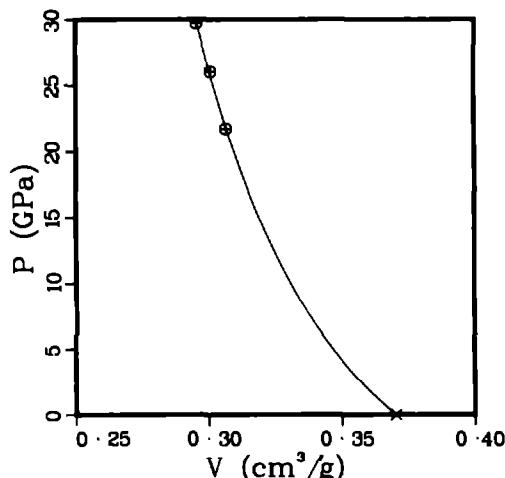
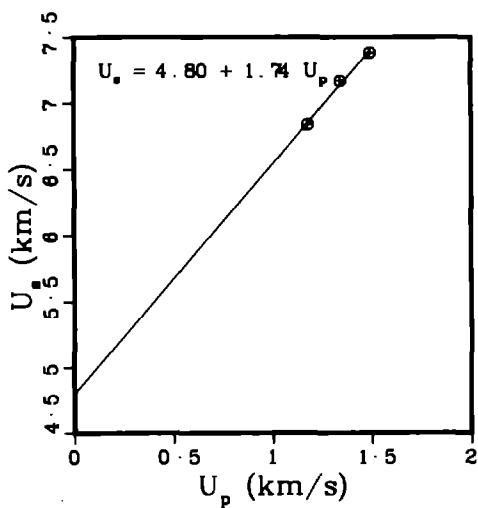
ALUMINUM, 2024, sintered, $\rho_0 = 1.7 \text{ g/cm}^3$.
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.603	8.647	4.366	60.518	.3088	3.238	.495	im1 □
1.544	8.643	4.450	59.384	.3142	3.183	.485	im1 ○
1.673	9.002	4.502	67.802	.2988	3.347	.500	im1 ○
1.713	9.016	4.543	70.164	.2896	3.453	.496	im1 ○
1.694	9.118	4.567	70.541	.2946	3.394	.499	im1 ○

ALUMINUM , 3003

Average $\rho_0 = 2.700 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.700	6.839	1.178	21.752	.3066	3.262	.828	s f 1 e
2.700	7.167	1.344	26.008	.3009	3.323	.812	s f 1 e
2.700	7.382	1.491	29.718	.2956	3.383	.798	s f 1 e



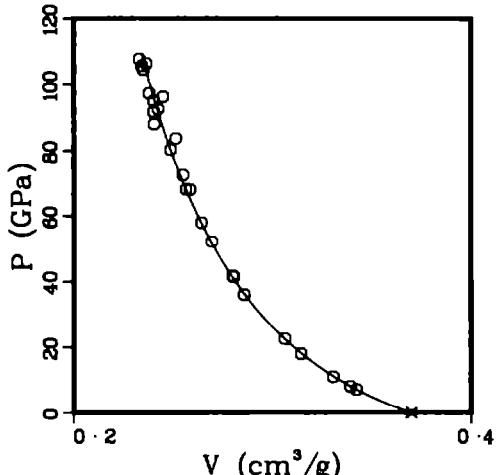
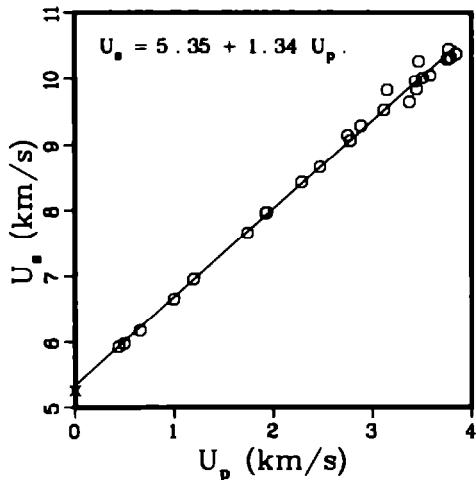
ALUMINUM . 6061

Average $\rho_b = 2.703 \text{ g/cm}^3$.

Sound velocities longitudinal 6.40 km/s.
shear 3.15 km/s.

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.703	5.266	0.000	0.000	.3700	2.703	1.000	ss p x
2.703	5.928	.442	7.082	.3424	2.921	.925	im1 o
2.703	5.975	.497	8.027	.3392	2.948	.917	im1 o
2.703	6.176	.657	10.968	.3306	3.025	.894	im1 o
2.703	6.652	.999	17.962	.3144	3.181	.850	im1 o
2.703	6.956	1.198	22.525	.3062	3.265	.828	im1 o
2.703	7.655	1.741	36.024	.2858	3.499	.773	im1 o
2.703	7.963	1.925	41.434	.2805	3.565	.758	im1 o
2.703	7.970	1.935	41.686	.2801	3.570	.757	im1 o
2.703	8.431	2.288	52.141	.2696	3.710	.729	im1 o
2.703	8.663	2.473	57.908	.2643	3.783	.715	im1 o
2.703	9.146	2.752	68.034	.2586	3.866	.699	im1 o
2.703	9.069	2.780	68.148	.2566	3.898	.693	im1 o
2.703	9.289	2.886	72.462	.2550	3.921	.689	im1 o
2.703	9.529	3.120	80.361	.2488	4.019	.673	im1 o
2.703	9.830	3.151	83.724	.2514	3.978	.679	im1 o
2.703	9.649	3.376	88.050	.2405	4.158	.650	im1 o
2.703	9.969	3.435	92.560	.2425	4.124	.655	im1 o
2.703	9.843	3.449	91.763	.2403	4.161	.650	im1 o
2.703	10.269	3.470	96.317	.2449	4.083	.662	im1 o

(Continued)



ALUMINUM, 6061
 (Continued)

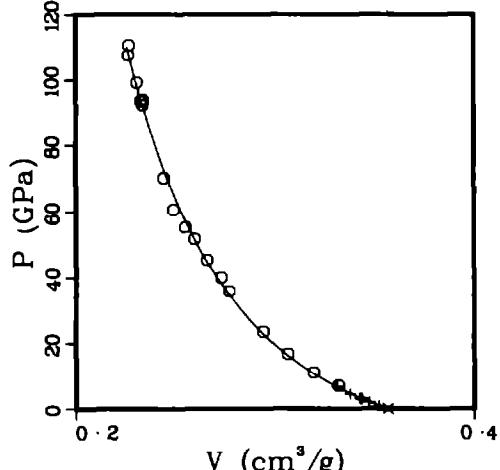
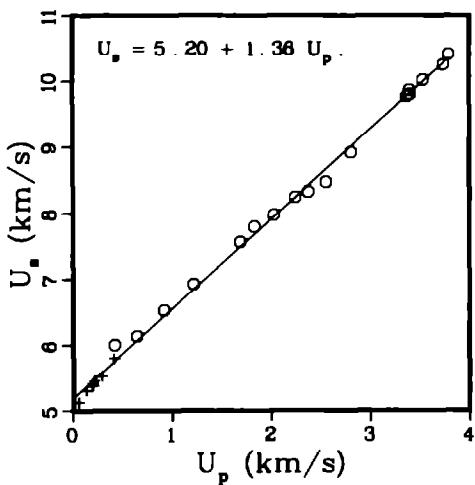
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.703	10.014	3.510	95.008	.2403	4.162	.649	im1 o
2.703	10.047	3.585	97.358	.2379	4.203	.643	im1 o
2.703	10.301	3.758	104.636	.2350	4.255	.635	im1 o
2.703	10.448	3.769	106.440	.2365	4.228	.639	im1 o
2.703	10.325	3.789	105.745	.2342	4.270	.633	im1 o
2.703	10.377	3.844	107.820	.2329	4.293	.630	im1 o

ALUMINUM , 7075

Average $\rho_0 = 2.804 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.807	5.130	.059	.850	.3522	2.840	.988	q z i +
2.807	5.310	.134	1.997	.3473	2.880	.975	q z i +
2.807	5.420	.194	2.952	.3435	2.911	.964	q z i +
2.807	5.380	.201	3.035	.3429	2.916	.963	q z i +
2.807	5.460	.212	3.249	.3424	2.920	.961	q z i +
2.807	5.530	.290	4.502	.3376	2.962	.948	q z i +
2.807	5.800	.413	6.724	.3309	3.022	.929	q z i +
2.803	6.004	.422	7.102	.3317	3.015	.930	i m1 o
2.803	6.137	.647	11.130	.3191	3.133	.895	i m1 o
2.803	6.527	.919	16.813	.3065	3.262	.859	i m1 o
2.803	6.921	1.215	23.570	.2941	3.400	.824	i m1 o
2.803	7.564	1.690	35.831	.2771	3.609	.777	i m1 o
2.803	7.798	1.832	40.043	.2729	3.664	.765	i m1 o
2.803	7.976	2.027	45.317	.2661	3.758	.746	i m1 o
2.803	8.243	2.241	51.779	.2598	3.850	.728	i m1 o
2.803	8.325	2.373	55.374	.2551	3.921	.715	i m1 o
2.803	8.472	2.557	60.721	.2491	4.015	.698	i m1 o
2.803	8.919	2.808	70.200	.2444	4.091	.685	i m1 o
2.803	9.770	3.373	92.371	.2336	4.281	.655	i m1 o
2.803	9.866	3.399	93.997	.2339	4.276	.655	i m1 o
2.803	9.801	3.405	93.543	.2328	4.295	.653	i m1 o
2.803	10.019	3.535	99.274	.2309	4.331	.647	i m1 o

(Continued)



ALUMINUM, 7075
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.803	10.254	3.742	107.552	.2266	4.414	.635	im1 o
2.803	10.410	3.792	110.648	.2268	4.409	.636	im1 o

BRASS, free-machining, high-leaded

61.5/36.0/2.5 wt% Cu/Zn/Pb

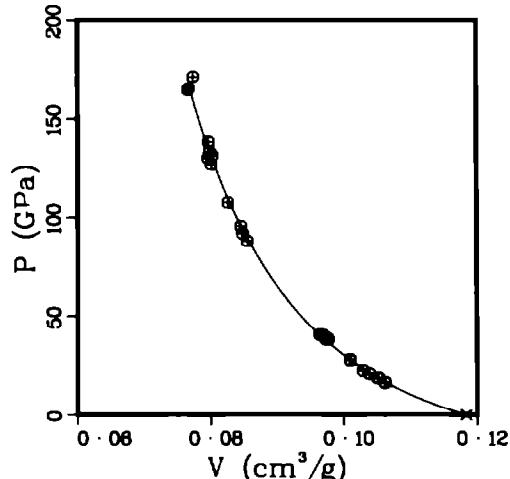
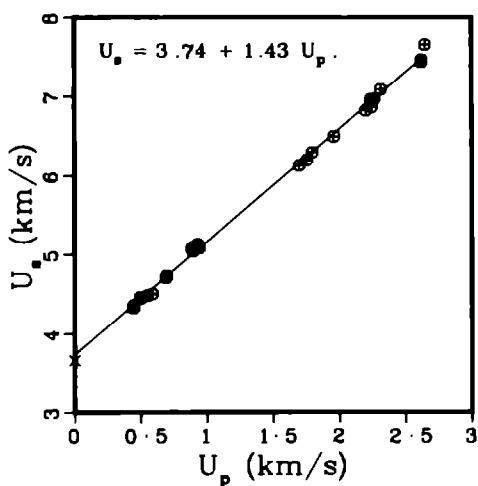
Average $\rho_0 = 8.450 \text{ g/cm}^3$.

Sound velocities longitudinal 4.41 km/s.
shear 2.13 km/s.

References 4, 5, 6

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.450	3.660	0.000	0.000	.1183	8.450	1.000	s p
8.450	4.327	.445	16.271	.1062	9.419	.897	s f 1
8.450	4.357	.446	16.420	.1062	9.414	.898	s f 1
8.450	4.458	.495	18.647	.1052	9.505	.889	s f 1
8.450	4.448	.498	18.718	.1051	9.515	.888	s f 1
8.450	4.482	.550	20.830	.1038	9.632	.877	s f 1
8.450	4.503	.588	22.374	.1029	9.719	.869	s f 1
8.450	4.708	.692	27.530	.1009	9.906	.853	s f 1
8.450	4.730	.694	27.738	.1010	9.903	.853	s f 1
8.450	5.074	.885	37.945	.0977	10.235	.826	s f 1
8.450	5.091	.894	38.459	.0976	10.250	.824	s f 1
8.450	5.043	.896	38.182	.0973	10.276	.822	s f 1
8.450	5.129	.928	40.220	.0969	10.317	.819	s f 1
8.450	5.111	.930	40.165	.0968	10.330	.818	s f 1
8.450	5.084	.944	40.554	.0964	10.377	.814	s f 1
8.450	6.132	1.699	88.034	.0856	11.689	.723	s f 1
8.450	6.198	1.756	91.967	.0848	11.790	.717	s f 1
8.450	6.298	1.798	95.686	.0846	11.826	.715	s f 1

(Continued)



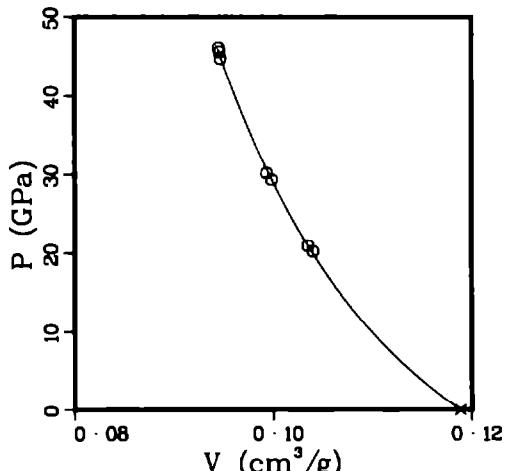
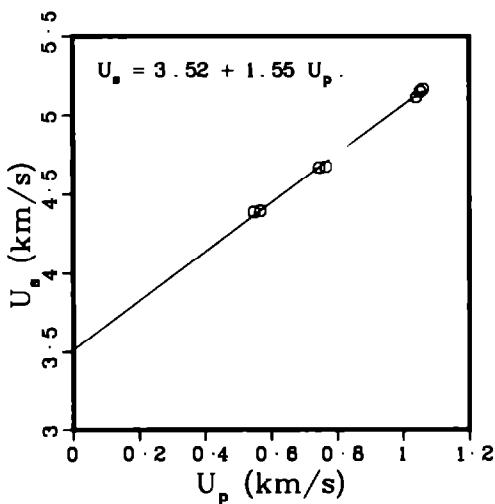
BRASS, free-machining, high-leaded
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.450	6.497	1.960	107.603	.0826	12.100	.698	s f 1 ⊕
8.450	6.824	2.203	127.031	.0801	12.478	.677	s f 1 ⊕
8.450	6.960	2.237	131.562	.0803	12.452	.679	s f 1 ⊕
8.450	6.866	2.246	130.308	.0796	12.558	.673	s f 1 ⊕
8.450	6.968	2.264	133.303	.0799	12.517	.675	s f 1 ⊕
8.450	7.088	2.314	138.594	.0797	12.546	.674	s f 1 ⊕
8.450	7.433	2.620	164.559	.0766	13.050	.648	s f 1 ⊕
8.450	7.461	2.622	165.305	.0768	13.029	.649	s f 1 ⊕
8.450	7.656	2.648	171.308	.0774	12.918	.654	s f 1 ⊕

BRASS , muntz metal
 60 . 6/39 . 3 wt% Cu/Zn
 Average ρ_0 = 8.413 g/cm³.

References 6 , 11 , 12

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.413	4.387	.548	20.225	.1040	9.614	.875	im1 o
8.413	4.393	.567	20.955	.1035	9.660	.871	im1 o
8.413	4.669	.746	29.303	.0999	10.013	.840	im1 o
8.413	4.674	.767	30.160	.0994	10.065	.836	im1 o
8.413	5.117	1.040	44.771	.0947	10.559	.797	im1 o
8.413	5.158	1.052	45.651	.0946	10.568	.796	im1 o
8.413	5.173	1.060	46.132	.0945	10.581	.795	im1 o



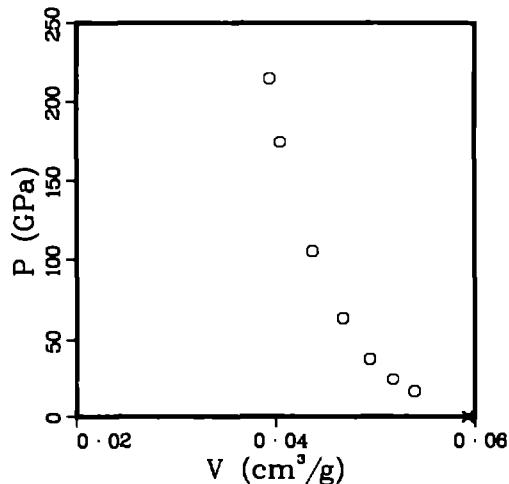
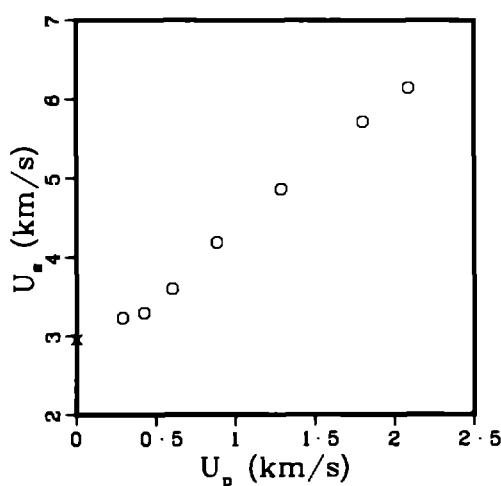
GOLD-5 . 8 wt% GERMANIUM

Average $\rho_0 = 16.851 \text{ g/cm}^3$.

Sound velocities longitudinal 3.33 km/s.
shear 1.33 km/s.

References 13, 30

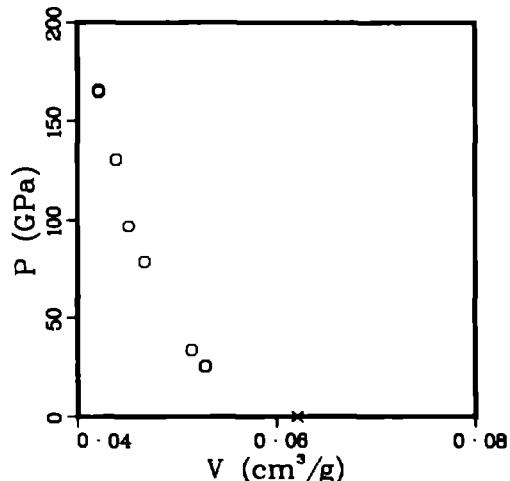
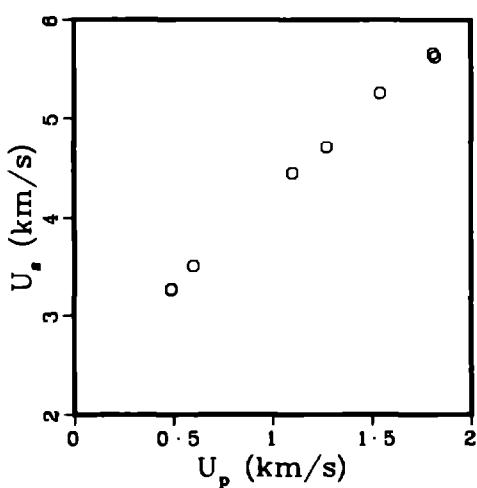
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
16.880	2.955	0.000	0.000	.0592	16.880	1.000	s s p x
16.880	3.230	.290	15.811	.0539	18.545	.910	im1 o
16.820	3.294	.425	23.547	.0518	19.312	.871	im1 o
16.850	3.609	.602	36.609	.0494	20.223	.833	im1 o
16.880	4.187	.885	62.549	.0467	21.404	.789	im1 o
16.830	4.865	1.286	105.295	.0437	22.877	.736	im1 o
16.910	5.715	1.803	174.243	.0405	24.704	.685	im1 o
16.760	6.140	2.086	214.663	.0394	25.384	.660	im1 o



GOLD-7 . 9 wt% GERMANIUM

Average $\rho_0 = 16.111 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
16.120	3.270	.487	25.671	.0528	18.941	.851	im1 o
16.090	3.271	.488	25.684	.0529	18.911	.851	im1 o
16.110	3.508	.599	33.852	.0515	19.427	.829	im1 o
16.100	4.442	1.101	78.739	.0467	21.406	.752	im1 o
16.160	4.707	1.274	96.907	.0451	22.157	.729	im1 o
16.090	5.255	1.542	130.381	.0439	22.772	.707	im1 o
16.160	5.661	1.809	165.491	.0421	23.749	.680	im1 o
16.060	5.629	1.819	164.441	.0421	23.727	.677	im1 o



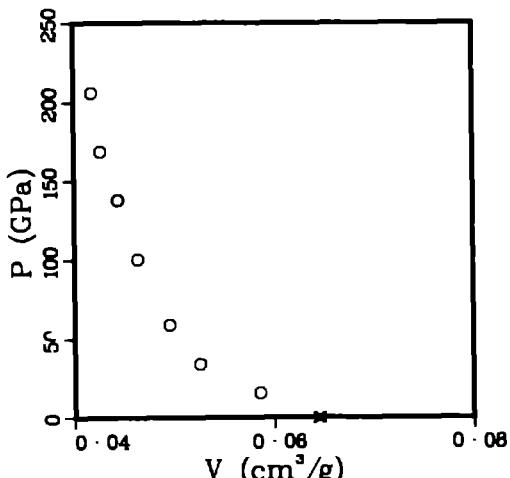
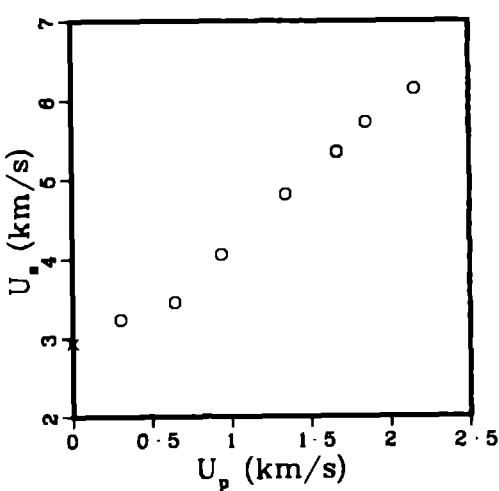
GOLD-9 . 3 wt% GERMANIUM

Average $\rho_0 = 15.536 \text{ g/cm}^3$.

Sound velocities longitudinal 3.39 km/s.
shear 1.47 km/s.

References 13, 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
15.490	2.934	0.000	0.000	.0646	15.490	1.000	ssp x
15.460	3.229	.304	15.176	.0586	17.067	.906	im1 o
15.480	3.450	.643	34.340	.0526	19.026	.814	im1 o
15.510	4.054	.939	59.042	.0495	20.185	.768	im1 o
15.550	4.813	1.344	100.588	.0464	21.575	.721	im1 o
15.490	5.344	1.669	138.157	.0444	22.525	.688	im1 o
15.480	5.341	1.670	138.073	.0444	22.522	.687	im1 o
15.840	5.731	1.857	168.577	.0427	23.433	.676	im1 o
15.520	6.149	2.159	206.039	.0418	23.918	.649	im1 o

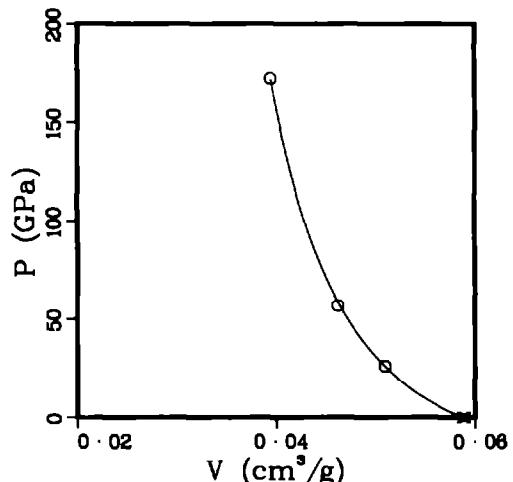
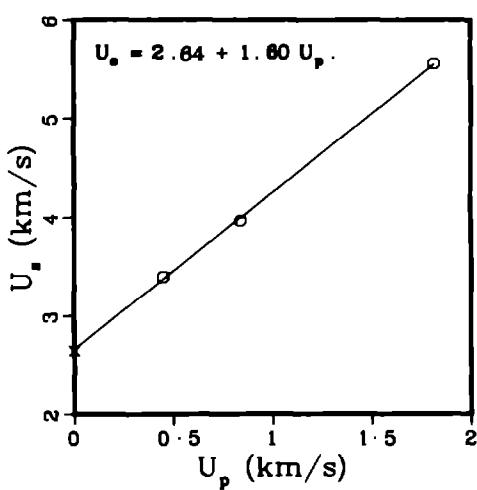


GOLD-20 . 6 wt% LEAD

Average $\rho_0 = 17.025 \text{ g/cm}^3$.

Sound velocities longitudinal 2.98 km/s.
shear 1.19 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
16.950	2.644	0.000	0.000	.0590	16.950	1.000	s p x
17.050	3.395	.448	25.932	.0509	19.642	.868	im1 o
17.050	3.966	.840	56.801	.0462	21.632	.788	im1 o
17.050	5.555	1.816	171.998	.0395	25.331	.673	im1 o

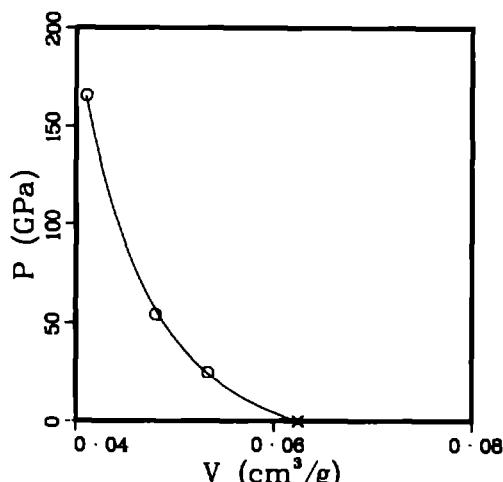
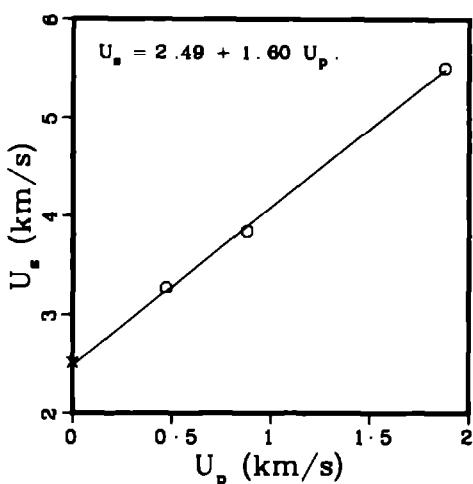


GOLD-33 . 5 wt% LEAD

Average $\rho_0 = 16.032 \text{ g/cm}^3$.

Sound velocities longitudinal 2.85 km/s.
shear 1.15 km/s.

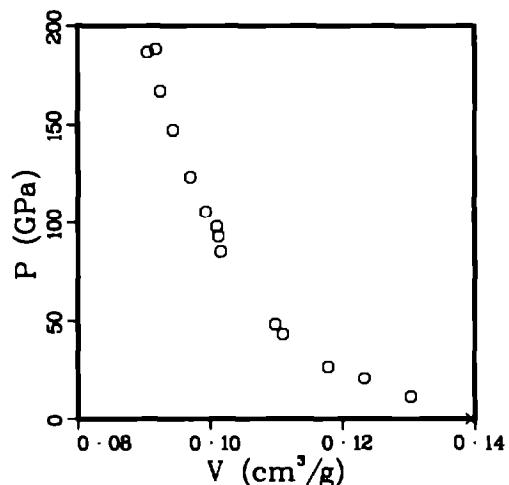
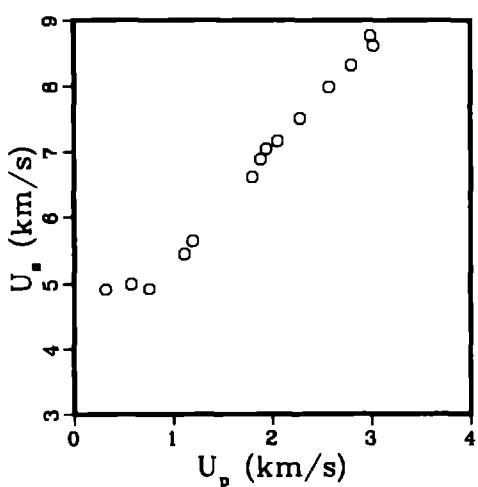
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
16.010	2.522	0.000	0.000	.0625	16.010	1.000	ss p x
16.040	3.277	.471	24.757	.0534	18.732	.856	im1 o
16.040	3.844	.879	54.197	.0481	20.795	.771	im1 o
16.040	5.503	1.877	165.679	.0411	24.343	.659	im1 o



IRON , cast

Average $\rho_0 = 7.174 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.174	4.909	.319	11.234	.1303	7.673	.935	i m1 o
7.174	4.997	.577	20.685	.1233	8.111	.885	i m1 o
7.174	4.917	.760	26.809	.1178	8.486	.845	i m1 o
7.174	5.445	1.111	43.398	.1110	9.013	.796	i m1 o
7.175	5.642	1.196	48.416	.1098	9.105	.788	i m1 o
7.175	6.620	1.797	85.355	.1015	9.848	.729	i m1 o
7.175	6.889	1.883	93.074	.1013	9.874	.727	i m1 o
7.175	7.044	1.939	97.998	.1010	9.900	.725	i m1 o
7.175	7.163	2.055	105.616	.0994	10.062	.713	i m1 o
7.175	7.518	2.285	123.257	.0970	10.308	.696	i m1 o
7.175	7.987	2.572	147.393	.0945	10.583	.678	i m1 o
7.174	8.311	2.799	166.885	.0924	10.817	.663	i m1 o
7.174	8.767	2.993	188.243	.0918	10.893	.659	i m1 o
7.174	8.618	3.020	186.713	.0905	11.044	.650	i m1 o



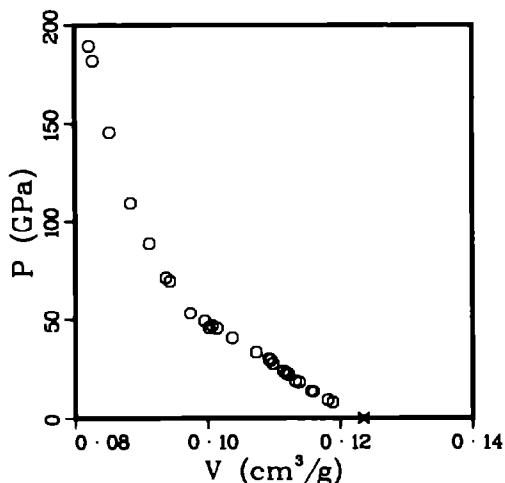
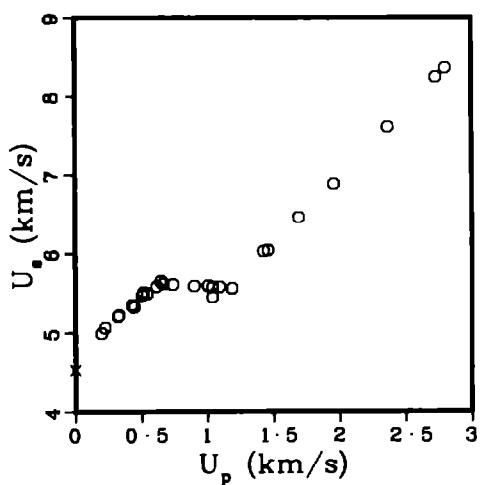
IRON-40 . 0 wt% COBALT

Average $\rho_0 = 8.091 \text{ g/cm}^3$.

Sound velocities longitudinal 6.20 km/s.
shear 3.66 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
8.102	4.536	0.000	0.000	.1234	8.102	1.000	s s p x
8.079	4.994	.199	8.029	.1188	8.414	.960	im1 o
8.089	5.064	.226	9.258	.1181	8.467	.955	im1 o
8.088	5.206	.324	13.642	.1159	8.625	.938	im1 o
8.103	5.222	.330	13.964	.1156	8.650	.937	im1 o
8.083	5.353	.429	18.562	.1138	8.787	.920	im1 o
8.094	5.323	.445	19.173	.1132	8.832	.916	im1 o
8.087	5.477	.508	22.501	.1122	8.914	.907	im1 o
8.106	5.513	.515	23.015	.1118	8.941	.907	im1 o
8.087	5.496	.543	24.134	.1114	8.974	.901	im1 o
8.105	5.590	.614	27.818	.1098	9.105	.890	im1 o
8.089	5.658	.647	29.612	.1095	9.133	.886	im1 o
8.078	5.625	.663	30.126	.1092	9.157	.882	im1 o
8.092	5.616	.739	33.584	.1073	9.318	.868	im1 o
8.092	5.597	.900	40.762	.1037	9.643	.839	im1 o
8.093	5.601	1.005	45.556	.1014	9.863	.821	im1 o
8.087	5.580	1.037	46.795	.1007	9.933	.814	im1 o
8.081	5.458	1.038	45.782	.1002	9.979	.810	im1 o
8.083	5.585	1.091	49.252	.0995	10.045	.805	im1 o
8.081	5.565	1.186	53.335	.0974	10.270	.787	im1 o

(Continued)



IRON-40 .0 wt% COBALT
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.098	6.029	1.424	69.524	.0943	10.602	.764	im1 o
8.096	6.039	1.458	71.284	.0937	10.673	.759	im1 o
8.093	6.459	1.691	88.393	.0912	10.963	.738	im1 o
8.100	6.885	1.957	109.139	.0884	11.317	.716	im1 o
8.093	7.616	2.363	145.647	.0852	11.734	.690	im1 o
8.090	8.241	2.729	181.942	.0827	12.095	.669	im1 o
8.094	8.357	2.801	189.464	.0821	12.175	.665	im1 o

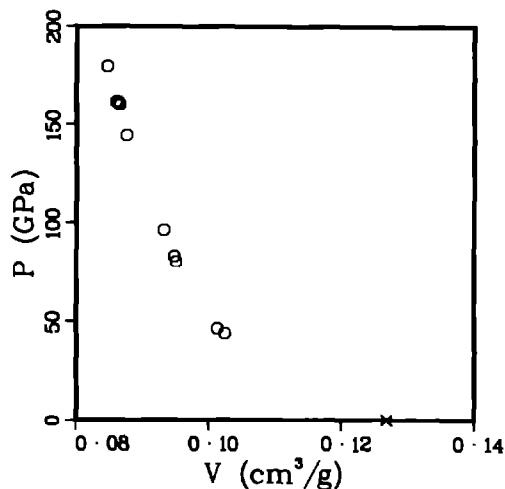
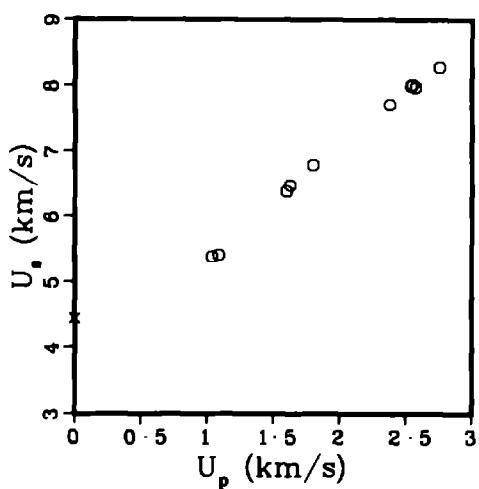
IRON-10 . 0 wt% NICKEL

Average $\rho_0 = 7.886 \text{ g/cm}^3$.

Sound velocities longitudinal 5.76 km/s.
shear 3.17 km/s.

References 6, 13, 22

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.883	4.447	0.000	0.000	.1269	7.883	1.000	s s p x
7.883	5.386	1.038	44.071	.1024	9.765	.807	im1 o
7.885	5.411	1.090	46.506	.1013	9.874	.799	im1 o
7.883	6.381	1.598	80.382	.0951	10.517	.750	im1 o
7.895	6.473	1.626	83.096	.0948	10.543	.749	im1 o
7.883	6.791	1.801	96.414	.0932	10.728	.735	im1 o
7.896	7.707	2.380	144.834	.0875	11.424	.691	im1 o
7.885	8.001	2.541	160.306	.0865	11.555	.682	im1 o
7.896	8.016	2.553	161.590	.0863	11.586	.682	im1 o
7.870	7.976	2.577	161.761	.0860	11.626	.677	im1 o
7.883	8.275	2.754	179.648	.0846	11.815	.667	im1 o



IRON-17 . 9 wt% NICKEL

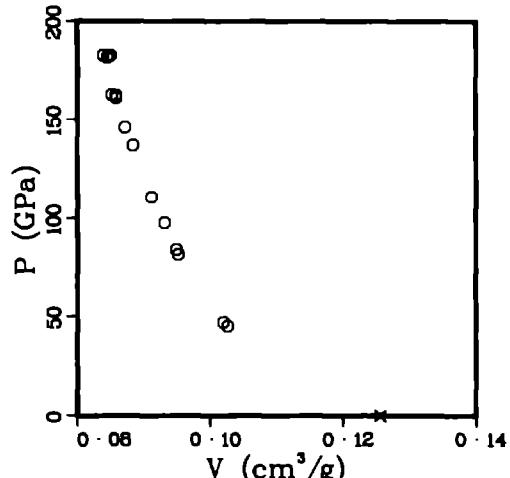
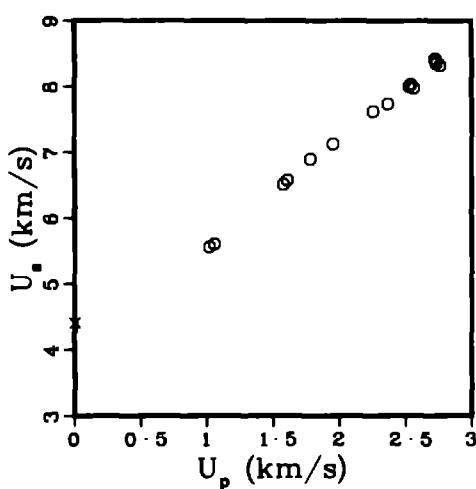
Average $\rho_0 = 7.962 \text{ g/cm}^3$.

Sound velocities longitudinal 5.56 km/s.

shear 2.94 km/s.

References 6, 13, 22

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
7.962	4.403	0.000	0.000	.1256	7.962	1.000	s s p x
7.962	5.565	1.019	45.150	.1026	9.747	.817	im1 o
7.962	5.607	1.056	47.143	.1019	9.809	.812	im1 o
7.962	6.517	1.578	81.880	.0952	10.506	.758	im1 o
7.962	6.581	1.609	84.308	.0949	10.539	.756	im1 o
7.962	6.898	1.782	97.871	.0932	10.735	.742	im1 o
7.962	7.126	1.955	110.921	.0911	10.972	.726	im1 o
7.962	7.624	2.257	137.005	.0884	11.310	.704	im1 o
7.962	7.738	2.369	145.954	.0871	11.475	.694	im1 o
7.962	8.000	2.531	161.215	.0859	11.647	.684	im1 o
7.962	8.030	2.543	162.586	.0858	11.652	.683	im1 o
7.962	7.976	2.565	162.890	.0852	11.736	.678	im1 o
7.962	8.419	2.723	182.528	.0850	11.768	.677	im1 o
7.962	8.384	2.730	182.237	.0847	11.806	.674	im1 o
7.962	8.350	2.732	181.631	.0845	11.834	.673	im1 o
7.962	8.316	2.760	182.745	.0839	11.917	.668	im1 o



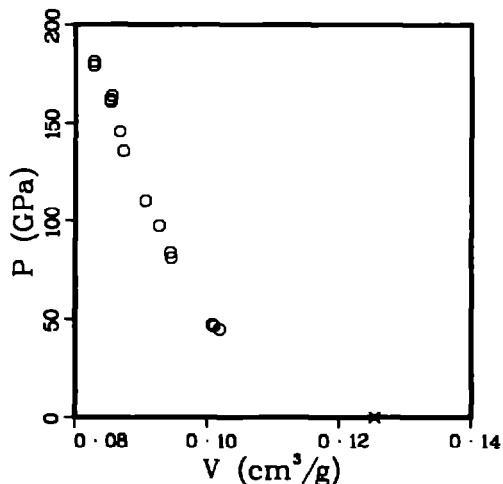
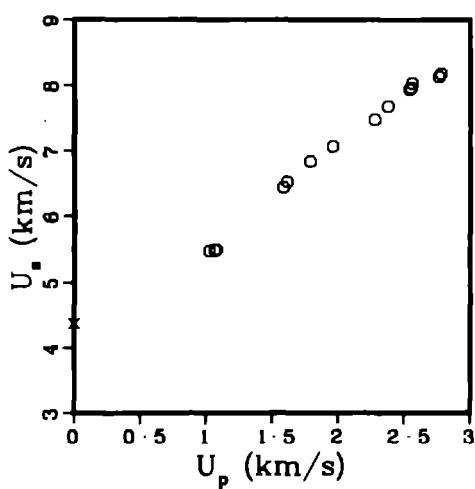
IRON-26 .2 wt% NICKEL

Average $\rho_0 = 7.974 \text{ g/cm}^3$.

Sound velocities longitudinal 5.38 km/s.
shear 2.72 km/s.

References 6, 13, 22

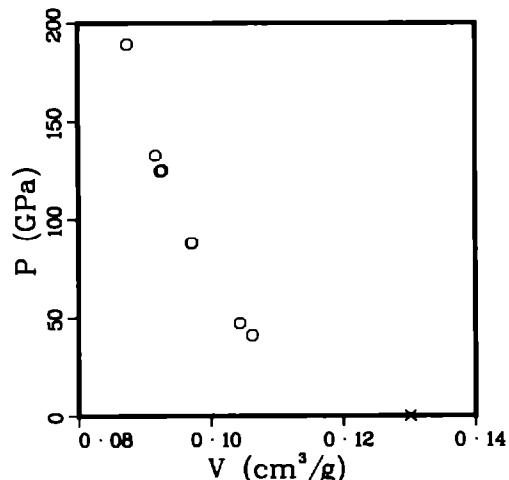
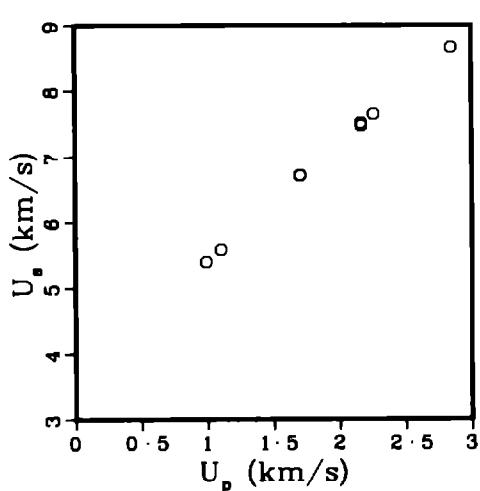
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.974	4.368	0.000	0.000	1.254	7.974	1.000	ss p x
7.974	5.477	1.026	44.809	.1019	9.812	.813	im1 o
7.974	5.486	1.065	46.589	.1011	9.895	.806	im1 o
7.974	5.491	1.078	47.200	.1008	9.922	.804	im1 o
7.974	6.442	1.585	81.419	.0946	10.576	.754	im1 o
7.974	6.528	1.614	84.016	.0944	10.593	.753	im1 o
7.974	6.841	1.787	97.481	.0926	10.793	.739	im1 o
7.974	7.066	1.960	110.435	.0906	11.035	.723	im1 o
7.974	7.481	2.273	135.592	.0873	11.454	.696	im1 o
7.974	7.687	2.374	145.517	.0867	11.537	.691	im1 o
7.974	7.943	2.537	160.687	.0854	11.716	.681	im1 o
7.974	7.959	2.550	161.836	.0852	11.733	.680	im1 o
7.974	8.033	2.557	163.789	.0855	11.697	.682	im1 o
7.974	8.130	2.761	178.992	.0828	12.075	.660	im1 o
7.974	8.176	2.777	181.048	.0828	12.075	.660	im1 o



IRON-2 . 9 wt% SILICON

Average $\rho_0 = 7.685 \text{ g/cm}^3$

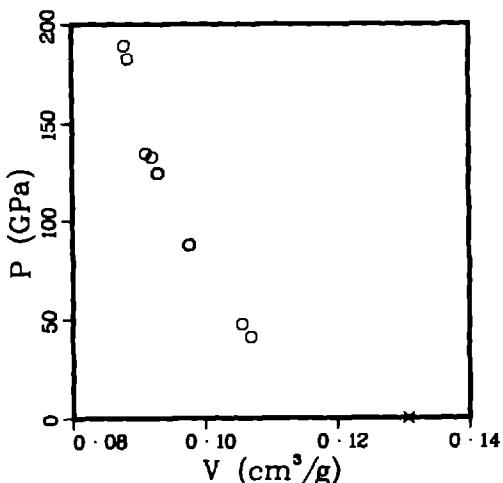
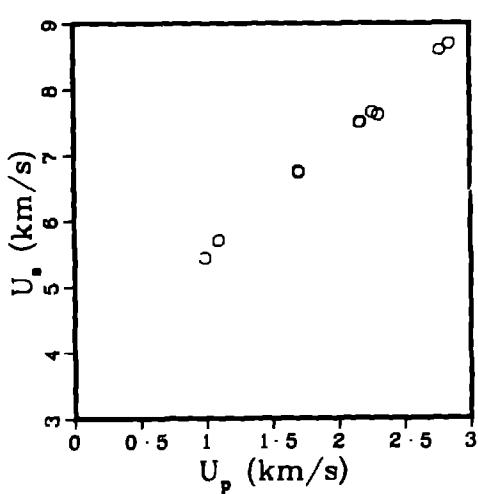
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.685	5.385	.988	40.887	.1062	9.412	.817	i m1 o
7.685	5.572	1.102	47.189	.1044	9.580	.802	i m1 o
7.685	6.718	1.702	87.871	.0972	10.293	.747	i m1 o
7.685	6.708	1.703	87.791	.0971	10.300	.746	i m1 o
7.685	7.516	2.162	124.878	.0927	10.788	.712	i m1 o
7.685	7.476	2.166	124.443	.0924	10.820	.710	i m1 o
7.685	7.650	2.259	132.807	.0917	10.905	.705	i m1 o
7.685	8.666	2.843	189.339	.0874	11.437	.672	i m1 o



IRON-3 . 8 wt% SILICON

Average $\rho_0 = 7.652 \text{ g/cm}^3$.

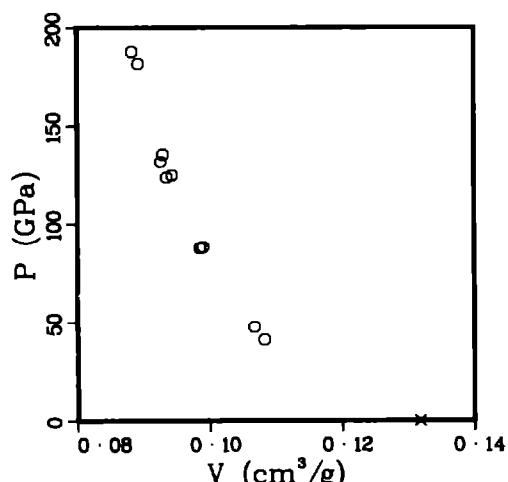
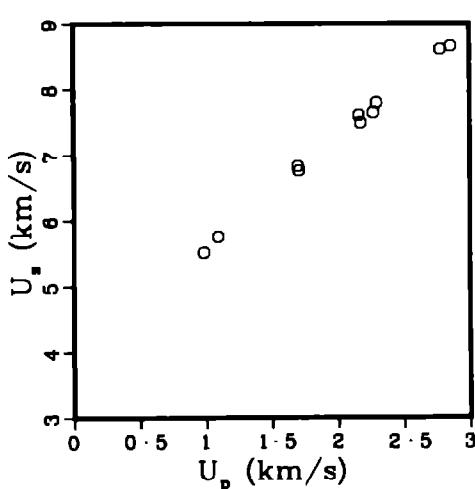
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.652	5.434	.986	40.999	.1070	9.348	.819	im1 o
7.652	5.698	1.094	47.700	.1056	9.470	.808	im1 o
7.652	6.753	1.701	87.897	.0978	10.228	.748	im1 o
7.652	6.734	1.703	87.753	.0976	10.242	.747	im1 o
7.652	7.515	2.165	124.498	.0930	10.749	.712	im1 o
7.652	7.493	2.168	124.305	.0929	10.767	.711	im1 o
7.652	7.658	2.262	132.551	.0921	10.860	.705	im1 o
7.652	7.619	2.308	134.558	.0911	10.977	.697	im1 o
7.652	8.585	2.774	182.231	.0885	11.305	.677	im1 o
7.652	8.692	2.845	189.224	.0879	11.375	.673	im1 o



IRON-4.6 wt% SILICON

Average $\rho_0 = 7.589 \text{ g/cm}^3$.

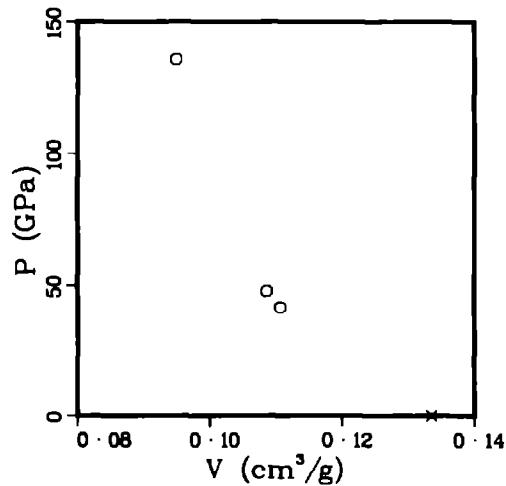
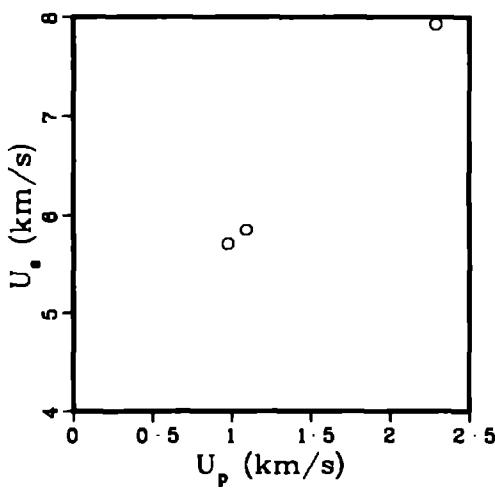
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.589	5.509	.984	41.139	.1082	9.239	.821	im1 o
7.589	5.753	1.093	47.720	.1067	9.369	.810	im1 o
7.589	6.832	1.699	88.090	.0990	10.101	.751	im1 o
7.589	6.762	1.706	87.546	.0985	10.150	.748	im1 o
7.589	7.608	2.162	124.828	.0943	10.602	.716	im1 o
7.589	7.493	2.175	123.680	.0935	10.693	.710	im1 o
7.589	7.648	2.271	131.810	.0926	10.794	.703	im1 o
7.589	7.794	2.295	135.746	.0930	10.756	.706	im1 o
7.589	8.616	2.779	181.710	.0893	11.202	.677	im1 o
7.589	8.664	2.857	187.851	.0883	11.323	.670	im1 o



IRON-6 . 9 wt% SILICON

Average $\rho_0 = 7.490 \text{ g/cm}^3$.

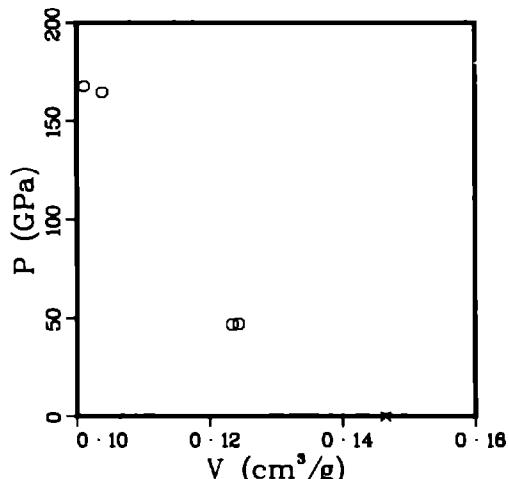
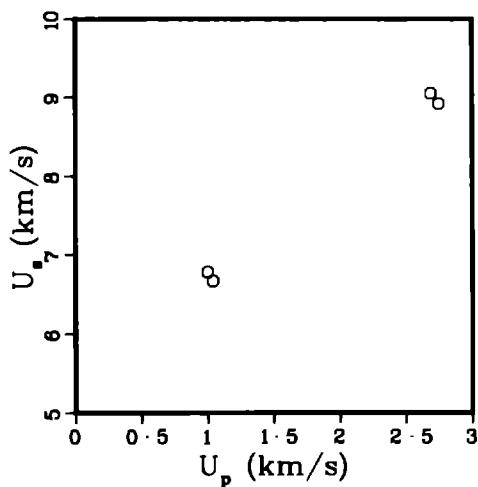
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.490	5.706	.975	41.669	.1107	9.034	.829	i m1 o
7.490	5.850	1.092	47.848	.1086	9.209	.813	i m1 o
7.490	7.929	2.291	136.058	.0949	10.534	.711	i m1 o



IRON-20 wt% SILICON

Average $\rho_0 = 6.828 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.910	6.783	.999	46.824	.1234	8.103	.853	im1 o
6.788	6.671	1.039	47.049	.1244	8.040	.844	im1 o
6.770	9.049	2.687	164.610	.1038	9.629	.703	im1 o
6.844	8.921	2.748	167.780	.1011	9.891	.692	im1 o

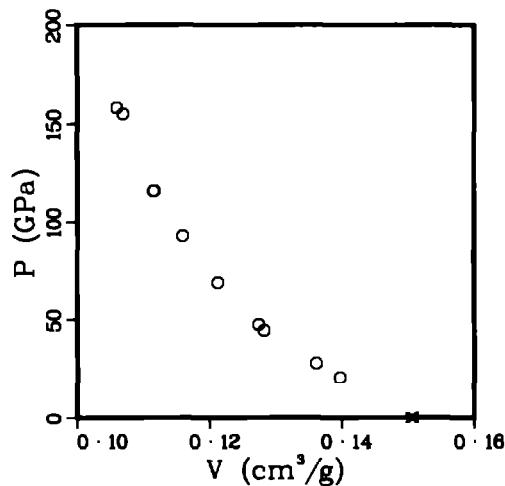
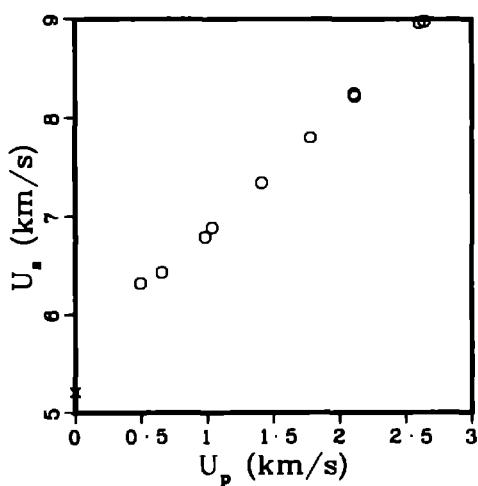


IRON-25 wt% SILICON

Average $\rho_0 = 6.647 \text{ g/cm}^3$.

Sound velocities longitudinal 6.87 km/s.
shear 3.88 km/s.

ρ_0 (g/cm ³)	U _l (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.632	5.208	0.000	0.000	1508	6.632	1.000	s s p x
6.599	6.320	.495	20.644	1397	7.160	.922	i m1 o
6.598	6.430	.656	27.831	1361	7.348	.898	i m1 o
6.669	6.786	.982	44.441	1282	7.797	.855	i m1 o
6.669	6.880	1.034	47.443	1274	7.849	.850	i m1 o
6.660	7.343	1.411	69.004	1213	8.244	.808	i m1 o
6.659	7.802	1.781	92.529	1159	8.629	.772	i m1 o
6.668	8.245	2.108	115.893	1116	8.958	.744	i m1 o
6.660	8.220	2.114	115.731	1115	8.966	.743	i m1 o
6.637	8.966	2.605	155.017	1069	9.355	.709	i m1 o
6.662	8.979	2.642	158.039	1059	9.439	.706	i m1 o



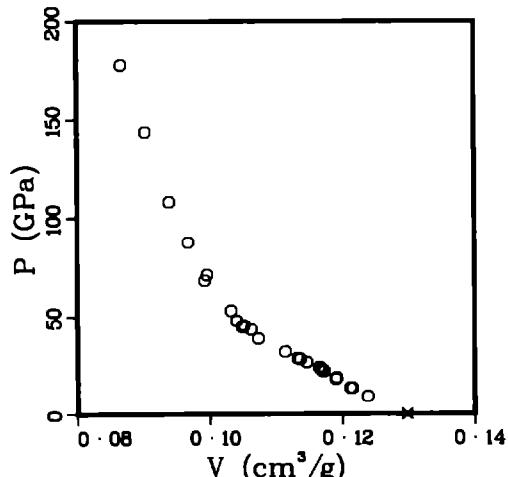
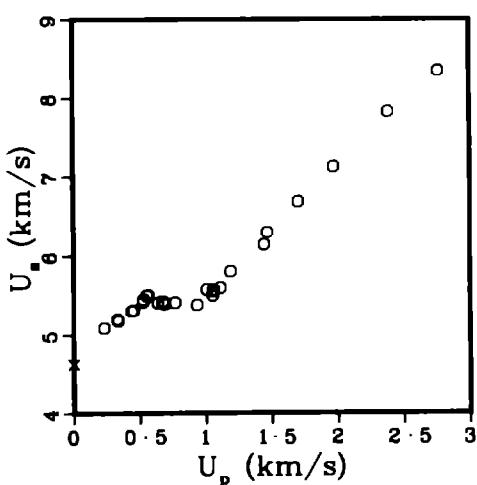
IRON-10 . 0 wt% VANADIUM

Average $\rho_0 = 7.705 \text{ g/cm}^3$.

Sound velocities longitudinal 6.30 km/s.
shear 3.70 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.706	4.630	0.000	0.000	.1298	7.706	1.000	ssp x
7.710	5.089	.231	9.064	.1238	8.077	.955	im1 o
7.707	5.205	.332	13.318	.1215	8.232	.936	im1 o
7.711	5.181	.339	13.543	.1212	8.251	.935	im1 o
7.705	5.310	.441	18.043	.1190	8.403	.917	im1 o
7.675	5.320	.456	18.619	.1191	8.395	.914	im1 o
7.705	5.426	.525	21.949	.1172	8.530	.903	im1 o
7.719	5.454	.530	22.313	.1170	8.550	.903	im1 o
7.704	5.507	.555	23.546	.116?	8.567	.899	im1 o
7.703	5.504	.565	23.954	.1165	8.584	.897	im1 o
7.698	5.416	.638	26.600	.1146	8.726	.882	im1 o
7.709	5.430	.674	28.214	.1136	8.801	.876	im1 o
7.703	5.399	.690	28.696	.1132	8.832	.872	im1 o
7.707	5.416	.767	32.015	.1114	8.979	.858	im1 o
7.703	5.387	.934	38.757	.1073	9.319	.827	im1 o
7.709	5.581	1.010	43.454	.1062	9.412	.819	im1 o
7.707	5.509	1.054	44.751	.1049	9.530	.809	im1 o
7.706	5.576	1.058	45.461	.1051	9.511	.810	im1 o
7.704	5.563	1.059	45.386	.1051	9.515	.810	im1 o
7.704	5.602	1.111	47.948	.1041	9.610	.802	im1 o

(Continued)



IRON-10 .0 wt% VANADIUM
 (Continued)

ρ_0 (g/cm ³)	U _n (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.706	5.806	1.188	53.152	.1032	9.688	.795	im1 o
7.711	6.142	1.442	68.295	.0992	10.077	.765	im1 o
7.705	6.299	1.466	71.151	.0996	10.042	.767	im1 o
7.707	6.688	1.701	87.677	.0968	10.336	.746	im1 o
7.703	7.122	1.970	108.076	.0939	10.648	.723	im1 o
7.702	7.829	2.383	143.692	.0903	11.072	.696	im1 o
7.719	8.354	2.764	178.235	.0867	11.536	.669	im1 o

MAGNESIUM, AZ31B

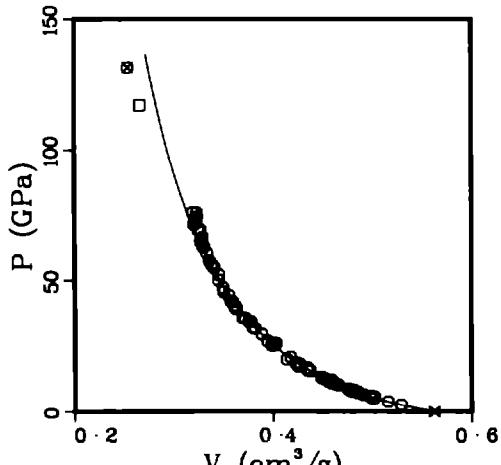
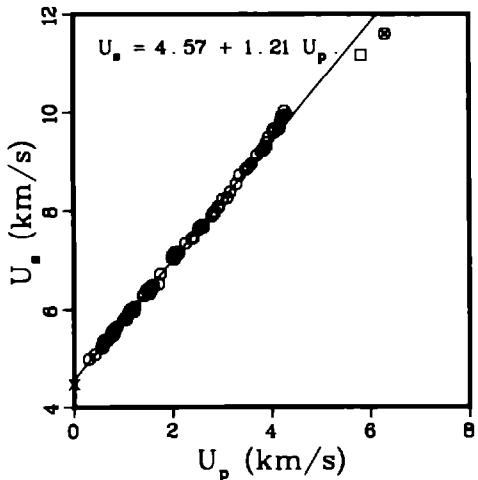
$$\text{Average } \rho_0 = 1.776 \text{ g/cm}^3.$$

Sound velocities longitudinal 5.70 km/s
 shear 3.05 km/s

Reference 13

ρ_0 (g/cm ³)	U _u (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.780	4.482	0.000	0.000	.5618	1.780	1.000	ssp x
1.776	4.988	.302	2.675	.5290	1.890	.939	im1 o
1.776	5.079	.426	3.843	.5158	1.939	.916	im1 o
1.777	5.215	.566	5.245	.5017	1.993	.891	im1 o
1.777	5.260	.572	5.346	.5016	1.994	.891	im1 o
1.776	5.231	.581	5.398	.5005	1.998	.889	im1 o
1.770	5.352	.597	5.655	.5020	1.992	.888	im1 o
1.780	5.300	.597	5.632	.4985	2.006	.887	im1 o
1.770	5.329	.614	5.791	.4999	2.000	.885	im1 o
1.770	5.364	.636	6.038	.4980	2.008	.881	im1 o
1.777	5.369	.684	6.526	.4911	2.036	.873	im1 o
1.777	5.459	.746	7.237	.4858	2.058	.863	im1 o
1.776	5.540	.767	7.547	.4851	2.061	.862	im1 o
1.776	5.465	.791	7.677	.4816	2.077	.855	im1 o
1.780	5.517	.816	8.013	.4787	2.089	.852	im1 o
1.778	5.563	.820	8.111	.4795	2.085	.853	im1 o
1.770	5.603	.835	8.281	.4808	2.080	.851	im1 o
1.778	5.630	.867	8.679	.4758	2.102	.846	im1 o
1.777	5.783	1.000	10.276	.4654	2.149	.827	im1 o

(Continued)



MAGNESIUM , AZ31B
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.776	5.840	1.048	10.870	.4620	2.164	.821	im1 o
1.778	5.780	1.057	10.863	.4596	2.176	.817	im1 o
1.776	5.895	1.115	11.674	.4566	2.190	.811	im1 o
1.770	5.948	1.117	11.760	.4589	2.179	.812	im1 o
1.780	5.908	1.118	11.757	.4555	2.195	.811	im1 o
1.770	5.932	1.126	11.823	.4577	2.185	.810	im1 o
1.766	5.990	1.136	12.017	.4589	2.179	.810	im1 o
1.776	5.997	1.178	12.546	.4525	2.210	.804	im1 o
1.770	5.962	1.218	12.853	.4496	2.224	.796	im1 o
1.778	6.050	1.226	13.188	.4485	2.230	.797	im1 o
1.776	6.280	1.402	15.637	.4374	2.286	.777	im1 o
1.780	6.284	1.422	15.906	.4347	2.301	.774	im1 o
1.770	6.394	1.474	16.682	.4347	2.300	.769	im1 o
1.778	6.316	1.533	17.215	.4259	2.348	.757	im1 o
1.776	6.460	1.560	17.898	.4271	2.341	.759	im1 o
1.770	6.421	1.563	17.764	.4274	2.339	.757	im1 o
1.776	6.461	1.570	18.015	.4262	2.346	.757	im1 o
1.774	6.391	1.573	17.834	.4250	2.353	.754	im1 o
1.776	6.480	1.607	18.494	.4234	2.362	.752	im1 o
1.775	6.464	1.608	18.450	.4232	2.363	.751	im1 o
1.778	6.505	1.719	19.882	.4138	2.417	.736	im1 o
1.770	6.708	1.749	20.766	.4177	2.394	.739	im1 o
1.798	7.050	1.990	25.225	.3992	2.505	.718	s f 2 s
1.770	7.002	2.034	25.208	.4009	2.495	.710	im1 o
1.780	7.038	2.039	25.544	.3990	2.506	.710	im1 o
1.770	7.144	2.045	25.859	.4032	2.480	.714	im1 o
1.770	7.095	2.074	26.046	.3998	2.501	.708	im1 o
1.780	7.118	2.123	26.898	.3942	2.537	.702	im1 o
1.777	7.324	2.265	29.478	.3887	2.573	.691	im1 o
1.777	7.425	2.392	31.561	.3815	2.622	.678	im1 o
1.776	7.431	2.416	31.885	.3800	2.632	.675	im1 o
1.770	7.444	2.417	31.846	.3815	2.621	.675	im1 o
1.778	7.615	2.528	34.228	.3757	2.662	.668	im1 o
1.770	7.657	2.534	34.343	.3780	2.645	.669	im1 o
1.780	7.705	2.599	35.645	.3723	2.686	.663	im1 o
1.776	7.668	2.632	35.844	.3698	2.704	.657	im1 o
1.776	7.892	2.798	39.217	.3634	2.752	.645	im1 o
1.776	7.947	2.832	39.970	.3624	2.759	.644	im1 o
1.776	7.933	2.833	39.914	.3620	2.763	.643	im1 o
1.777	7.978	2.854	40.461	.3614	2.767	.642	im1 o
1.777	8.081	2.927	42.032	.3589	2.786	.638	im1 o
1.777	8.078	2.942	42.231	.3578	2.795	.636	im1 o
1.780	8.232	3.018	44.223	.3558	2.810	.633	im1 o

(Continued)

MAGNESIUM , AZ31B
 (Continued)

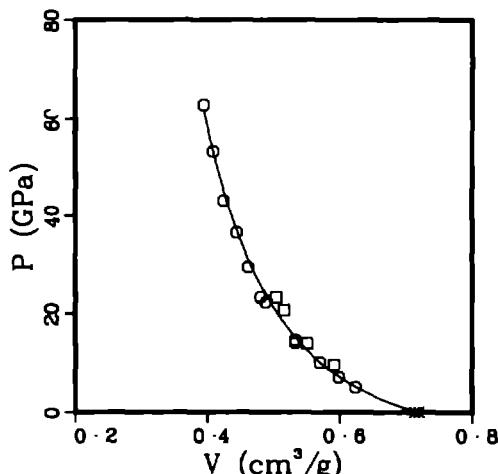
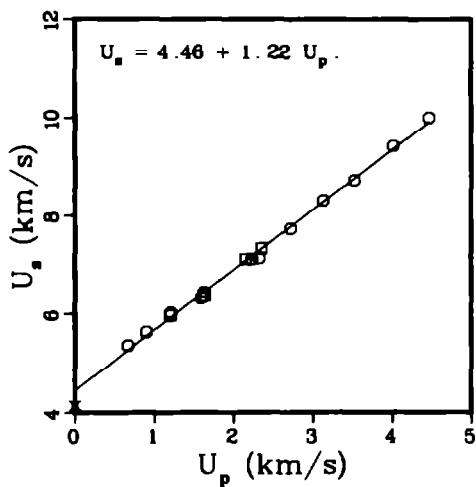
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.778	8.259	3.111	45.683	.3506	2.852	.623	im1 o
1.777	8.378	3.171	47.209	.3498	2.859	.622	im1 o
1.780	8.540	3.292	50.042	.3452	2.897	.615	im1 o
1.780	8.720	3.359	52.137	.3454	2.895	.615	im1 o
1.775	8.834	3.487	54.677	.3410	2.933	.605	im1 o
1.777	8.883	3.542	55.911	.3384	2.955	.601	im1 o
1.778	8.951	3.604	57.357	.3360	2.976	.597	im1 o
1.780	9.126	3.707	60.218	.3336	2.998	.594	im1 o
1.777	9.217	3.805	62.321	.3304	3.026	.587	im1 o
1.770	9.244	3.853	63.042	.3295	3.035	.583	im1 o
1.770	9.292	3.873	63.699	.3295	3.035	.583	im1 o
1.775	9.317	3.908	64.629	.3271	3.057	.581	im1 o
1.777	9.389	3.908	65.202	.3285	3.044	.584	im1 o
1.775	9.494	3.945	66.481	.3293	3.037	.584	im1 o
1.780	9.633	4.048	69.410	.3257	3.070	.580	im1 o
1.776	9.660	4.050	69.482	.3270	3.058	.581	im1 o
1.775	9.599	4.062	69.209	.3250	3.077	.577	im1 o
1.775	9.699	4.158	71.583	.3219	3.107	.571	im1 o
1.775	9.668	4.166	71.491	.3206	3.119	.569	im1 o
1.776	9.760	4.180	72.455	.3219	3.106	.572	im1 o
1.776	9.840	4.206	73.503	.3224	3.102	.573	im1 o
1.777	9.924	4.215	74.331	.3237	3.089	.575	im1 o
1.777	10.023	4.263	75.928	.3234	3.092	.575	im1 o
1.775	9.945	4.307	76.029	.3194	3.131	.567	im1 o
1.799	11.166	5.820	116.910	.2661	3.758	.479	im2 □
1.799	11.600	6.304	131.554	.2538	3.940	.457	s f 2 ☀

MAGNESIUM-14 wt% Li-1 wt% Al

Average $\rho_0 = 1.391 \text{ g/cm}^3$.

Sound velocities longitudinal 6.35 km/s.
shear 4.17 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.403	4.140	0.000	0.000	7128	1.403	1.000	ssp x
1.403	5.358	.668	5.022	.6239	1.603	.875	im1 o
1.403	5.632	.899	7.104	.5990	1.669	.840	im1 o
1.350	5.962	1.205	9.699	.5910	1.692	.798	im2 □
1.403	6.021	1.208	10.205	.5698	1.755	.799	im1 o
1.403	6.317	1.595	14.136	.5328	1.877	.748	im1 o
1.403	6.432	1.624	14.655	.5328	1.877	.748	im1 o
1.350	6.360	1.631	14.004	.5508	1.816	.744	im2 □
1.350	7.107	2.153	20.657	.5163	1.937	.697	im2 □
1.403	7.108	2.233	22.269	.4888	2.046	.686	im1 o
1.403	7.131	2.328	23.291	.4801	2.083	.674	im1 o
1.350	7.329	2.348	23.231	.5034	1.986	.680	im2 □
1.403	7.731	2.720	29.503	.4620	2.165	.648	im1 o
1.403	8.309	3.135	36.546	.4438	2.253	.623	im1 o
1.403	8.721	3.525	43.130	.4247	2.355	.596	im1 o
1.403	9.427	4.019	53.156	.4089	2.446	.574	im1 o
1.403	10.005	4.467	62.703	.3945	2.535	.554	im1 o



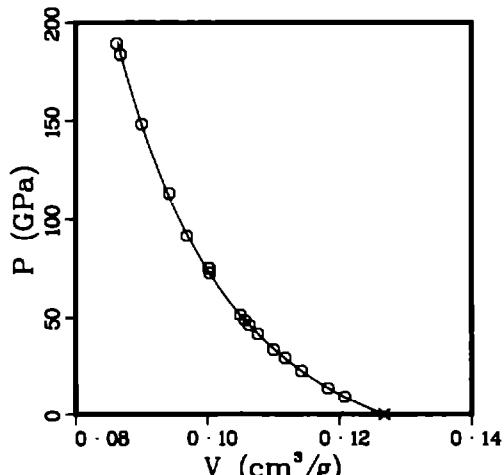
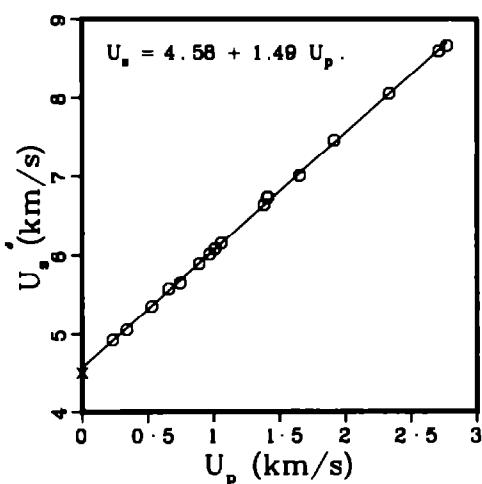
STEEL. 304

$$\text{Average } \rho_0 = 7.890 \text{ g/cm}^3.$$

Sound velocities longitudinal 5.77 km/s .
 shear 3.12 km/s .

Reference 13

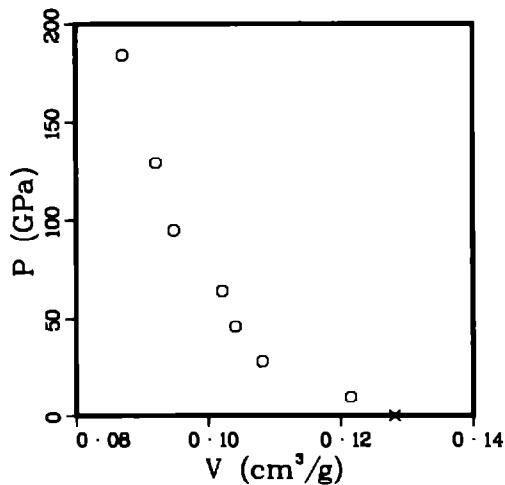
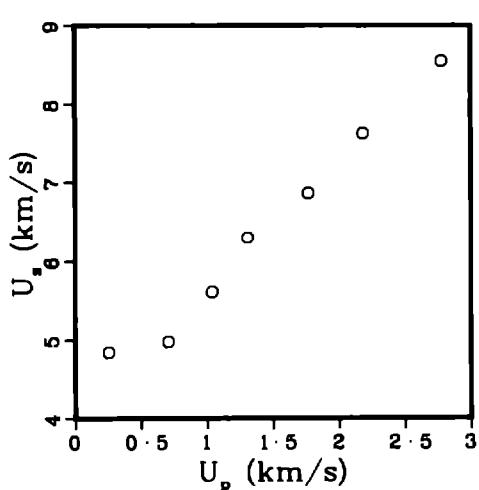
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.890	4.507	0.000	0.000	1267	7.890	1.000	s s p x
7.890	4.925	.232	9.015	1208	8.280	.953	im1 o
7.890	5.056	.339	13.523	1182	8.457	.933	im1 o
7.890	5.355	.529	22.351	1142	8.755	.901	im1 o
7.890	5.577	.659	28.998	1118	8.947	.882	im1 o
7.890	5.651	.745	33.217	1100	9.088	.868	im1 o
7.890	5.891	.889	41.321	1076	9.292	.849	im1 o
7.890	6.011	.969	45.957	1063	9.406	.839	im1 o
7.890	6.080	1.010	48.451	1057	9.462	.834	im1 o
7.890	6.152	1.057	51.306	1050	9.527	.828	im1 o
7.890	6.639	1.383	72.444	1003	9.966	.792	im1 o
7.890	6.732	1.409	74.840	1002	9.978	.791	im1 o
7.890	6.734	1.409	74.862	1002	9.978	.791	im1 o
7.890	7.007	1.653	91.386	0968	10.326	.764	im1 o
7.890	7.460	1.915	112.716	0942	10.615	.743	im1 o
7.890	8.054	2.334	148.317	0900	11.109	.710	im1 o
7.890	8.600	2.711	183.952	0868	11.522	.685	im1 o
7.890	8.667	2.772	189.557	0862	11.600	.680	im1 o



STEEL, 304, ferritic phase

Average $\rho_0 = 7.805 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.798	4.842	.254	9.591	.1215	8.230	.948	im1 o
7.929	4.978	.706	27.866	.1082	9.239	.858	im1 o
7.828	5.616	1.039	45.677	.1041	9.605	.815	im1 o
7.757	6.300	1.309	63.970	.1021	9.791	.792	im1 o
7.827	6.862	1.769	95.011	.0948	10.546	.742	im1 o
7.748	7.629	2.184	129.095	.0921	10.856	.714	im1 o
7.750	8.555	2.782	184.450	.0871	11.485	.675	im1 o



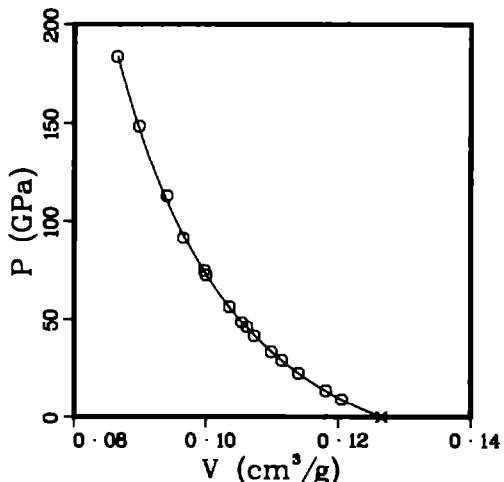
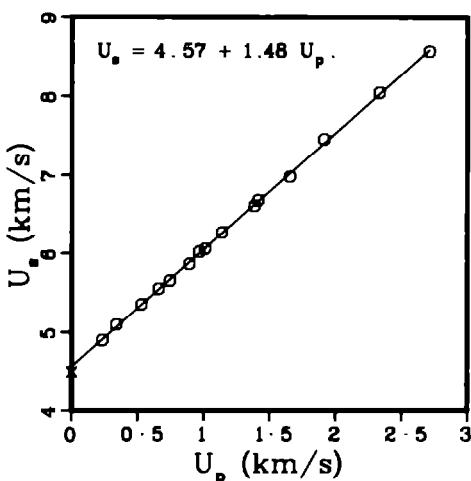
STEEL, 304L

$$\text{Average } \rho_0 = 7.903 \text{ g/cm}^3.$$

Sound velocities longitudinal 5.79 km/s
shear 3.16 km/s

Reference 13

ρ_0 (g/cm ³)	U _u (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.903	4.496	0.000	0.000	1265	7.903	1.000	ss p x
7.903	4.900	.232	8.984	1205	8.296	.953	im1 o
7.903	5.099	.338	13.621	1181	8.464	.934	im1 o
7.903	5.352	.529	22.375	1140	8.770	.901	im1 o
7.903	5.551	.660	28.954	1115	8.969	.881	im1 o
7.903	5.654	.744	33.245	1099	9.101	.868	im1 o
7.903	5.865	.891	41.299	1073	9.319	.848	im1 o
7.903	6.018	.967	45.991	1062	9.416	.839	im1 o
7.903	6.057	1.011	48.395	1054	9.486	.833	im1 o
7.903	6.263	1.139	56.377	1035	9.660	.818	im1 o
7.903	6.605	1.385	72.296	1000	10.000	.790	im1 o
7.903	6.678	1.413	74.573	0.998	10.024	.788	im1 o
7.903	6.979	1.654	91.226	0.965	10.358	.763	im1 o
7.903	7.458	1.914	112.812	0.941	10.631	.743	im1 o
7.903	8.048	2.334	148.450	0.898	11.131	.710	im1 o
7.903	8.572	2.713	183.791	0.865	11.562	.684	im1 o



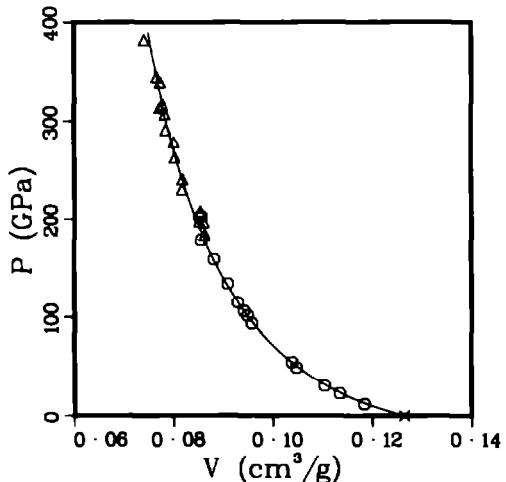
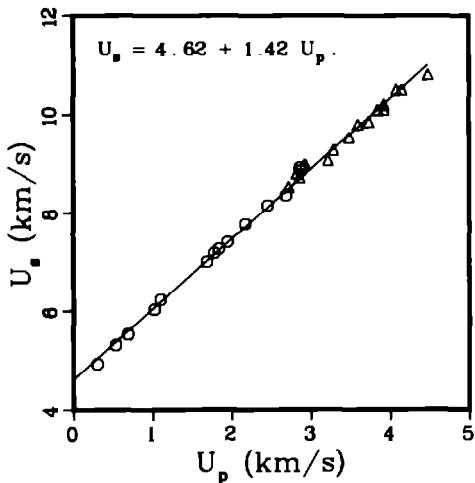
STEEL, 347

Average $\rho_0 = 7.910 \text{ g/cm}^3$.

Reference 31

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.925	4.935	.304	11.889	.1184	8.445	.938	im1 o
7.925	5.320	.537	22.640	.1134	8.815	.899	im1 o
7.925	5.540	.692	30.382	.1104	9.056	.875	im1 o
7.925	6.030	1.022	48.839	.1048	9.542	.831	im1 o
7.926	6.231	1.101	54.375	.1039	9.627	.823	im1 o
7.925	6.999	1.689	93.684	.0957	10.446	.759	im1 o
7.923	7.180	1.781	101.316	.0949	10.537	.752	im1 o
7.928	7.268	1.841	106.080	.0942	10.617	.747	im1 o
7.925	7.409	1.950	114.497	.0930	10.756	.737	im1 o
7.925	7.770	2.170	133.623	.0909	10.996	.721	im1 o
7.925	8.157	2.456	158.766	.0882	11.339	.699	im1 o
7.926	8.361	2.689	178.198	.0856	11.684	.678	im1 o
7.894	8.530	2.720	183.153	.0863	11.590	.681	im3 △
7.894	8.800	2.820	195.898	.0861	11.617	.680	im3 △
7.890	8.720	2.860	196.770	.0852	11.741	.672	im3 △
7.926	8.922	2.863	202.459	.0857	11.671	.679	im1 o
7.926	8.860	2.879	202.176	.0852	11.741	.675	im1 o
7.892	8.990	2.930	207.881	.0854	11.708	.674	im3 △
7.891	9.070	3.220	230.460	.0817	12.234	.645	im3 △
7.887	9.280	3.280	240.800	.0818	12.219	.645	im3 △
7.896	9.540	3.490	262.894	.0803	12.451	.634	im3 △

(Continued)



STEEL, 347
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.895	9.800	3.600	278.536	.0801	12.479	.633	i m3 △
7.903	9.850	3.740	291.139	.0785	12.741	.620	i m3 △
7.895	10.100	3.850	306.997	.0784	12.758	.619	i m3 △
7.894	10.200	3.930	316.439	.0779	12.842	.615	i m3 △
7.898	10.100	3.930	313.495	.0773	12.929	.611	i m3 △
7.907	10.500	4.080	338.736	.0773	12.932	.611	i m3 △
7.895	10.500	4.150	344.025	.0766	13.055	.605	i m3 △
7.898	10.800	4.480	382.137	.0741	13.497	.585	i m3 △

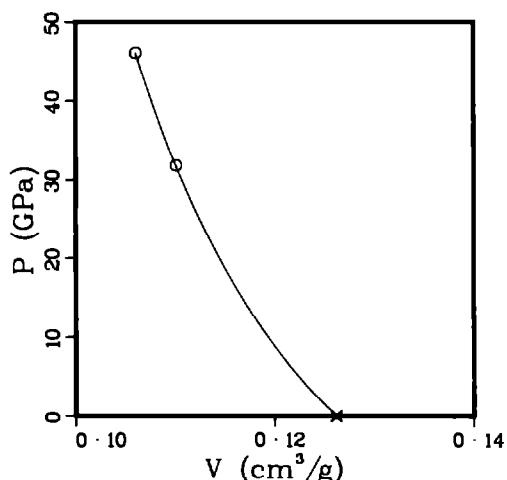
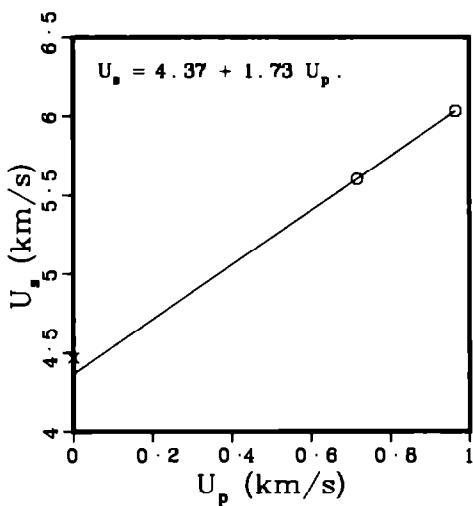
STEEL, 348

Average $\rho_0 = 7.923 \text{ g/cm}^3$.

Sound velocities longitudinal 5.74 km/s.
shear 3.12 km/s.

Reference 13

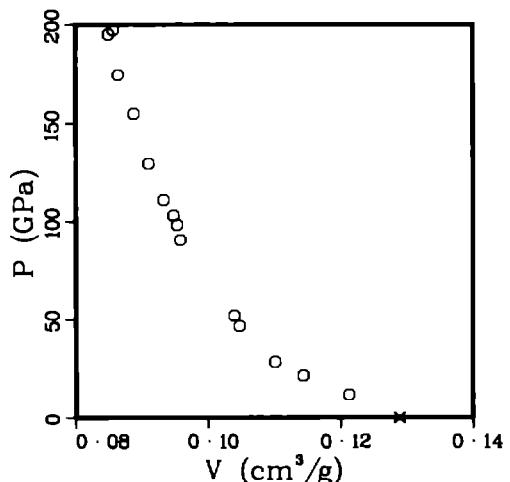
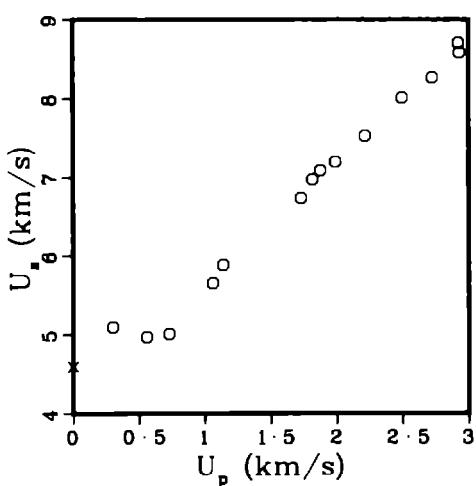
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.928	4.469	0.000	0.000	.1261	7.928	1.000	s s p x
7.920	5.605	.717	31.829	.1101	9.082	.872	im1 o
7.920	6.033	.965	46.109	.1061	9.428	.840	im1 o



STEEL, maraging, Almar

Average $\rho_0 = 7.758 \text{ g/cm}^3$.

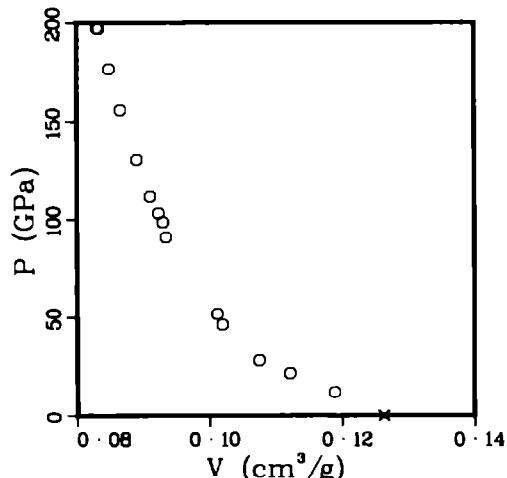
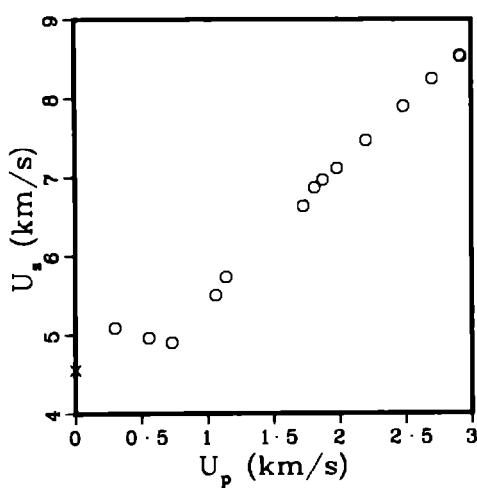
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
7.758	4.600	0.000	0.000	.1289	7.758	1.000	ss p x
7.758	5.094	.302	11.935	.1213	8.247	.941	im1 o
7.758	4.966	.560	21.575	.1144	8.744	.887	im1 o
7.758	5.009	.730	28.368	.1101	9.082	.854	im1 o
7.758	5.655	1.060	46.504	.1047	9.548	.813	im1 o
7.758	5.883	1.139	51.984	.1039	9.621	.806	im1 o
7.758	6.740	1.730	90.460	.0958	10.437	.743	im1 o
7.758	6.976	1.817	98.336	.0953	10.490	.740	im1 o
7.758	7.088	1.876	103.159	.0948	10.550	.735	im1 o
7.758	7.201	1.989	111.116	.0933	10.719	.724	im1 o
7.758	7.537	2.215	129.516	.0910	10.987	.706	im1 o
7.758	8.011	2.494	155.000	.0888	11.265	.689	im1 o
7.758	8.264	2.724	174.641	.0864	11.573	.670	im1 o
7.758	8.709	2.922	197.423	.0857	11.675	.664	im1 o
7.758	8.589	2.929	195.169	.0849	11.773	.659	im1 o



STEEL, maraging, HP 9-4-20

Average $\rho_0 = 7.918 \text{ g/cm}^3$.

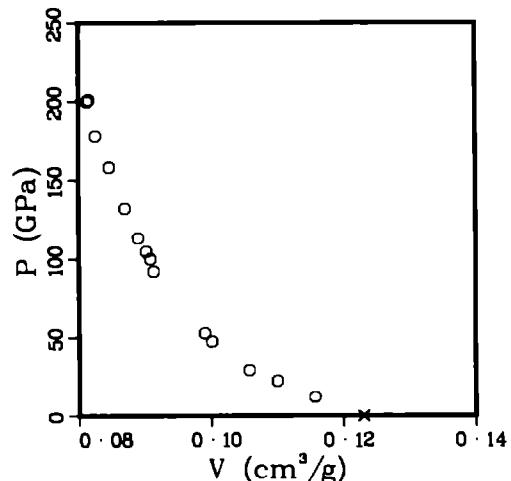
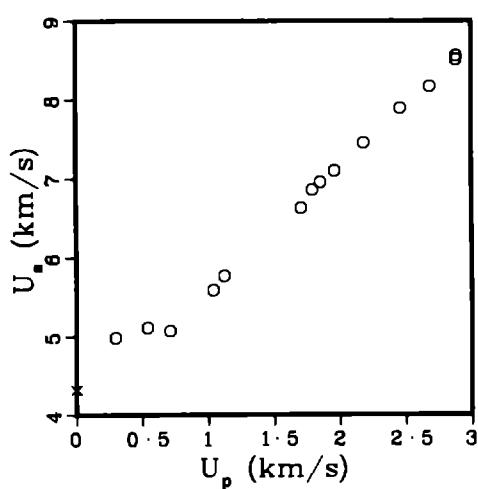
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
7.918	4.560	0.000	0.000	.1263	7.918	1.000	s s p x
7.918	5.088	.299	12.046	.1189	8.412	.941	i m1 o
7.918	4.959	.555	21.792	.1122	8.916	.888	i m1 o
7.918	4.902	.730	28.334	.1075	9.303	.851	i m1 o
7.918	5.507	1.062	46.308	.1019	9.810	.807	i m1 o
7.918	5.736	1.141	51.822	.1012	9.884	.801	i m1 o
7.918	6.639	1.727	90.784	.0934	10.702	.740	i m1 o
7.918	6.872	1.813	98.650	.0930	10.756	.736	i m1 o
7.918	6.967	1.874	103.379	.0923	10.831	.731	i m1 o
7.918	7.116	1.983	111.731	.0911	10.977	.721	i m1 o
7.918	7.475	2.204	130.448	.0891	11.229	.705	i m1 o
7.918	7.903	2.487	155.626	.0866	11.554	.685	i m1 o
7.918	8.247	2.705	176.636	.0849	11.783	.672	i m1 o
7.918	8.550	2.911	197.071	.0833	12.005	.660	i m1 o
7.918	8.537	2.921	197.448	.0831	12.036	.658	i m1 o



STEEL, maraging, Vascomax 250

Average $\rho_0 = 8.129 \text{ g/cm}^3$.

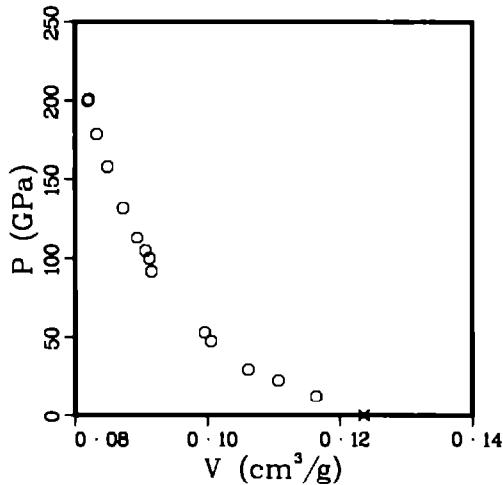
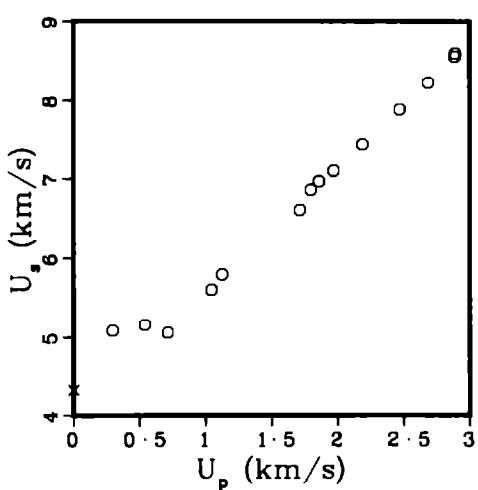
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
8.129	4.320	0.000	0.000	.1230	8.129	1.000	s s p x
8.129	4.983	.298	12.071	.1157	8.646	.940	i m1 o
8.129	5.112	.541	22.481	.1100	9.091	.894	i m1 o
8.129	5.071	.712	29.350	.1057	9.457	.860	i m1 o
8.129	5.600	1.043	47.480	.1001	9.990	.814	i m1 o
8.129	5.776	1.125	52.822	.0991	10.095	.805	i m1 o
8.129	6.636	1.709	92.190	.0913	10.949	.742	i m1 o
8.129	6.862	1.795	100.127	.0908	11.009	.738	i m1 o
8.129	6.956	1.855	104.892	.0902	11.085	.733	i m1 o
8.129	7.102	1.964	113.386	.0890	11.236	.723	i m1 o
8.129	7.457	2.183	132.329	.0870	11.494	.707	i m1 o
8.129	7.896	2.463	158.092	.0846	11.814	.688	i m1 o
8.129	8.171	2.687	178.476	.0826	12.112	.671	i m1 o
8.129	8.518	2.886	199.835	.0813	12.295	.661	i m1 o
8.129	8.567	2.888	201.124	.0815	12.263	.663	i m1 o



STEEL, maraging, Vascomax 300

Average $\rho_0 = 8.091 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
8.091	4.330	0.000	0.000	.1236	8.091	1.000	s p x
8.091	5.088	.296	12.185	.1164	8.591	.942	im1 o
8.091	5.162	.540	22.554	.1107	9.036	.895	im1 o
8.091	5.060	.714	29.231	.1062	9.420	.859	im1 o
8.091	5.603	1.045	47.374	.1005	9.946	.813	im1 o
8.091	5.796	1.126	52.804	.0996	10.042	.806	im1 o
8.091	6.611	1.714	91.681	.0916	10.923	.741	im1 o
8.091	6.863	1.798	99.840	.0912	10.963	.738	im1 o
8.091	6.966	1.858	104.720	.0906	11.034	.733	im1 o
8.091	7.102	1.967	113.028	.0894	11.190	.723	im1 o
8.091	7.445	2.189	131.860	.0873	11.461	.706	im1 o
8.091	7.885	2.469	157.516	.0849	11.779	.687	im1 o
8.091	8.227	2.685	178.726	.0833	12.011	.674	im1 o
8.091	8.558	2.886	199.835	.0819	12.208	.663	im1 o
8.091	8.597	2.889	200.954	.0821	12.186	.664	im1 o



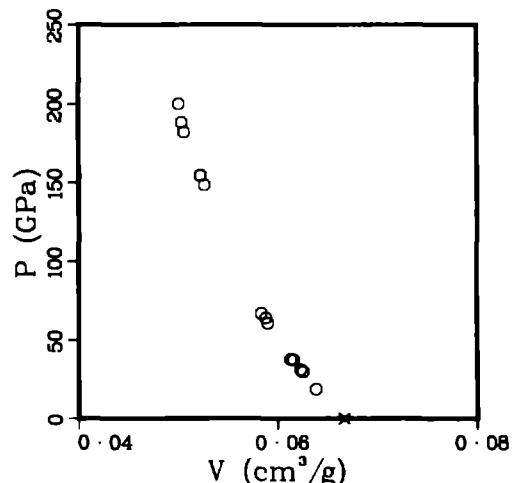
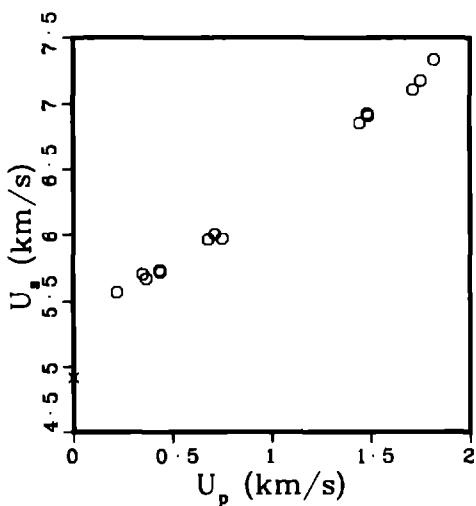
TUNGSTEN CARBIDE-5 wt% Co

Average $\rho_0 = 15.013 \text{ g/cm}^3$.

Sound velocities longitudinal 6.89 km/s.
shear 4.18 km/s.

References 13, 30

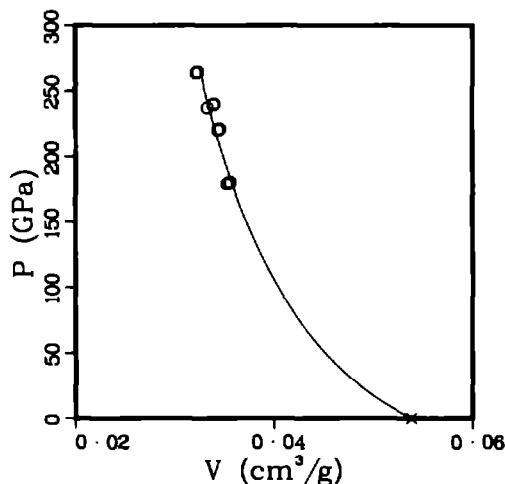
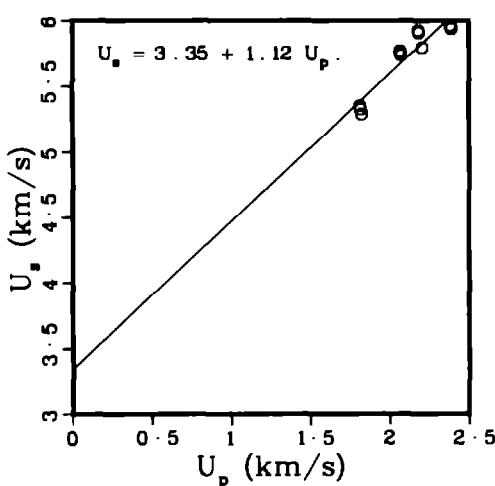
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
15.000	4.917	0.000	0.000	.0667	15.000	1.000	ssp x
15.050	5.569	.220	18.439	.0638	15.669	.960	im1 o
15.010	5.706	.351	30.062	.0625	15.994	.938	im1 o
15.010	5.671	.369	31.410	.0623	16.055	.935	im1 o
15.000	5.734	.437	37.586	.0616	16.237	.924	im1 o
15.060	5.720	.440	37.903	.0613	16.315	.923	im1 o
15.020	5.965	.679	60.835	.0590	16.949	.886	im1 o
14.990	6.008	.712	64.123	.0588	17.005	.881	im1 o
14.990	5.971	.750	67.129	.0583	17.143	.874	im1 o
14.990	6.857	1.445	148.526	.0527	18.992	.789	im1 o
15.030	6.927	1.484	154.503	.0523	19.128	.786	im1 o
15.020	6.912	1.489	154.585	.0522	19.144	.785	im1 o
15.000	7.108	1.712	182.533	.0506	19.759	.759	im1 o
15.010	7.175	1.751	188.577	.0504	19.856	.756	im1 o
15.010	7.334	1.819	200.242	.0501	19.961	.752	im1 o



URANIUM-2 . 0 wt% Mo

Average $\rho_0 = 18.580 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.580	5.353	1.813	180.319	.0356	28.096	.661	im1 o
18.580	5.328	1.818	179.972	.0355	28.203	.659	im1 o
18.580	5.290	1.824	179.278	.0353	28.358	.655	im1 o
18.580	5.769	2.065	221.343	.0346	28.938	.642	im1 o
18.580	5.746	2.069	220.888	.0344	29.035	.640	im1 o
18.580	5.735	2.071	220.678	.0344	29.082	.639	im1 o
18.580	5.924	2.181	240.058	.0340	29.406	.632	im1 o
18.580	5.908	2.184	239.739	.0339	29.477	.630	im1 o
18.580	5.793	2.205	237.333	.0333	29.998	.619	im1 o
18.580	5.962	2.384	264.085	.0323	30.960	.600	im1 o
18.580	5.959	2.385	264.063	.0323	30.979	.600	im1 o
18.580	5.939	2.389	263.618	.0322	31.084	.598	im1 o



URANIUM-3 . 0 wt% Mo

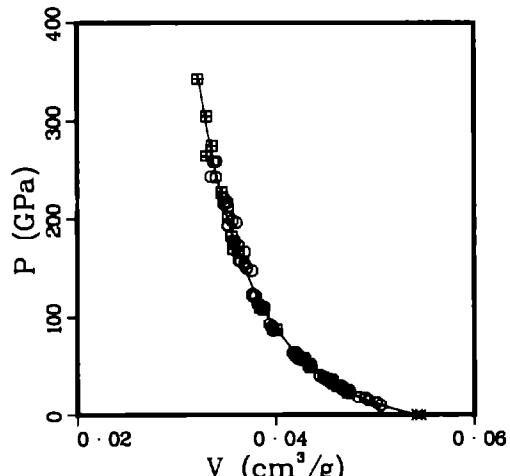
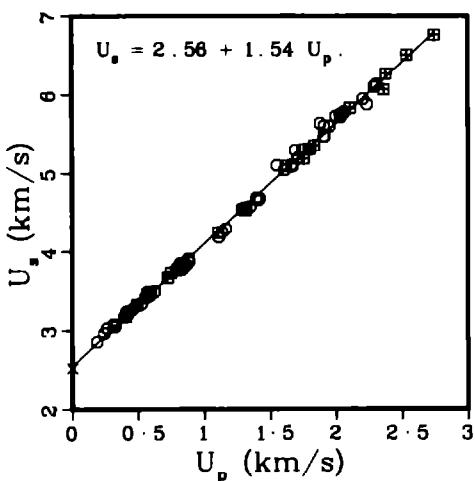
Average $\rho_0 = 18.447 \text{ g/cm}^3$.

Sound velocities longitudinal 3.31 km/s.
shear 1.85 km/s.

References 13, 17, 18

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
18.330	2.528	0.000	0.000	.0546	18.330	1.000	s s p x
18.480	2.858	.188	9.929	.0506	19.781	.934	i m1 o
18.320	2.962	.240	13.023	.0502	19.935	.919	i m1 o
18.480	3.029	.265	14.834	.0494	20.252	.913	i m1 o
18.330	3.075	.314	17.699	.0490	20.415	.898	i m1 o
18.480	3.049	.324	18.256	.0484	20.677	.894	i m1 o
18.480	3.168	.394	23.067	.0474	21.105	.876	i m1 o
18.450	3.174	.406	23.775	.0473	21.156	.872	s p1 ■
18.480	3.246	.412	24.714	.0472	21.167	.873	i m1 o
18.480	3.226	.414	24.681	.0472	21.201	.872	i m1 o
18.480	3.197	.416	24.578	.0471	21.244	.870	i m1 o
18.330	3.236	.426	25.269	.0474	21.109	.868	i m1 o
18.450	3.262	.453	27.263	.0467	21.425	.861	i m1 o
18.330	3.295	.473	28.568	.0467	21.402	.856	i m1 o
18.450	3.334	.491	30.203	.0462	21.636	.853	s p1 ■
18.480	3.348	.526	32.544	.0456	21.925	.843	i m1 o
18.450	3.425	.555	35.071	.0454	22.018	.838	i m1 o
18.330	3.490	.567	36.272	.0457	21.886	.838	i m1 o
18.450	3.441	.579	36.759	.0451	22.183	.832	i m1 o

(Continued)



URANIUM-3 . 0 wt% Mo
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.480	3.492	.591	38.139	.0450	22.245	.831	im1 o
18.480	3.463	.595	38.078	.0448	22.314	.828	im1 o
18.480	3.497	.624	40.326	.0445	22.494	.822	im1 o
18.450	3.670	.723	48.955	.0435	22.976	.803	sp1 ■
18.450	3.732	.749	51.573	.0433	23.083	.799	sp1 ■
18.490	3.795	.797	55.925	.0427	23.405	.790	im1 o
18.450	3.804	.816	57.270	.0426	23.489	.785	im1 o
18.330	3.849	.820	57.853	.0429	23.292	.787	im1 o
18.480	3.798	.821	57.624	.0424	23.576	.784	im1 o
18.450	3.770	.823	57.245	.0424	23.602	.782	im1 o
18.480	3.846	.835	59.347	.0424	23.605	.783	im1 o
18.450	3.783	.838	58.489	.0422	23.700	.778	im1 o
18.480	3.820	.844	59.581	.0422	23.721	.779	im1 o
18.480	3.828	.863	61.050	.0419	23.859	.775	im1 o
18.450	3.907	.881	63.506	.0420	23.822	.775	im1 o
18.480	3.869	.884	63.205	.0417	23.953	.772	im1 o
18.450	4.241	1.107	86.619	.0401	24.967	.739	sp1 ■
18.480	4.182	1.113	86.016	.0397	25.182	.734	im1 o
18.480	4.246	1.137	89.216	.0396	25.238	.732	im1 o
18.480	4.288	1.166	92.396	.0394	25.382	.728	im1 o
18.450	4.537	1.292	108.150	.0388	25.796	.715	sp1 ■
18.480	4.548	1.300	109.261	.0386	25.877	.714	im1 o
18.330	4.560	1.313	109.747	.0388	25.742	.712	im1 o
18.450	4.529	1.317	110.049	.0384	26.015	.709	sp1 ■
18.450	4.572	1.351	113.961	.0382	26.189	.705	im1 o
18.480	4.685	1.398	121.037	.0380	26.340	.702	im1 o
18.480	4.656	1.412	121.493	.0377	26.524	.697	im1 o
18.480	4.679	1.421	122.871	.0377	26.540	.696	im1 o
18.480	5.102	1.555	146.613	.0376	26.582	.695	im1 o
18.330	5.045	1.614	149.254	.0371	26.953	.680	im1 o
18.480	5.096	1.623	152.845	.0369	27.116	.682	im1 o
18.480	5.105	1.666	157.171	.0365	27.433	.674	im1 o
18.480	5.087	1.672	157.181	.0363	27.528	.671	im1 o
18.450	5.300	1.692	165.452	.0369	27.102	.681	im1 o
18.480	5.196	1.715	164.678	.0363	27.585	.670	im1 o
18.480	5.309	1.749	171.595	.0363	27.559	.671	im1 o
18.480	5.187	1.757	168.419	.0358	27.946	.661	sp1 ■
18.450	5.309	1.801	176.410	.0358	27.922	.661	im1 o
18.450	5.310	1.802	176.541	.0358	27.927	.661	sp1 ■
18.450	5.358	1.838	181.696	.0356	28.084	.657	sp1 ■
18.480	5.640	1.881	196.051	.0361	27.727	.666	im1 o
18.480	5.478	1.911	193.457	.0352	28.381	.651	im1 o
18.480	5.604	1.912	198.010	.0357	28.050	.659	im1 o

(Continued)

URANIUM-3 .0 wt% Mo
 (Continued)

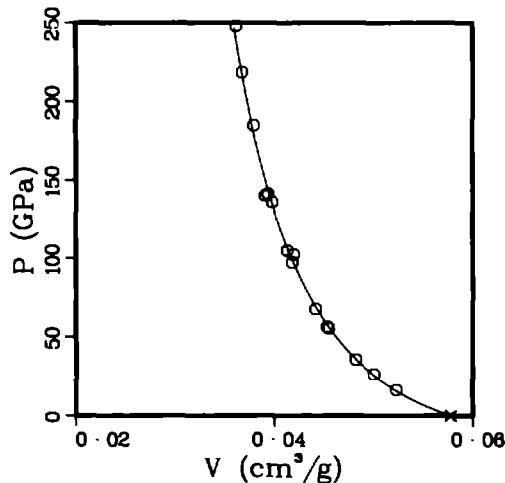
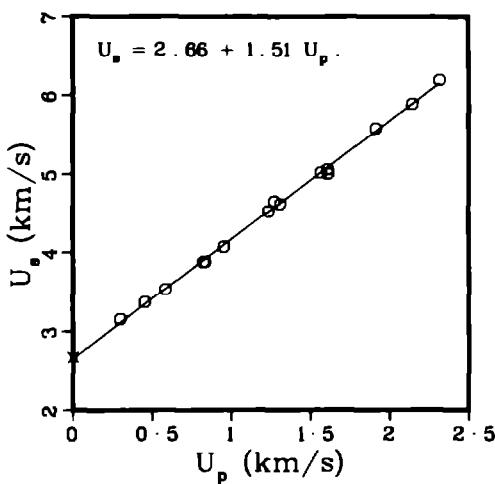
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.450	5.473	1.915	193.371	.0352	28.380	.650	im1 o
18.480	5.603	1.953	202.220	.0353	28.368	.651	im1 o
18.480	5.729	2.001	211.850	.0352	28.399	.651	im1 o
18.480	5.753	2.036	216.458	.0350	28.602	.646	im1 o
18.480	5.718	2.037	215.247	.0348	28.707	.644	im1 o
18.320	5.767	2.053	216.902	.0352	28.447	.644	im1 o
18.480	5.783	2.067	220.900	.0348	28.759	.643	im1 o
18.450	5.833	2.109	226.968	.0346	28.899	.638	sp1 ■
18.480	5.946	2.206	242.400	.0340	29.380	.629	im1 o
18.480	5.878	2.238	243.104	.0335	29.842	.619	im1 o
18.480	6.099	2.292	258.330	.0338	29.606	.624	im1 o
18.320	6.122	2.306	258.630	.0340	29.391	.623	im1 o
18.320	6.131	2.308	259.234	.0340	29.380	.624	im1 o
18.450	6.064	2.365	264.598	.0331	30.246	.610	sp1 ■
18.450	6.267	2.381	275.306	.0336	29.755	.620	sp1 ■
18.450	6.510	2.538	304.838	.0331	30.239	.610	sp1 ■
18.450	6.762	2.747	342.713	.0322	31.073	.594	sp1 ■

URANIUM-8 .3 wt% Mo

Average $\rho_0 = 17.312 \text{ g/cm}^3$.

Sound velocities longitudinal 3.08 km/s.
shear 1.32 km/s.

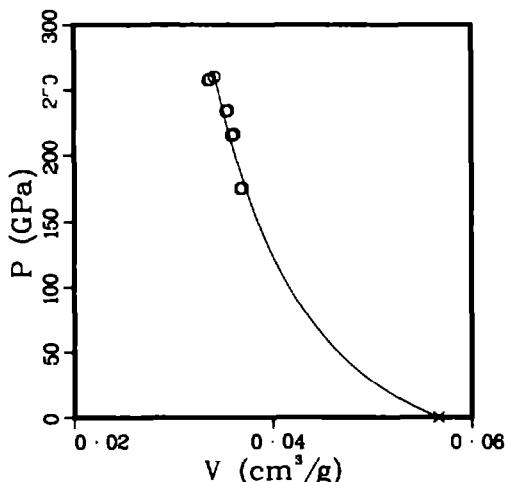
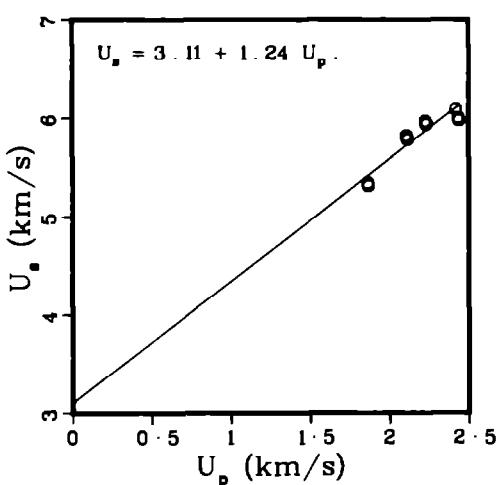
ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
17.320	2.676	0.000	0.000	.0577	17.320	1.000	s s p x
17.300	3.157	.300	16.385	.0523	19.117	.905	i m l o
17.290	3.370	.456	26.570	.0500	19.996	.865	i m l o
17.320	3.530	.582	35.583	.0482	20.739	.835	i m l o
17.300	3.877	.825	55.334	.0455	21.976	.787	i m l o
17.300	3.883	.836	56.159	.0454	22.047	.785	i m l o
17.320	4.072	.954	67.283	.0442	22.619	.766	i m l o
17.370	4.524	1.238	97.284	.0418	23.914	.726	i m l o
17.320	4.653	1.271	102.430	.0420	23.829	.727	i m l o
17.330	4.618	1.310	104.839	.0413	24.193	.716	i m l o
17.290	5.020	1.567	136.009	.0398	25.136	.688	i m l o
17.310	5.061	1.611	141.133	.0394	25.393	.682	i m l o
17.350	5.007	1.612	140.037	.0391	25.588	.678	i m l o
17.290	5.581	1.916	184.885	.0380	26.329	.657	i m l o
17.290	5.889	2.144	218.304	.0368	27.188	.636	i m l o
17.290	6.191	2.317	248.017	.0362	27.631	.626	i m l o



URANIUM-4.7 wt% Nb

Average $\rho_0 = 17.650 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
17.650	5.340	1.862	175.495	.0369	27.099	.651	im1 o
17.650	5.334	1.863	175.392	.0369	27.123	.651	im1 o
17.650	5.311	1.867	175.011	.0367	27.218	.648	im1 o
17.650	5.818	2.108	216.466	.0361	27.679	.638	im1 o
17.650	5.814	2.109	216.419	.0361	27.697	.637	im1 o
17.650	5.793	2.112	215.945	.0360	27.777	.635	im1 o
17.650	5.775	2.116	215.681	.0359	27.857	.634	im1 o
17.650	5.970	2.227	234.660	.0355	28.151	.627	im1 o
17.650	5.948	2.231	234.215	.0354	28.244	.625	im1 o
17.650	5.934	2.234	233.978	.0353	28.307	.624	im1 o
17.650	6.088	2.419	259.929	.0341	29.287	.603	im1 o
17.650	6.006	2.434	258.018	.0337	29.677	.595	im1 o
17.650	5.976	2.440	257.362	.0335	29.829	.592	im1 o

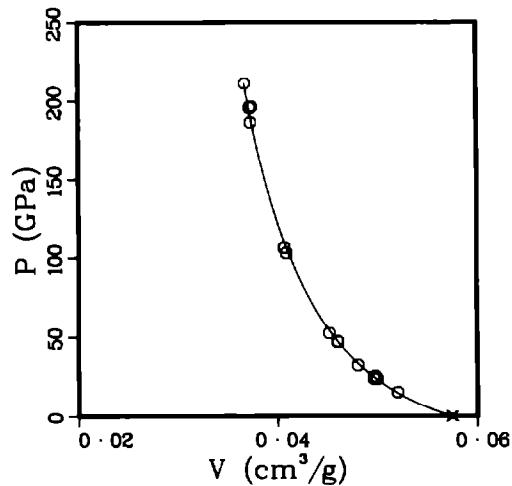
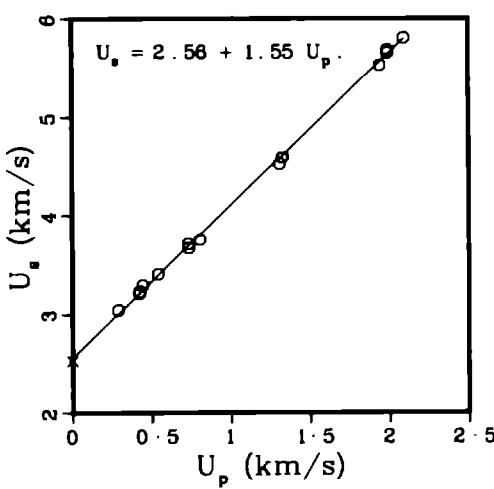


URANIUM-6 . 0 wt% Nb

Average $\rho_0 = 17.411 \text{ g/cm}^3$.

Sound velocities longitudinal 2.90 km/s.
shear 1.23 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
17.390	2.528	0.000	0.000	.0575	17.390	1.000	s s p x
17.400	3.045	.289	15.312	.0520	19.225	.905	i m1 o
17.390	3.230	.424	23.816	.0500	20.018	.869	i m1 o
17.490	3.214	.424	23.834	.0496	20.148	.868	i m1 o
17.390	3.290	.443	25.345	.0498	20.096	.865	i m1 o
17.500	3.404	.542	32.287	.0480	20.814	.841	i m1 o
17.450	3.706	.731	47.274	.0460	21.738	.803	i m1 o
17.360	3.666	.736	46.840	.0460	21.721	.799	i m1 o
17.380	3.751	.806	52.545	.0452	22.137	.785	i m1 o
17.370	4.521	1.311	102.953	.0409	24.464	.710	i m1 o
17.470	4.593	1.327	106.478	.0407	24.568	.711	i m1 o
17.470	4.588	1.328	106.442	.0407	24.587	.711	i m1 o
17.370	5.528	1.942	186.473	.0373	26.777	.649	i m1 o
17.410	5.665	1.989	196.170	.0373	26.830	.649	i m1 o
17.380	5.684	1.989	196.489	.0374	26.736	.650	i m1 o
17.390	5.669	1.990	196.182	.0373	26.796	.649	i m1 o
17.390	5.656	1.991	195.830	.0373	26.837	.648	i m1 o
17.400	5.806	2.093	211.444	.0368	27.208	.640	i m1 o



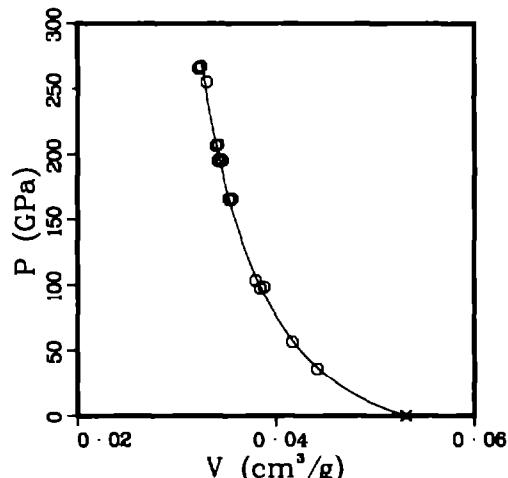
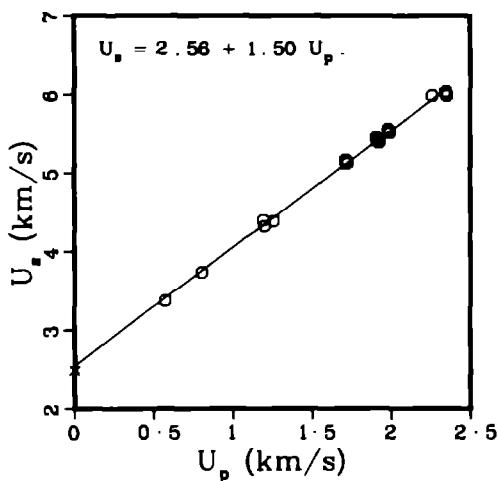
URANIUM-1.0 wt% Rh

Average $\rho_0 = 18.825 \text{ g/cm}^3$.

Sound velocities longitudinal 3.45 km/s.
shear 2.07 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.830	2.488	0.000	0.000	.0531	18.830	1.000	ssp x
18.820	3.372	.571	36.236	.0441	22.657	.831	im1 o
18.830	3.733	.805	56.585	.0417	24.007	.784	im1 o
18.800	4.399	1.191	98.497	.0388	25.780	.729	im1 o
18.810	4.324	1.200	97.601	.0384	26.035	.722	im1 o
18.810	4.387	1.256	103.644	.0379	26.356	.714	im1 o
18.830	5.162	1.710	166.213	.0355	28.158	.669	im1 o
18.810	5.170	1.710	166.294	.0356	28.106	.669	im1 o
18.840	5.132	1.714	165.721	.0354	28.288	.666	im1 o
18.830	5.141	1.720	166.505	.0353	28.297	.665	im1 o
18.820	5.126	1.722	166.124	.0353	28.341	.664	im1 o
18.810	5.456	1.906	195.608	.0346	28.909	.651	im1 o
18.820	5.422	1.910	194.900	.0344	29.055	.648	im1 o
18.830	5.421	1.919	195.887	.0343	29.148	.646	im1 o
18.820	5.424	1.919	195.891	.0343	29.124	.646	im1 o
18.830	5.388	1.923	195.100	.0342	29.280	.643	im1 o
18.840	5.566	1.982	207.839	.0342	29.259	.644	im1 o
18.820	5.547	1.986	207.328	.0341	29.316	.642	im1 o
18.810	5.514	1.991	206.503	.0340	29.440	.639	im1 o
18.850	5.986	2.261	255.122	.0330	30.292	.622	im1 o

(Continued)



URANIUM-1.0 wt% Rh
 (Continued)

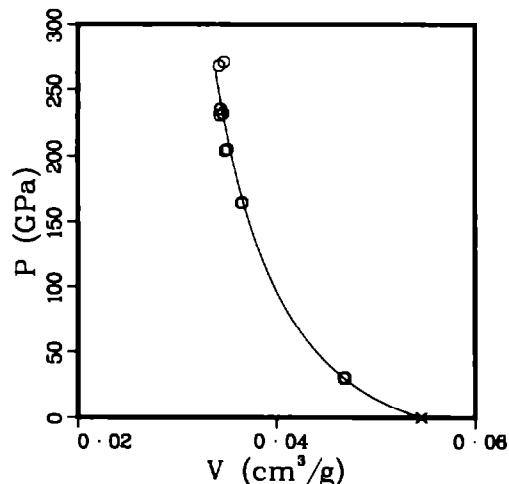
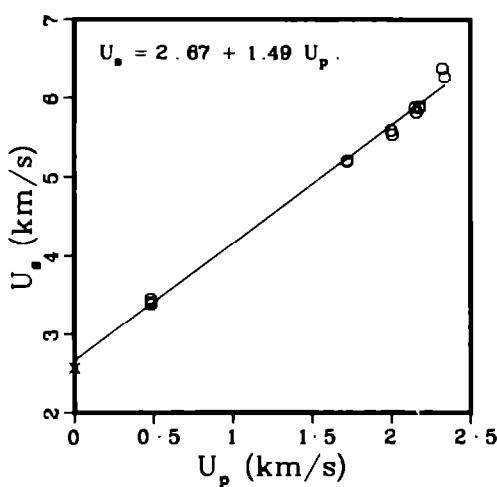
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.840	6.036	2.346	266.783	.0324	30.818	.611	im1 o
18.830	6.012	2.350	266.034	.0323	30.914	.609	im1 o
18.850	5.985	2.353	265.459	.0322	31.062	.607	im1 o

URANIUM-5.4 wt% Rh

Average $\rho_0 = 18.326 \text{ g/cm}^3$.

Sound velocities longitudinal 3.41 km/s.
shear 1.94 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.330	2.571	0.000	0.000	.0546	18.330	1.000	s p x
18.360	3.448	.480	30.387	.0469	21.329	.861	i m1 o
18.310	3.406	.483	30.122	.0469	21.336	.858	i m1 o
18.320	3.385	.485	30.076	.0468	21.384	.857	i m1 o
18.310	5.213	1.722	164.365	.0366	27.342	.670	i m1 o
18.320	5.200	1.724	164.235	.0365	27.406	.668	i m1 o
18.320	5.596	2.000	205.037	.0351	28.509	.643	i m1 o
18.330	5.543	2.007	203.918	.0348	28.734	.638	i m1 o
18.320	5.884	2.151	231.867	.0346	28.876	.634	i m1 o
18.330	5.821	2.159	230.363	.0343	29.137	.629	i m1 o
18.330	5.885	2.179	235.053	.0344	29.107	.630	i m1 o
18.330	5.882	2.179	234.933	.0343	29.116	.630	i m1 o
18.320	6.382	2.322	271.484	.0347	28.798	.636	i m1 o
18.330	6.268	2.337	268.504	.0342	29.227	.627	i m1 o



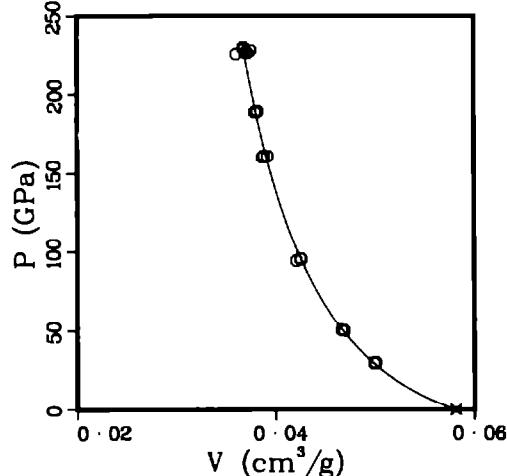
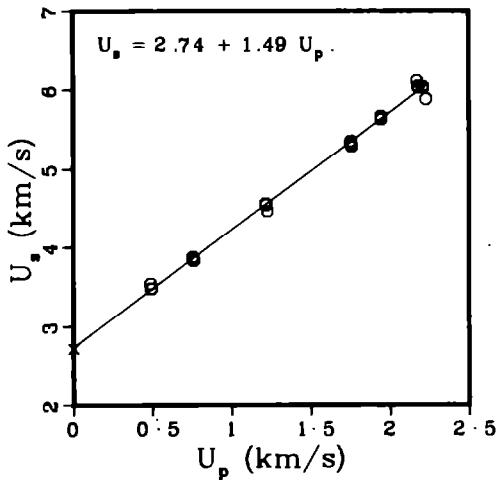
URANIUM-13.4 wt% Rh

Average $\rho_0 = 17.204 \text{ g/cm}^3$.

Sound velocities longitudinal 3.38 km/s.
shear 1.74 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
17.200	2.718	0.000	0.000	.0581	17.200	1.000	s s p x
17.220	3.542	.488	29.765	.0501	19.972	.862	i m1 o
17.200	3.483	.492	29.475	.0499	20.029	.859	i m1 o
17.180	3.477	.493	29.449	.0500	20.018	.858	i m1 o
17.260	3.873	.754	50.403	.0467	21.433	.805	i m1 o
17.170	3.867	.756	50.196	.0469	21.342	.804	i m1 o
17.100	3.832	.761	49.866	.0469	21.337	.801	i m1 o
17.250	4.559	1.216	95.630	.0425	23.525	.733	i m1 o
17.170	4.541	1.220	95.122	.0426	23.478	.731	i m1 o
17.210	4.460	1.228	94.257	.0421	23.749	.725	i m1 o
17.270	5.326	1.754	161.333	.0388	25.750	.671	i m1 o
17.150	5.357	1.755	161.236	.0392	25.506	.672	i m1 o
17.230	5.289	1.761	160.479	.0387	25.830	.667	i m1 o
17.210	5.666	1.944	189.563	.0382	26.199	.657	i m1 o
17.180	5.656	1.946	189.093	.0382	26.191	.656	i m1 o
17.230	5.629	1.948	188.932	.0380	26.348	.654	i m1 o
17.190	6.111	2.172	228.164	.0375	26.669	.645	i m1 o
17.240	6.036	2.180	226.852	.0371	26.987	.639	i m1 o
17.180	6.042	2.182	226.495	.0372	26.892	.639	i m1 o
17.260	6.040	2.207	230.081	.0368	27.198	.635	i m1 o

(Continued)



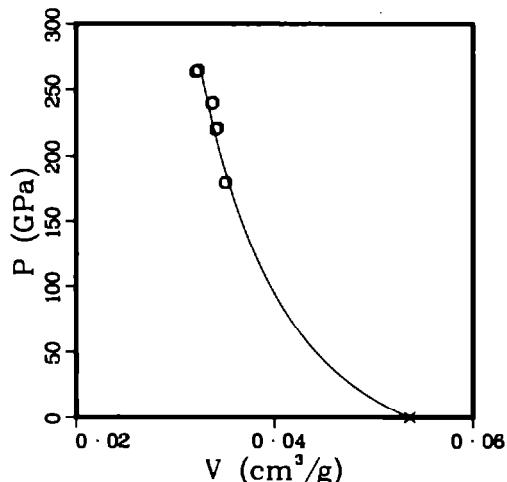
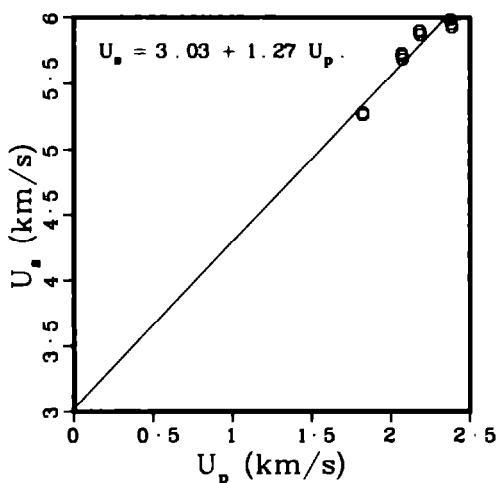
URANIUM-13.4 wt% Rh
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
17.170	6.028	2.213	229.047	.0369	27.130	.633	i m1 o
17.210	5.884	2.231	225.919	.0361	27.721	.621	i m1 o

URANIUM-0.6 wt% Ti

Average $\rho_0 = 18.650 \text{ g/cm}^3$.

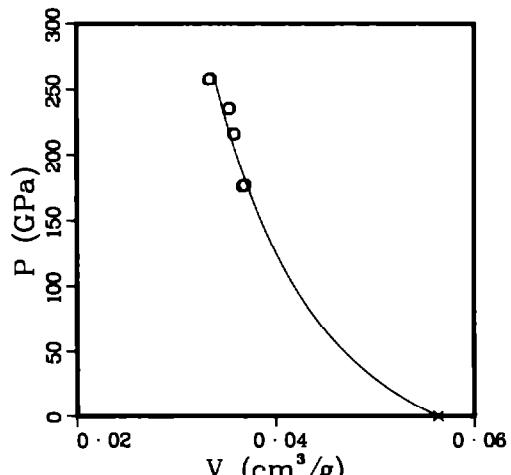
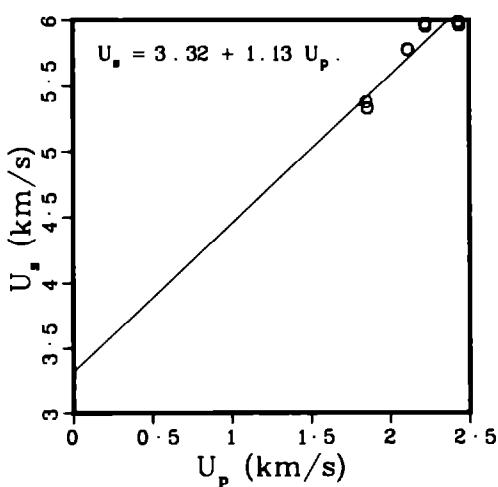
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
18.650	5.279	1.823	179.480	.0351	28.488	.655	im1 o
18.650	5.266	1.825	179.235	.0350	28.541	.653	im1 o
18.650	5.267	1.825	179.269	.0350	28.539	.654	im1 o
18.650	5.731	2.068	221.034	.0343	29.179	.639	im1 o
18.650	5.714	2.071	220.698	.0342	29.252	.638	im1 o
18.650	5.687	2.075	220.080	.0341	29.364	.635	im1 o
18.650	5.900	2.181	239.986	.0338	29.587	.630	im1 o
18.650	5.898	2.182	240.015	.0338	29.601	.630	im1 o
18.650	5.872	2.186	239.395	.0337	29.710	.628	im1 o
18.650	5.985	2.376	265.210	.0323	30.928	.603	im1 o
18.650	5.954	2.382	264.502	.0322	31.087	.600	im1 o
18.650	5.929	2.387	263.945	.0320	31.218	.597	im1 o



URANIUM-2.5 wt% Nb-1.3 wt% Ti

Average $\rho_0 = 17.750 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
17.760	5.380	1.850	176.765	.0369	27.068	.656	im1 o
17.760	5.336	1.857	175.983	.0367	27.240	.652	im1 o
17.760	5.329	1.858	175.847	.0367	27.267	.651	im1 o
17.760	5.782	2.108	216.467	.0358	27.950	.635	im1 o
17.650	5.775	2.116	215.681	.0359	27.857	.634	im1 o
17.760	5.972	2.220	235.459	.0354	28.268	.628	im1 o
17.760	5.972	2.220	235.459	.0354	28.268	.628	im1 o
17.760	5.951	2.224	235.054	.0353	28.358	.626	im1 o
17.760	5.991	2.430	258.552	.0335	29.879	.594	im1 o
17.760	5.970	2.434	258.070	.0333	29.985	.592	im1 o
17.760	5.960	2.436	257.850	.0333	30.037	.591	im1 o



MINERALS AND COMPOUNDS

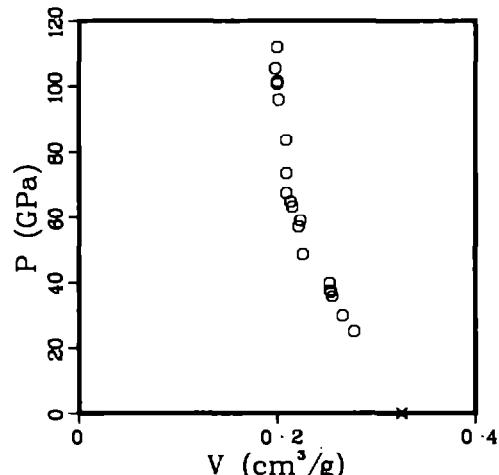
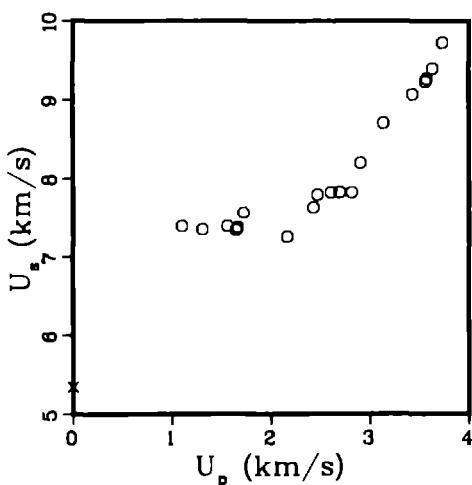
ANDALUSITE, chiastolite, South Australia

Average $\rho_0 = 3.074 \text{ g/cm}^3$.

Sound velocities longitudinal 7.30 km/s.
shear 4.31 km/s.

References 6, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.073	5.341	0.000	0.000	.3254	3.073	1.000	s s p x
3.066	7.390	1.100	24.924	.2776	3.602	.851	i m1 o
3.090	7.349	1.306	29.657	.2661	3.758	.822	i m1 o
3.085	7.391	1.559	35.547	.2558	3.910	.789	i m1 o
3.050	7.339	1.648	36.889	.2542	3.933	.775	i m1 o
3.049	7.370	1.663	37.369	.2540	3.937	.774	i m1 o
3.050	7.562	1.724	39.763	.2531	3.951	.772	i m1 o
3.100	7.254	2.162	48.618	.2264	4.416	.702	i m1 o
3.081	7.632	2.429	57.116	.2213	4.519	.682	i m1 o
3.064	7.795	2.469	58.969	.2230	4.484	.683	i m1 o
3.103	7.825	2.606	63.276	.2149	4.652	.667	i m1 o
3.073	7.827	2.696	64.845	.2133	4.688	.656	i m1 o
3.063	7.826	2.817	67.526	.2090	4.786	.640	i m1 o
3.088	8.200	2.905	73.559	.2091	4.782	.646	i m1 o
3.063	8.710	3.137	83.691	.2089	4.787	.640	i m1 o
3.084	9.067	3.431	95.940	.2016	4.961	.622	i m1 o
3.066	9.225	3.562	100.747	.2002	4.994	.614	i m1 o
3.063	9.260	3.575	101.399	.2004	4.989	.614	i m1 o
3.088	9.387	3.633	105.310	.1985	5.038	.613	i m1 o
3.088	9.725	3.730	112.015	.1996	5.009	.616	i m1 o



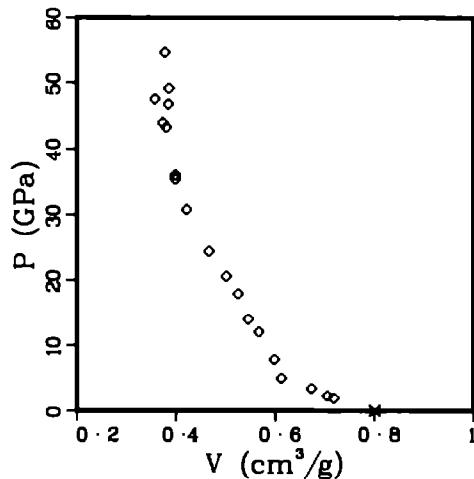
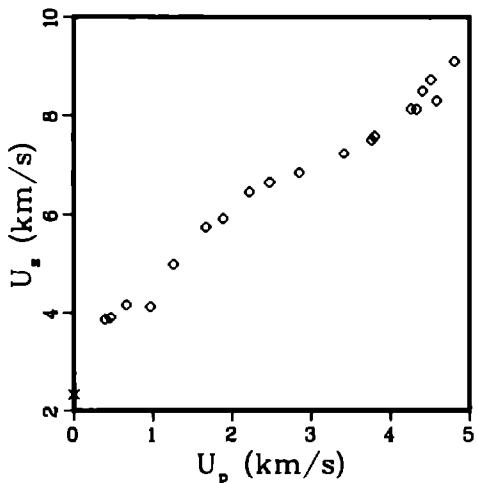
ANTHRACENE, reagent-grade, polycrystalline, pressed

$$\text{Average } \rho_0 = 1.249 \text{ g/cm}^3.$$

Sound velocities longitudinal 2.92 km/s .
 shear 1.52 km/s .

Reference 29

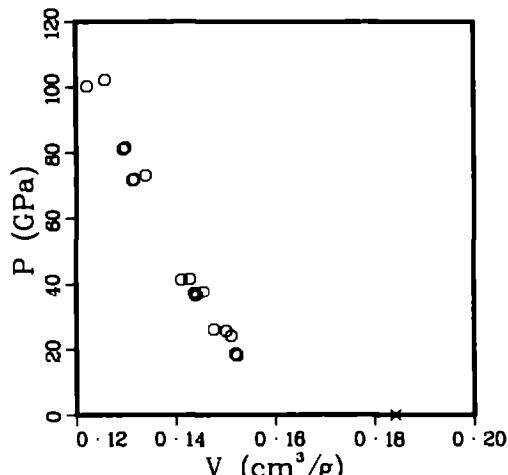
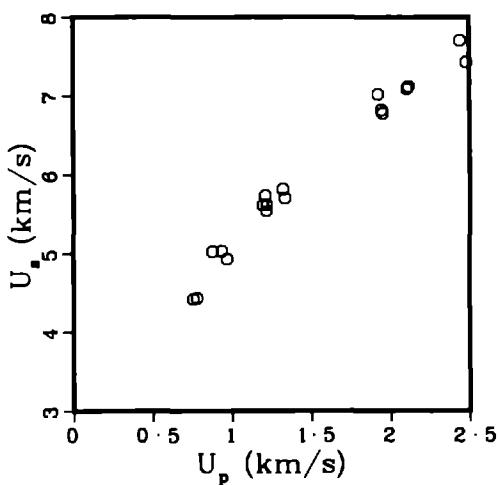
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.249	2.334	0.000	0.000	8006	1.249	1.000	ss p x
1.249	3.855	.395	1.902	7186	1.392	.898	im5 o
1.249	3.894	.465	2.262	7050	1.418	.881	im5 o
1.249	4.160	.664	3.450	6728	1.486	.840	im5 o
1.249	4.123	.970	4.995	6123	1.633	.765	im5 o
1.248	4.979	1.262	7.842	5982	1.672	.747	im5 o
1.250	5.747	1.672	12.011	5673	1.763	.709	im5 o
1.249	5.923	1.887	13.960	5456	1.833	.681	im5 o
1.248	6.450	2.222	17.886	5252	1.904	.656	im5 o
1.249	6.644	2.478	20.563	5020	1.992	.627	im5 o
1.249	6.836	2.851	24.342	4667	2.143	.583	im5 o
1.249	7.227	3.417	30.844	4221	2.369	.527	im5 o
1.249	7.511	3.766	35.330	3992	2.505	.499	im5 o
1.249	7.580	3.801	35.986	3992	2.505	.499	im5 o
1.249	8.129	4.262	43.273	3809	2.626	.476	im5 o
1.249	8.123	4.334	43.971	3735	2.678	.466	im5 o
1.249	8.491	4.408	46.748	3850	2.597	.481	im5 o
1.249	8.713	4.512	49.102	3860	2.590	.482	im5 o
1.248	8.295	4.589	47.506	3580	2.793	.447	im5 o
1.249	9.105	4.810	54.700	3777	2.648	.472	im5 o



BARIUM TITANATE

Average $\rho_0 = 5.431 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
5.440	4.415	.756	18.157	.1523	6.564	.829	im1 o
5.420	4.426	.780	18.711	.1520	6.580	.824	im1 o
5.460	5.028	.878	24.104	.1512	6.615	.825	im1 o
5.420	5.033	.937	25.560	.1502	6.660	.814	im1 o
5.440	4.932	.970	26.025	.1477	6.772	.803	im1 o
5.460	5.626	1.195	36.708	.1442	6.933	.788	im1 o
5.420	5.745	1.210	37.677	.1456	6.866	.789	im1 o
5.420	5.544	1.217	36.569	.1440	6.944	.780	im1 o
5.450	5.625	1.219	37.370	.1437	6.958	.783	im1 o
5.410	5.824	1.321	41.622	.1429	6.997	.773	im1 o
5.430	5.712	1.334	41.376	.1412	7.085	.766	im1 o
5.420	7.022	1.923	73.188	.1340	7.464	.726	im1 o
5.430	6.822	1.944	72.012	.1317	7.594	.715	im1 o
5.420	6.784	1.954	71.847	.1314	7.613	.712	im1 o
5.430	7.091	2.106	81.090	.1295	7.724	.703	im1 o
5.410	7.121	2.116	81.518	.1299	7.697	.703	im1 o
5.430	7.711	2.441	102.206	.1259	7.945	.683	im1 o
5.450	7.427	2.479	100.343	.1222	8.181	.666	im1 o



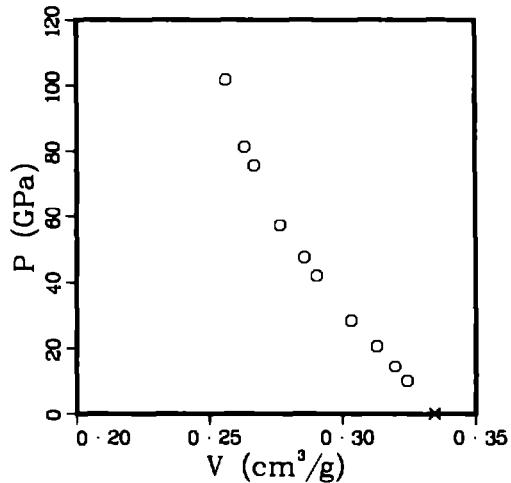
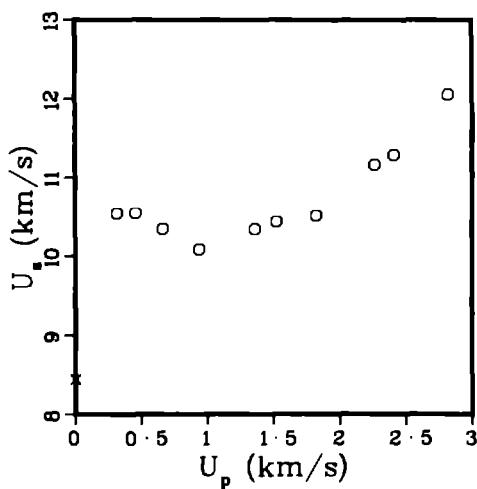
BERYLLOXIDE, $\rho_0 = 3.0 \text{ g/cm}^3$.

Average $\rho_0 = 2.989 \text{ g/cm}^3$.

Sound velocities longitudinal 11.91 km/s.
 shear 7.28 km/s.

Reference 33

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.989	8.437	0.000	0.000	.3346	2.989	1.000	s s p x
2.992	10.540	.317	9.997	.3242	3.085	.970	i m l o
2.991	10.543	.458	14.443	.3198	3.127	.957	i m l o
2.991	10.344	.664	20.543	.3129	3.196	.936	i m l o
2.991	10.086	.939	28.327	.3032	3.298	.907	i m l o
2.990	10.339	1.361	42.073	.2904	3.443	.868	i m l o
2.990	10.439	1.522	47.506	.2857	3.500	.854	i m l o
2.986	10.512	1.825	57.285	.2768	3.613	.826	i m l o
2.986	11.165	2.268	75.612	.2669	3.747	.797	i m l o
2.986	11.284	2.412	81.270	.2633	3.798	.786	i m l o
2.989	12.054	2.822	101.675	.2562	3.903	.766	i m l o



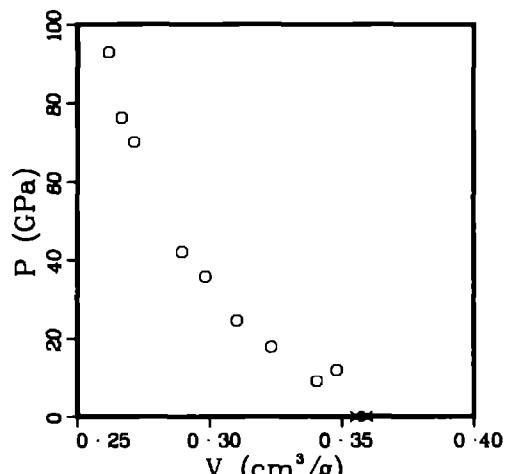
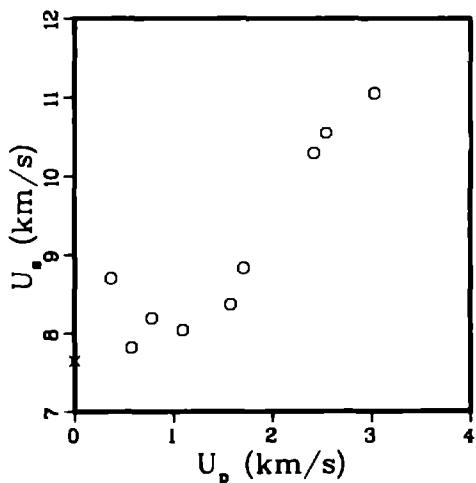
BERYLLIUM OXIDE, $\rho_0 = 2.8 \text{ g/cm}^3$.

Average $\rho_0 = 2.781 \text{ g/cm}^3$.

Sound velocities longitudinal 10.94 km/s.
shear 6.77 km/s.

Reference 33

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.816	7.653	0.000	0.000	.3551	2.816	1.000	ssp x
2.812	8.713	.368	9.016	.3406	2.936	.958	im1 o
2.660	7.829	.577	12.016	.3482	2.872	.926	im1 o
2.798	8.194	.781	17.906	.3233	3.093	.905	im1 o
2.784	8.043	1.094	24.497	.3103	3.222	.864	im1 o
2.720	8.365	1.578	35.904	.2983	3.352	.811	im1 o
2.787	8.840	1.706	42.031	.2896	3.453	.807	im1 o
2.818	10.294	2.418	70.143	.2715	3.683	.765	im1 o
2.845	10.554	2.543	76.356	.2668	3.748	.759	im1 o
2.771	11.052	3.034	92.917	.2618	3.820	.725	im1 o



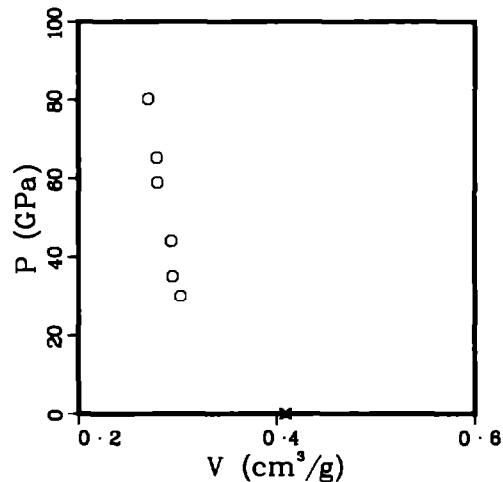
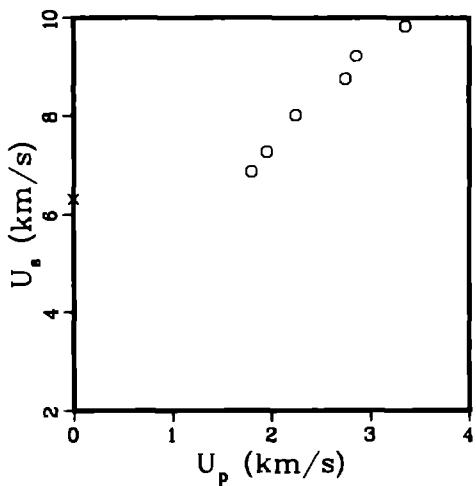
BERYLLOM OXIDE , $\rho_0 = 2.4$ g/cm³.

Average $\rho_0 = 2.451$ g/cm³.

Sound velocities longitudinal 9.06 km/s.
shear 5.63 km/s.

Reference 33

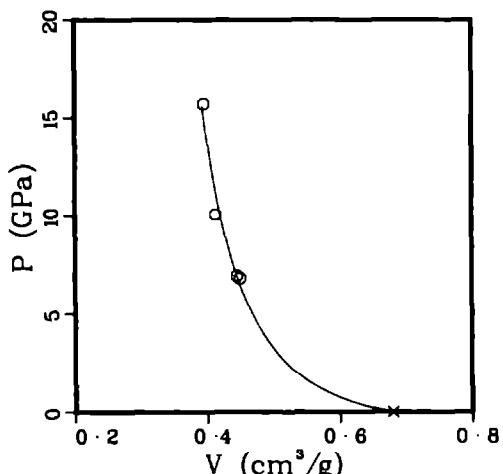
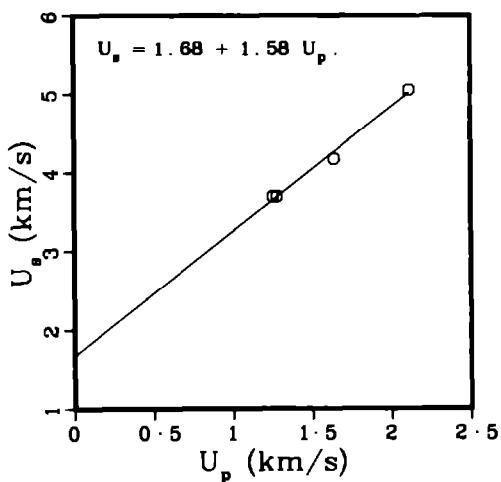
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.439	6.310	0.000	0.000	.4100	2.439	1.000	s p x
2.436	6.861	1.799	30.067	.3029	3.302	.738	i m1 o
2.477	7.251	1.954	35.095	.2949	3.391	.731	i m1 o
2.448	8.010	2.248	44.080	.2939	3.403	.719	i m1 o
2.454	8.748	2.745	58.929	.2796	3.576	.686	i m1 o
2.472	9.219	2.857	65.109	.2792	3.582	.690	i m1 o
2.434	9.833	3.356	80.321	.2706	3.695	.659	i m1 o



BORIC ACID

Average $\rho_0 = 1.471 \text{ g/cm}^3$.

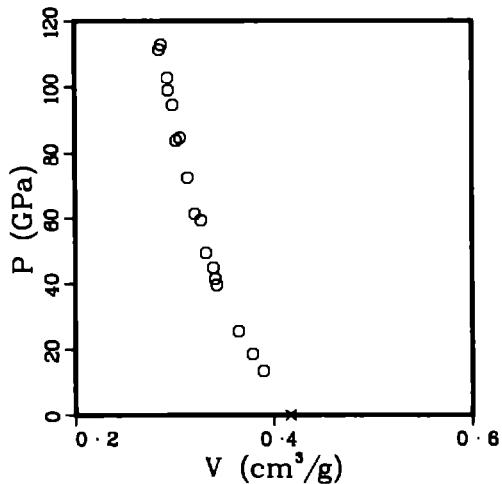
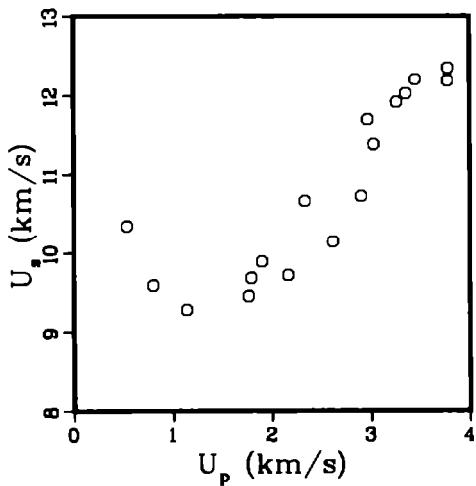
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.471	3.702	1.254	6.829	.4495	2.225	.661	i m1 o
1.471	3.701	1.279	6.963	.4449	2.248	.654	i m1 o
1.471	4.176	1.639	10.068	.4130	2.421	.608	i m1 o
1.471	5.055	2.114	15.720	.3955	2.528	.582	i m1 o



BORON CARBIDE , $\rho_0 = 2.4 \text{ g/cm}^3$.

Average $\rho_0 = 2.400 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.437	10.344	.537	13.537	.3890	2.570	.948	im1 o
2.420	9.596	.800	18.578	.3788	2.640	.917	im1 o
2.407	9.289	1.138	25.444	.3646	2.743	.877	im1 o
2.375	9.458	1.762	39.579	.3426	2.919	.814	im1 o
2.389	9.685	1.791	41.439	.3412	2.931	.815	im1 o
2.382	9.894	1.901	44.802	.3392	2.949	.808	im1 o
2.343	9.718	2.162	49.227	.3319	3.013	.778	im1 o
2.388	10.665	2.335	59.468	.3271	3.057	.781	im1 o
2.312	10.145	2.618	61.406	.3209	3.116	.742	im1 o
2.324	10.723	2.905	72.393	.3137	3.188	.729	im1 o
2.439	11.699	2.969	84.717	.3060	3.268	.746	im1 o
2.429	11.390	3.031	83.857	.3021	3.310	.734	im1 o
2.431	11.919	3.263	94.546	.2987	3.347	.726	im1 o
2.452	12.028	3.357	99.007	.2940	3.401	.721	im1 o
2.444	12.208	3.452	102.995	.2935	3.408	.717	im1 o
2.419	12.189	3.779	111.425	.2852	3.506	.690	im1 o
2.417	12.352	3.781	112.881	.2871	3.483	.694	im1 o

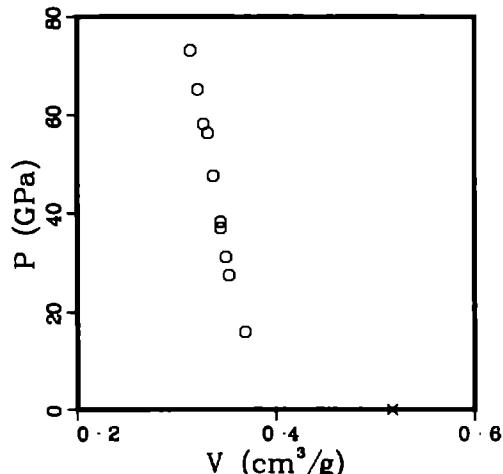
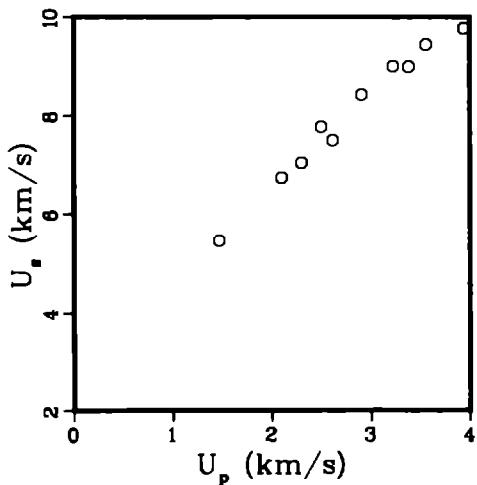


BORON CARBIDE , $\rho_0 = 1.9 \text{ g/cm}^3$.

Average $\rho_0 = 1.934 \text{ g/cm}^3$.

Reference 13

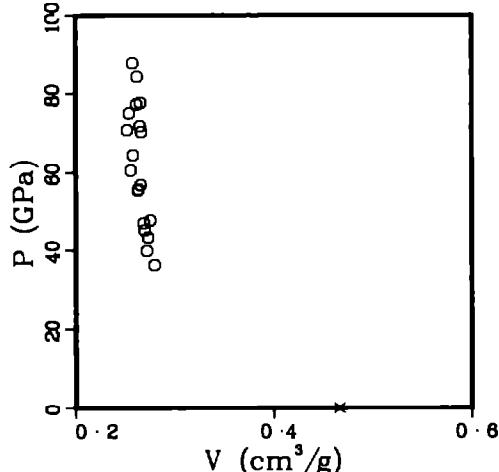
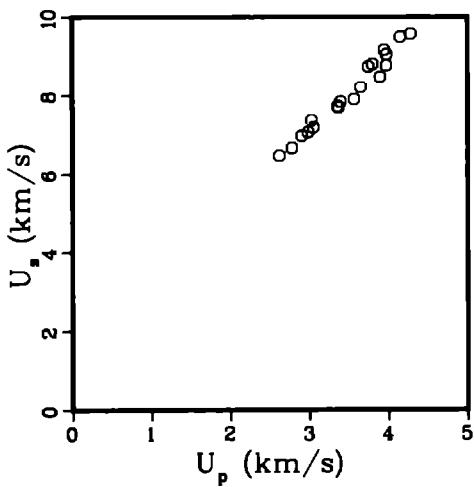
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.980	5.458	1.468	15.864	.3692	2.708	.731	i m1 o
1.948	6.723	2.099	27.489	.3531	2.832	.688	i m1 o
1.924	7.026	2.299	31.078	.3497	2.860	.673	i m1 o
1.970	7.774	2.501	38.302	.3443	2.904	.678	i m1 o
1.889	7.497	2.616	37.047	.3447	2.901	.651	i m1 o
1.944	8.426	2.904	47.568	.3371	2.966	.655	i m1 o
1.937	9.020	3.225	56.346	.3317	3.015	.642	i m1 o
1.909	9.014	3.383	58.214	.3272	3.056	.625	i m1 o
1.940	9.450	3.557	65.210	.3214	3.111	.624	i m1 o
1.903	9.777	3.938	73.269	.3138	3.186	.597	i m1 o



BORON NITRIDE , pressed , $\rho_0 = 2.15 \text{ g/cm}^3$.

Average $\rho_0 = 2.145 \text{ g/cm}^3$.

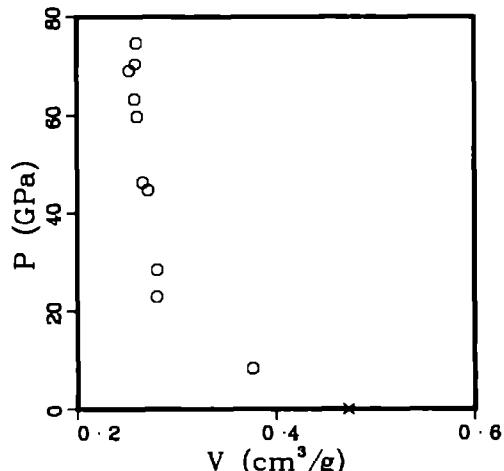
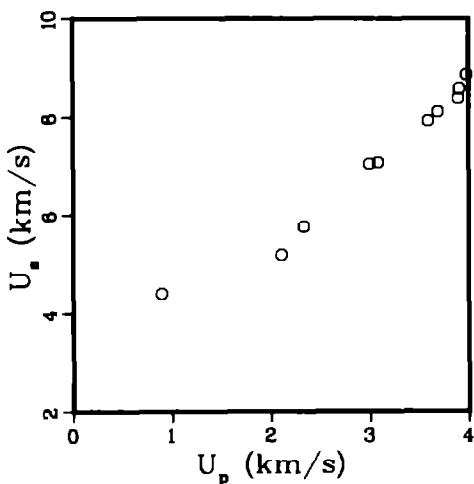
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.132	6.484	2.621	36.232	.2794	3.579	.596	im1 o
2.147	6.680	2.780	39.871	.2719	3.677	.584	im1 o
2.139	6.987	2.905	43.416	.2731	3.661	.584	im1 o
2.144	7.075	2.985	45.279	.2696	3.709	.578	im1 o
2.140	7.375	3.028	47.789	.2754	3.631	.589	im1 o
2.146	7.198	3.050	47.113	.2685	3.724	.576	im1 o
2.146	7.725	3.359	55.685	.2634	3.797	.565	im1 o
2.138	7.691	3.368	55.381	.2629	3.804	.562	im1 o
2.134	7.841	3.394	56.791	.2658	3.763	.567	im1 o
2.147	7.903	3.567	60.524	.2555	3.913	.549	im1 o
2.154	8.210	3.650	64.548	.2579	3.878	.555	im1 o
2.147	8.745	3.747	70.352	.2662	3.757	.572	im1 o
2.148	8.807	3.797	71.830	.2648	3.776	.569	im1 o
2.146	8.478	3.894	70.847	.2520	3.969	.541	im1 o
2.148	9.167	3.946	77.700	.2652	3.771	.570	im1 o
2.154	8.772	3.973	75.069	.2540	3.937	.547	im1 o
2.147	9.058	3.976	77.323	.2613	3.827	.561	im1 o
2.146	9.496	4.151	84.591	.2623	3.813	.563	im1 o
2.147	9.570	4.281	87.961	.2574	3.885	.553	im1 o



BORON NITRIDE, pressed, $\rho_0 = 2.12 \text{ g/cm}^3$.

Average $\rho_0 = 2.115 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.117	4.414	.899	8.401	.3762	2.658	.796	im1 o
2.116	5.188	2.109	23.152	.2805	3.565	.593	im1 o
2.120	5.761	2.333	28.494	.2807	3.563	.595	im1 o
2.117	7.038	2.998	44.669	.2712	3.688	.574	im1 o
2.119	7.065	3.085	46.185	.2659	3.761	.563	im1 o
2.102	7.930	3.589	59.825	.2604	3.840	.547	im1 o
2.116	8.117	3.687	63.326	.2579	3.877	.546	im1 o
2.118	8.387	3.891	69.118	.2531	3.951	.536	im1 o
2.106	8.583	3.902	70.532	.2590	3.862	.545	im1 o
2.120	8.867	3.980	74.816	.2600	3.847	.551	im1 o

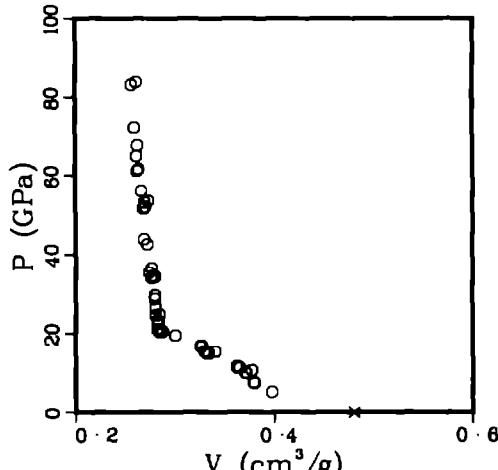
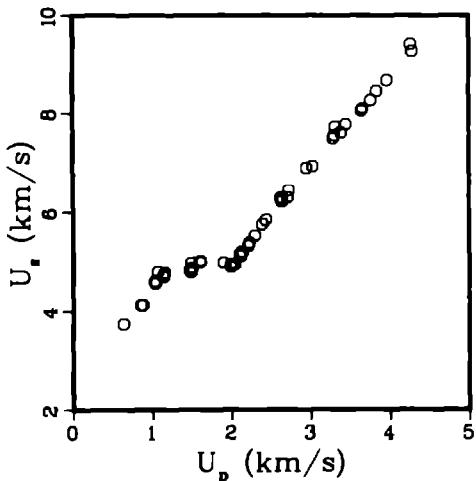


BORON NITRIDE, pressed, $\rho_0 = 2.08 \text{ g/cm}^3$.

Average $\rho_0 = 2.082 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.086	3.747	.636	4.971	.3980	2.512	.830	im1 o
2.086	4.126	.853	7.342	.3803	2.630	.793	im1 o
2.077	4.125	.876	7.505	.3792	2.637	.788	im1 o
2.089	4.604	1.036	9.964	.3710	2.696	.775	im1 o
2.078	4.566	1.042	9.887	.3714	2.692	.772	im1 o
2.060	4.794	1.067	10.537	.3774	2.650	.777	im1 o
2.078	4.712	1.139	11.153	.3649	2.740	.758	im1 o
2.084	4.699	1.146	11.222	.3628	2.756	.756	im1 o
2.092	4.774	1.155	11.535	.3624	2.760	.758	im1 o
2.084	4.825	1.474	14.822	.3333	3.001	.695	im1 o
2.076	4.846	1.485	14.940	.3341	2.993	.694	im1 o
2.059	4.989	1.488	15.285	.3408	2.934	.702	im1 o
2.075	4.796	1.491	14.838	.3321	3.011	.689	im1 o
2.093	4.878	1.496	15.274	.3313	3.019	.693	im1 o
2.096	4.875	1.500	15.327	.3303	3.028	.692	im1 o
2.080	5.020	1.604	16.748	.3272	3.057	.680	im1 o
2.080	5.014	1.605	16.739	.3269	3.059	.680	im1 o
2.080	4.995	1.607	16.696	.3261	3.067	.678	im1 o
2.063	4.986	1.895	19.492	.3005	3.328	.620	im1 o
2.080	4.949	1.989	20.475	.2875	3.478	.598	im1 o
2.080	4.934	1.992	20.443	.2867	3.488	.596	im1 o
2.080	4.899	1.996	20.339	.2849	3.510	.593	im1 o

(Continued)



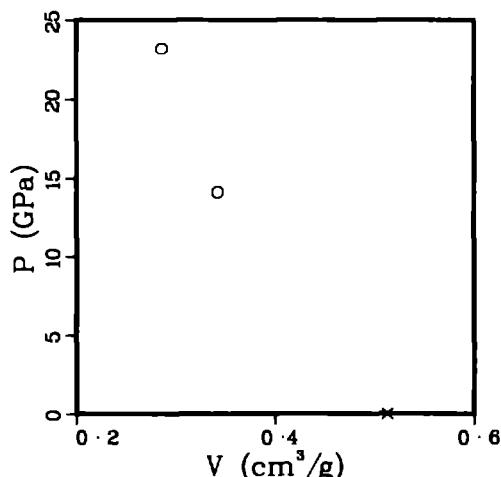
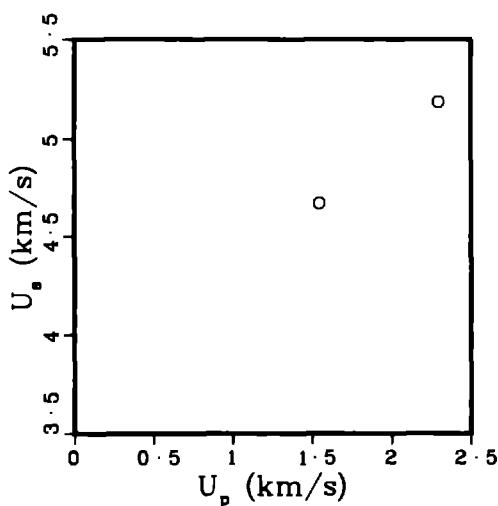
BORON NITRIDE . pressed . $\rho_0 = 2.08 \text{ g/cm}^3$.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.086	4.957	2.038	21.074	.2823	3.542	.589	im1 o
2.075	4.949	2.042	20.970	.2831	3.533	.587	im1 o
2.092	5.157	2.105	22.710	.2829	3.535	.592	im1 o
2.074	5.130	2.118	22.535	.2831	3.532	.587	im1 o
2.089	5.210	2.135	23.237	.2825	3.539	.590	im1 o
2.082	5.331	2.217	24.607	.2806	3.564	.584	im1 o
2.064	5.394	2.228	24.805	.2844	3.516	.587	im1 o
2.089	5.536	2.295	26.541	.2802	3.568	.585	im1 o
2.090	5.766	2.389	28.790	.2802	3.569	.586	im1 o
2.085	5.852	2.433	29.686	.2802	3.569	.584	im1 o
2.080	6.292	2.627	34.380	.2800	3.571	.582	im1 o
2.080	6.265	2.633	34.311	.2787	3.588	.580	im1 o
2.080	6.214	2.639	34.109	.2766	3.615	.575	im1 o
2.084	6.262	2.642	34.478	.2774	3.605	.578	im1 o
2.077	6.297	2.710	35.444	.2743	3.646	.570	im1 o
2.086	6.441	2.724	36.599	.2766	3.615	.577	im1 o
2.097	6.888	2.950	42.610	.2726	3.668	.572	im1 o
2.090	6.927	3.030	43.867	.2692	3.715	.563	im1 o
2.093	7.500	3.284	51.551	.2686	3.723	.562	im1 o
2.084	7.560	3.299	51.976	.2705	3.697	.564	im1 o
2.087	7.726	3.316	53.468	.2735	3.656	.571	im1 o
2.060	7.615	3.385	53.100	.2697	3.708	.555	im1 o
2.090	7.781	3.449	56.089	.2664	3.754	.557	im1 o
2.085	8.055	3.645	61.217	.2626	3.808	.547	im1 o
2.078	8.108	3.662	61.699	.2639	3.790	.548	im1 o
2.086	8.281	3.761	64.968	.2617	3.822	.546	im1 o
2.082	8.468	3.840	67.701	.2625	3.810	.547	im1 o
2.089	8.686	3.972	72.072	.2598	3.849	.543	im1 o
2.090	9.408	4.264	83.842	.2616	3.822	.547	im1 o
2.094	9.266	4.283	83.103	.2568	3.894	.538	im1 o

BORON NITRIDE , pressed , $\rho_0 = 1.95 \text{ g/cm}^3$.

Average $\rho_0 = 1.951 \text{ g/cm}^3$.

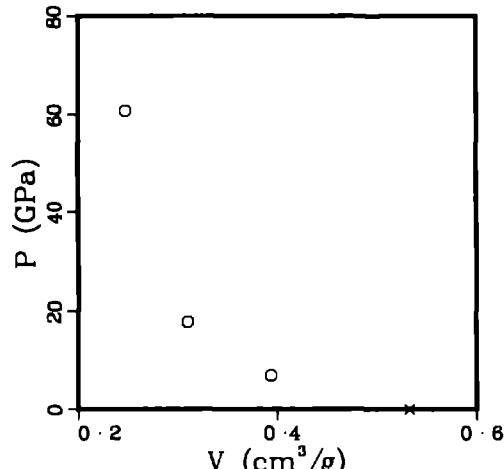
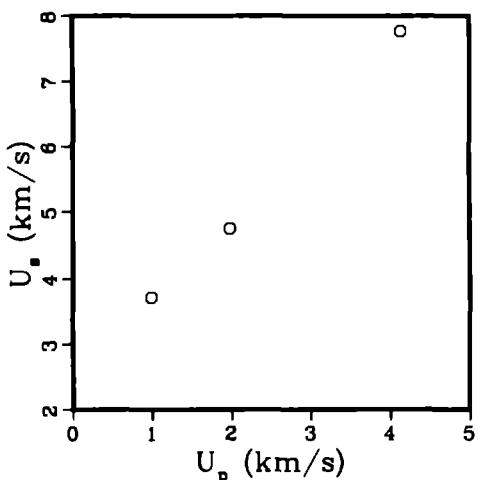
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.954	4.672	1.545	14.104	.3425	2.919	.669	i m1 o
1.948	5.184	2.296	23.186	.2860	3.497	.557	i m1 o



BORON NITRIDE , pressed , $\rho_0 = 1.88 \text{ g/cm}^3$.

Average $\rho_0 = 1.878 \text{ g/cm}^3$.

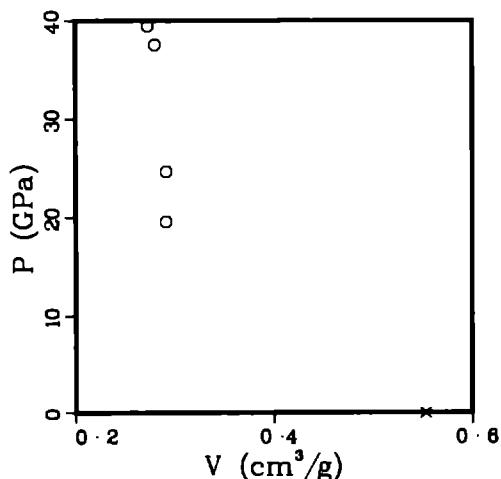
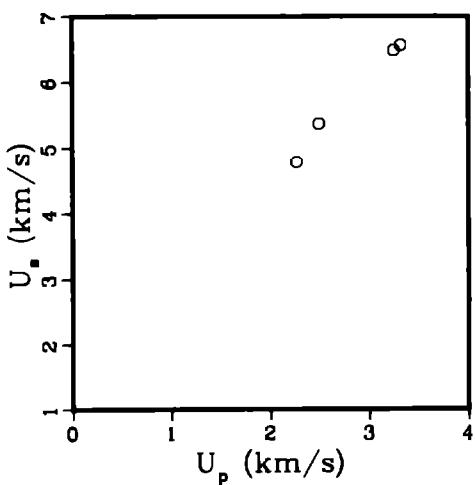
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.864	3.709	.986	6.817	.3939	2.539	.734	i m1 o
1.881	4.752	1.978	17.680	.3103	3.222	.584	i m1 o
1.890	7.770	4.138	60.768	.2473	4.043	.467	i m1 o



BORON NITRIDE, pressed, $\rho_0 = 1.81 \text{ g/cm}^3$.

Average $\rho_0 = 1.809 \text{ g/cm}^3$.

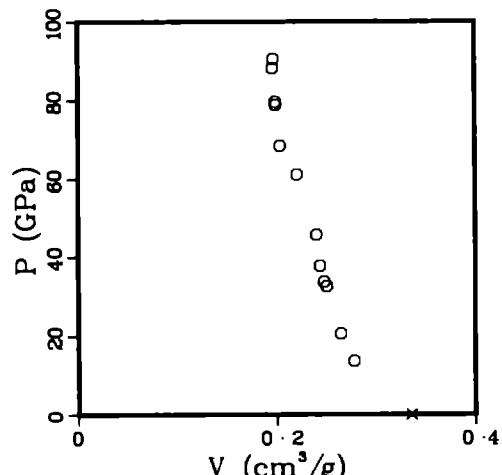
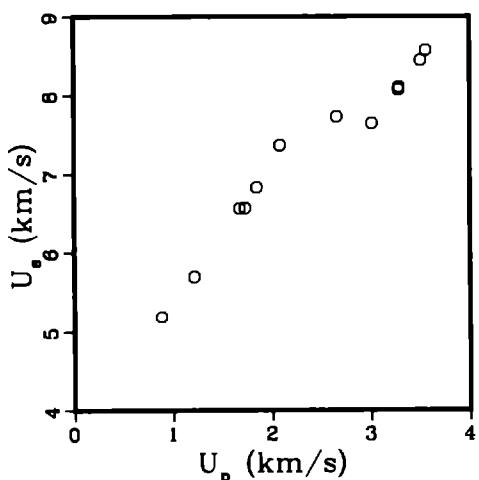
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.805	4.780	2.267	19.559	.2913	3.433	.526	im1 o
1.838	5.370	2.492	24.596	.2916	3.429	.536	im1 o
1.782	6.490	3.249	37.575	.2802	3.568	.499	im1 o
1.811	6.566	3.319	39.466	.2731	3.662	.495	im1 o



CALCIUM OXIDE , pressed

Average $\rho_0 = 2.980 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.986	5.191	.882	13.671	.2780	3.597	.830	im1 o
2.977	5.697	1.212	20.555	.2644	3.781	.787	im1 o
2.977	6.568	1.672	32.693	.2504	3.994	.745	im1 o
2.974	6.571	1.729	33.788	.2478	4.036	.737	im1 o
2.995	6.834	1.846	37.784	.2437	4.103	.730	im1 o
2.988	7.376	2.083	45.908	.2402	4.164	.718	im1 o
2.976	7.733	2.657	61.147	.2206	4.534	.656	im1 o
2.977	7.649	3.010	68.541	.2037	4.909	.606	im1 o
2.977	8.071	3.282	78.858	.1993	5.017	.593	im1 o
2.987	8.106	3.288	79.611	.1990	5.025	.594	im1 o
2.980	8.453	3.507	88.341	.1963	5.093	.585	im1 o
2.970	8.577	3.558	90.635	.1970	5.075	.585	im1 o

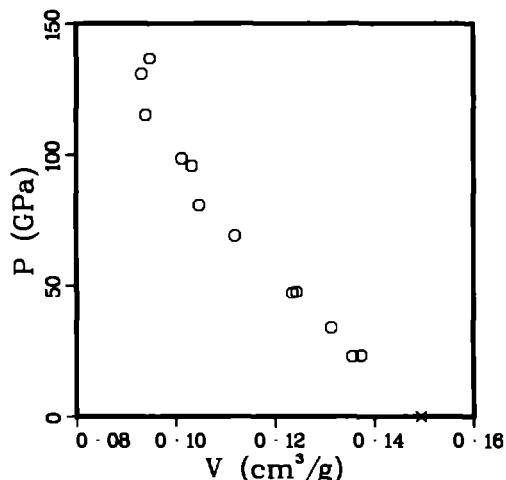
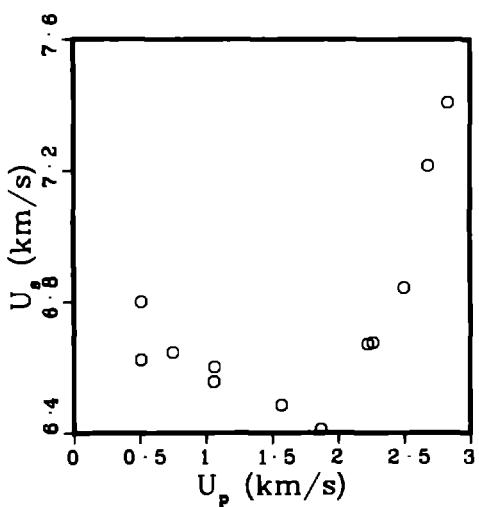


CASSITERITE , San Luis Potosi , Mexico

Average $\rho_0 = 6.694 \text{ g/cm}^3$.

References 6 , 32

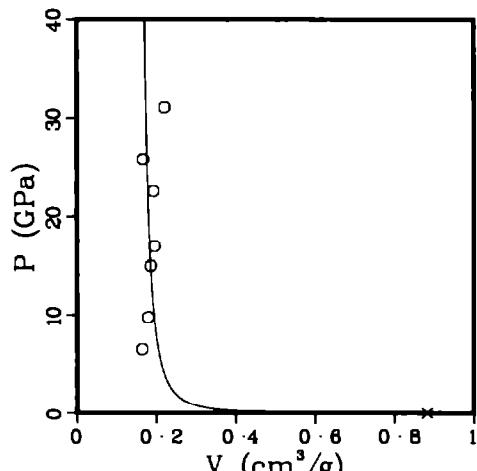
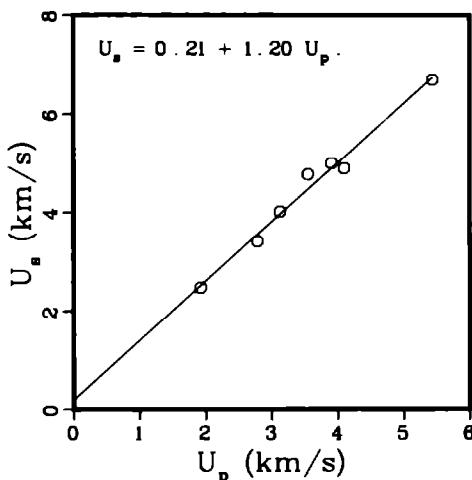
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.735	6.802	.509	23.318	.1374	7.280	.925	im1 o
6.805	6.624	.510	22.989	.1356	7.373	.923	im1 o
6.749	6.646	.753	33.775	.1314	7.611	.887	im1 o
6.793	6.557	1.059	47.170	.1234	8.101	.838	im1 o
6.742	6.601	1.067	47.486	.1243	8.042	.838	im1 o
6.769	6.484	1.570	68.908	.1120	8.932	.758	im1 o
6.763	6.411	1.866	80.905	.1048	9.540	.709	im1 o
6.449	6.670	2.227	95.794	.1033	9.681	.666	im1 o
6.523	6.674	2.266	98.649	.1013	9.876	.660	im1 o
6.747	6.843	2.501	115.470	.0940	10.633	.635	im1 o
6.745	7.216	2.683	130.587	.0931	10.737	.628	im1 o
6.512	7.407	2.833	136.648	.0948	10.545	.618	im1 o



CERIUM OXIDE , powdered , unpressed

Average $\rho_0 = 1.133 \text{ g/cm}^3$.

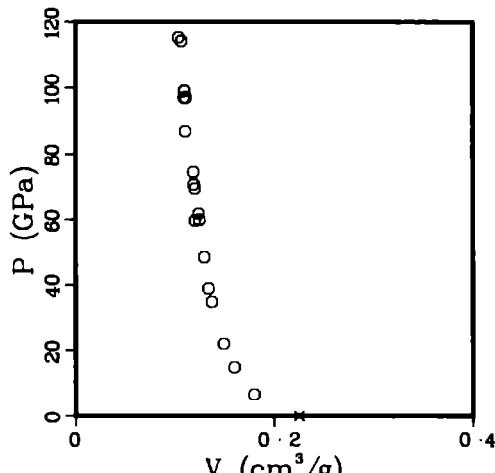
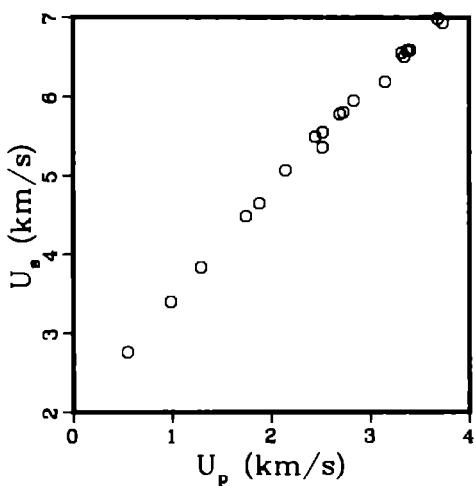
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.364	2.480	1.925	6.512	.1641	6.095	.224	im1 o
1.030	3.413	2.783	9.783	.1792	5.580	.185	im1 o
1.192	4.016	3.126	14.964	.1859	5.379	.222	im1 o
1.331	4.780	3.552	22.598	.1930	5.181	.257	im1 o
1.320	5.011	3.909	25.856	.1666	6.002	.220	im1 o
1.843	4.907	4.099	16.956	.1953	5.120	.165	im1 o
1.854	6.701	5.437	31.114	.2209	4.527	.189	im1 o



CESIUM BROMIDE, single-crystal, [100]

Average $\rho_0 = 4.446 \text{ g/cm}^3$.

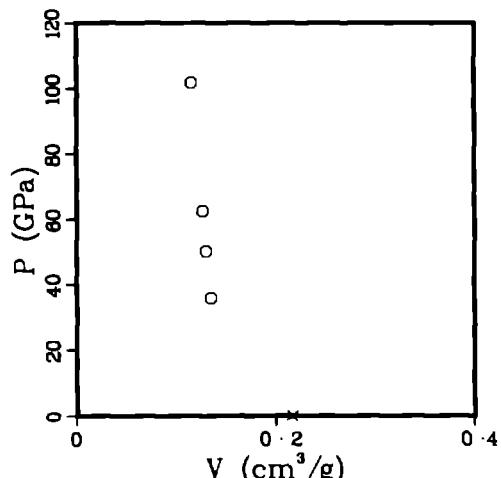
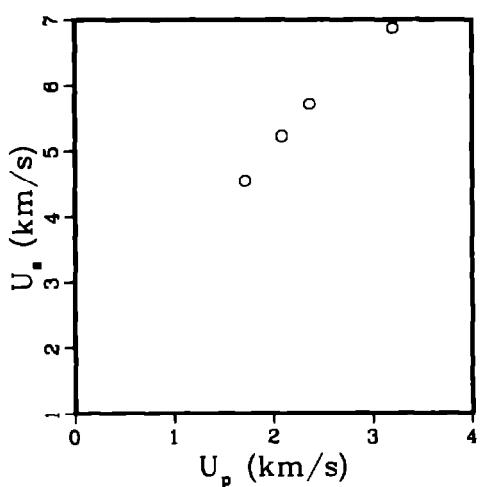
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.455	2.766	.548	6.753	.1800	5.556	.802	im1 o
4.455	3.411	.983	14.938	.1598	6.259	.712	im1 o
4.455	3.835	1.288	22.005	.1491	6.708	.664	im1 o
4.455	4.492	1.747	34.961	.1372	7.290	.611	im1 o
4.455	4.651	1.880	38.954	.1337	7.478	.596	im1 o
4.455	5.070	2.144	48.426	.1295	7.719	.577	im1 o
4.455	5.503	2.444	59.917	.1248	8.014	.556	im1 o
4.417	5.370	2.517	59.701	.1203	8.314	.531	im1 o
4.413	5.557	2.519	61.774	.1239	8.072	.547	im1 o
4.455	5.786	2.692	69.391	.1200	8.331	.535	im1 o
4.455	5.806	2.728	70.562	.1190	8.403	.530	im1 o
4.417	5.948	2.832	74.403	.1186	8.431	.524	im1 o
4.455	6.189	3.151	86.879	.1102	9.076	.491	im1 o
4.455	6.560	3.317	96.939	.1110	9.012	.494	im1 o
4.455	6.512	3.345	97.042	.1092	9.160	.486	im1 o
4.455	6.589	3.372	98.982	.1096	9.125	.488	im1 o
4.417	6.592	3.403	99.085	.1095	9.130	.484	im1 o
4.440	6.988	3.682	114.240	.1066	9.385	.473	im1 o
4.455	6.933	3.733	115.299	.1036	9.652	.462	im1 o



CESIUM FLUORIDE, single-crystal, [100]

Average $\rho_0 = 4.620 \text{ g/cm}^3$.

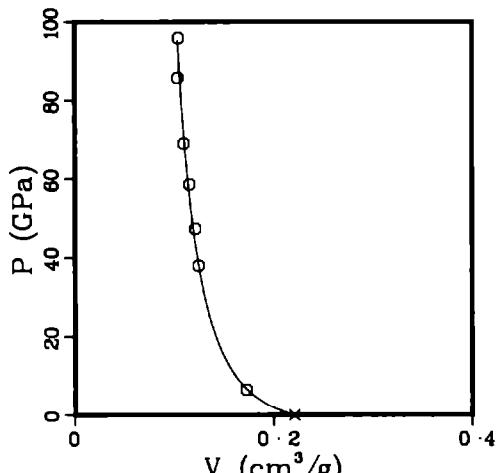
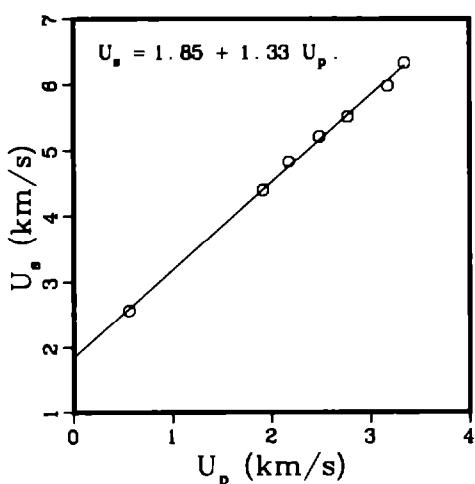
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.620	4.544	1.711	35.920	.1349	7.410	.623	i m1 o
4.620	5.226	2.083	50.292	.1302	7.682	.601	i m1 o
4.620	5.710	2.368	62.468	.1267	7.894	.585	i m1 o
4.620	6.865	3.205	101.651	.1154	8.666	.533	i m1 o



CESIUM IODIDE, single-crystal, [100]

Average $\rho_0 = 4.528 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.528	2.568	.561	6.523	.1726	5.794	.782	im1 o
4.528	4.391	1.913	38.035	.1246	8.024	.564	im1 o
4.528	4.825	2.174	47.497	.1213	8.241	.549	im1 o
4.528	5.210	2.484	58.600	.1156	8.654	.523	im1 o
4.528	5.511	2.770	69.122	.1098	9.104	.497	im1 o
4.528	5.980	3.174	85.944	.1036	9.650	.469	im1 o
4.528	6.340	3.342	95.941	.1044	9.576	.473	im1 o



CORUNDUM

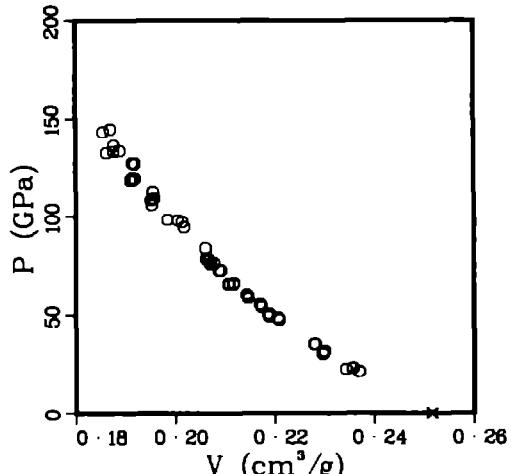
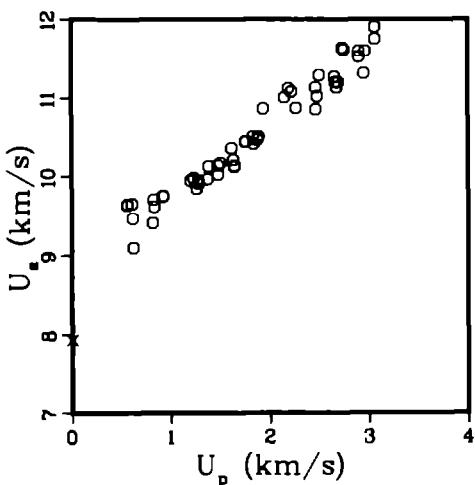
Average $\rho_0 = 3.977 \text{ g/cm}^3$.

Sound velocities longitudinal 10.85 km/s.
shear 6.41 km/s.

References 6, 30, 32

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.974	7.933	0.000	0.000	2516	3.974	1.000	s s p x
3.978	9.644	.555	21.292	2369	4.221	.942	im1 o
3.977	9.634	.556	21.303	2369	4.221	.942	im1 o
3.977	9.651	.605	23.221	2357	4.243	.937	im1 o
3.970	9.467	.613	23.039	2356	4.245	.935	im1 o
3.978	9.097	.621	22.473	2342	4.269	.932	im1 o
3.978	9.409	.816	30.542	2296	4.356	.913	im1 o
3.979	9.708	.824	31.830	2300	4.348	.915	im1 o
3.978	9.615	.829	31.708	2297	4.353	.914	im1 o
3.977	9.751	.916	35.522	2278	4.389	.906	im1 o
3.972	9.744	.917	35.491	2281	4.385	.906	im1 o
3.979	9.948	1.201	47.539	2210	4.525	.879	im1 o
3.973	9.978	1.231	48.800	2206	4.532	.877	im1 o
3.985	9.846	1.257	49.320	2189	4.568	.872	im1 o
3.979	9.942	1.281	50.675	2189	4.568	.871	im1 o
3.979	9.910	1.284	50.631	2188	4.571	.870	im1 o
3.967	9.965	1.371	54.197	2174	4.600	.862	im1 o
3.977	10.130	1.383	55.717	2171	4.606	.863	im1 o
3.970	10.023	1.479	58.851	2147	4.657	.852	im1 o

(Continued)



CORUNDUM
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.979	10.140	1.479	59.673	.2147	4.658	.854	im1 o
3.975	10.171	1.503	60.766	.2144	4.664	.852	im1 o
3.985	10.359	1.614	66.627	.2118	4.720	.844	im1 o
3.969	10.211	1.632	66.141	.2117	4.724	.840	im1 o
3.972	10.136	1.643	66.147	.2110	4.740	.838	im1 o
3.976	10.124	1.643	66.136	.2107	4.746	.838	im1 o
3.983	10.433	1.755	72.928	.2088	4.789	.832	im1 o
3.977	10.441	1.756	72.916	.2092	4.781	.832	im1 o
3.974	10.513	1.830	76.455	.2078	4.812	.826	im1 o
3.975	10.412	1.839	76.112	.2071	4.828	.823	im1 o
3.969	10.466	1.874	77.845	.2068	4.835	.821	im1 o
3.977	10.502	1.886	78.772	.2063	4.848	.820	im1 o
3.973	10.514	1.886	78.782	.2065	4.841	.821	im1 o
3.987	10.867	1.939	84.011	.2061	4.853	.822	im1 o
3.987	11.010	2.153	94.510	.2018	4.956	.804	im1 o
3.987	11.122	2.192	97.201	.2014	4.966	.803	im1 o
3.987	11.081	2.222	98.168	.2005	4.987	.799	im1 o
3.987	10.875	2.270	98.424	.1985	5.039	.791	im1 o
3.978	11.136	2.467	109.286	.1957	5.110	.778	im1 o
3.956	10.857	2.470	106.087	.1953	5.121	.772	im1 o
3.971	11.023	2.482	108.643	.1951	5.125	.775	im1 o
3.979	11.291	2.504	112.497	.1956	5.113	.778	im1 o
3.982	11.271	2.656	119.204	.1920	5.210	.764	im1 o
3.979	11.202	2.665	118.786	.1915	5.221	.762	im1 o
3.974	11.135	2.680	118.591	.1911	5.234	.759	im1 o
3.967	11.201	2.693	119.662	.1915	5.223	.760	im1 o
3.987	11.639	2.733	126.824	.1919	5.210	.765	im1 o
3.987	11.616	2.751	127.407	.1914	5.224	.763	im1 o
3.970	11.599	2.901	133.585	.1889	5.294	.750	im1 o
3.987	11.524	2.901	133.290	.1877	5.328	.748	im1 o
3.968	11.315	2.953	132.584	.1862	5.369	.739	im1 o
3.967	11.599	2.964	136.383	.1877	5.329	.744	im1 o
3.972	11.903	3.062	144.767	.1870	5.348	.743	im1 o
3.985	11.751	3.064	143.480	.1855	5.391	.739	im1 o

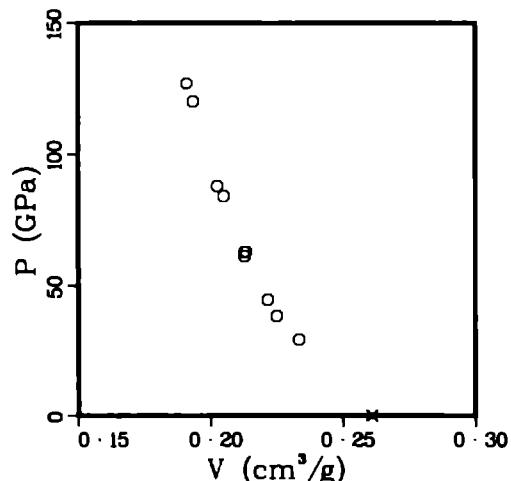
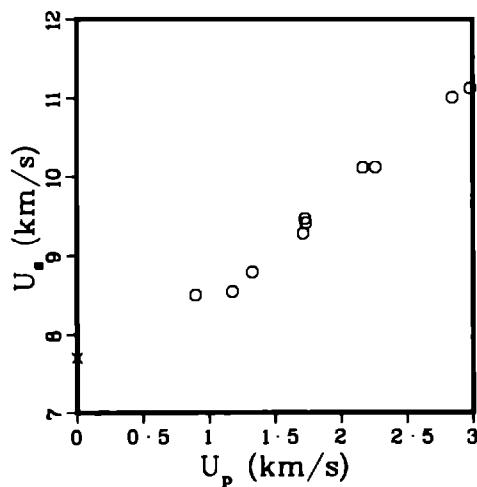
CORUNDUM, ceramic, $\rho_0 = 3.83 \text{ g/cm}^3$.

Average $\rho_0 = 3.833 \text{ g/cm}^3$.

Sound velocities longitudinal 10.51 km/s.
shear 6.19 km/s.

References 6, 30, 32

ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.833	7.705	0.000	0.000	.2609	3.833	1.000	s s p x
3.833	8.510	.898	29.292	.2334	4.285	.894	i m1 o
3.833	8.556	1.178	38.633	.2250	4.445	.862	i m1 o
3.833	8.797	1.328	44.779	.2215	4.515	.849	i m1 o
3.833	9.294	1.713	61.024	.2128	4.699	.816	i m1 o
3.833	9.478	1.727	62.740	.2134	4.687	.818	i m1 o
3.833	9.424	1.735	62.672	.2129	4.698	.816	i m1 o
3.833	10.113	2.166	83.961	.2050	4.878	.786	i m1 o
3.833	10.119	2.262	87.734	.2026	4.937	.776	i m1 o
3.833	11.012	2.845	120.085	.1935	5.168	.742	i m1 o
3.833	11.128	2.979	127.065	.1911	5.234	.732	i m1 o

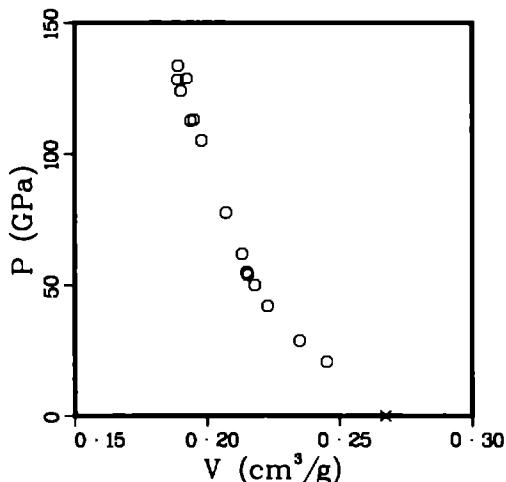
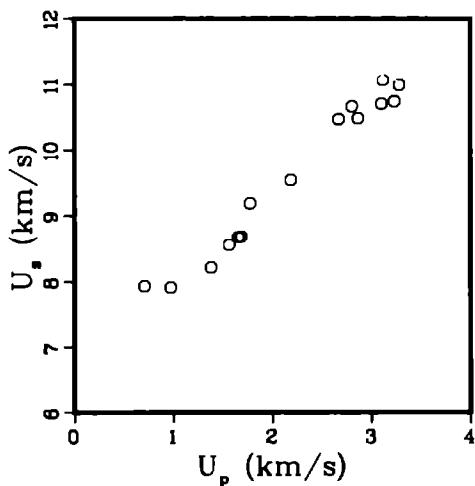


CORUNDUM, ceramic, $\rho_0 = 3.74 \text{ g/cm}^3$.

Average $\rho_0 = 3.741 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
3.716	7.932	.706	20.810	.2452	4.079	.911	im1 o
3.732	7.916	.974	28.774	.2350	4.256	.877	im1 o
3.734	8.206	1.378	42.224	.2228	4.488	.832	im1 o
3.749	8.552	1.561	50.048	.2181	4.586	.817	im1 o
3.757	8.671	1.654	53.882	.2154	4.643	.809	im1 o
3.749	8.679	1.684	54.793	.2150	4.652	.806	im1 o
3.784	9.186	1.774	61.664	.2132	4.690	.807	im1 o
3.723	9.538	2.185	77.589	.2071	4.829	.771	im1 o
3.763	10.470	2.669	105.155	.1980	5.050	.745	im1 o
3.779	10.664	2.804	112.999	.1950	5.127	.737	im1 o
3.749	10.484	2.865	112.607	.1938	5.159	.727	im1 o
3.736	10.704	3.101	124.009	.1901	5.260	.710	im1 o
3.734	11.067	3.118	128.849	.1924	5.199	.718	im1 o
3.702	10.743	3.231	128.499	.1889	5.294	.699	im1 o
3.710	10.991	3.282	133.829	.1891	5.289	.701	im1 o



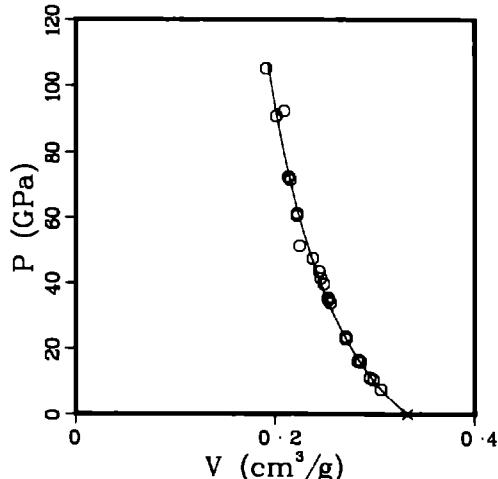
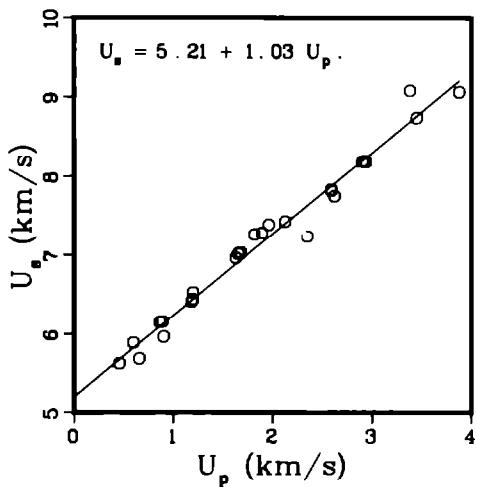
ENSTATITE, ceramic, $\rho_0 = 3.01 \text{ g/cm}^3$.

Average $\rho_0 = 3.007 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
3.003	5.627	.456	7.705	.3060	3.268	.919	im1 o
3.010	5.891	.596	10.568	.2986	3.349	.899	im1 o
2.997	5.686	.655	11.162	.2952	3.387	.885	im1 o
3.007	6.152	.861	15.928	.2860	3.496	.860	im1 o
3.014	6.158	.891	16.537	.2838	3.524	.855	im1 o
3.000	5.967	.901	16.129	.2830	3.534	.849	im1 o
3.009	6.413	1.184	22.847	.2710	3.690	.815	im1 o
3.007	6.440	1.193	23.103	.2710	3.691	.815	im1 o
3.015	6.526	1.197	23.552	.2708	3.692	.817	im1 o
3.000	6.965	1.628	34.017	.2554	3.915	.766	im1 o
3.018	7.017	1.650	34.943	.2534	3.946	.765	im1 o
3.007	7.030	1.679	35.493	.2531	3.951	.761	im1 o
3.012	7.260	1.817	39.733	.2489	4.017	.750	im1 o
3.012	7.278	1.892	41.475	.2457	4.070	.740	im1 o
3.010	7.383	1.959	43.535	.2441	4.097	.735	im1 o
3.004	7.425	2.126	47.420	.2376	4.209	.714	im1 o
3.010	7.234	2.349	51.148	.2243	4.457	.675	im1 o
3.015	7.836	2.589	61.167	.2221	4.503	.670	im1 o
3.014	7.820	2.592	61.092	.2218	4.508	.669	im1 o
2.982	7.750	2.622	60.596	.2219	4.507	.662	im1 o
3.000	8.195	2.904	71.395	.2152	4.647	.646	im1 o

(Continued)



ENSTATITE, ceramic, $\rho_0 = 3.01$ g/cm³.
(Continued)

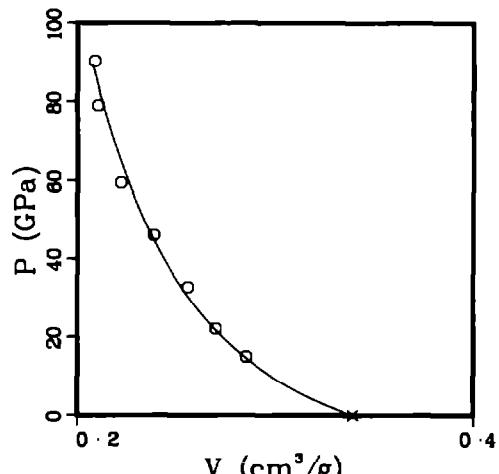
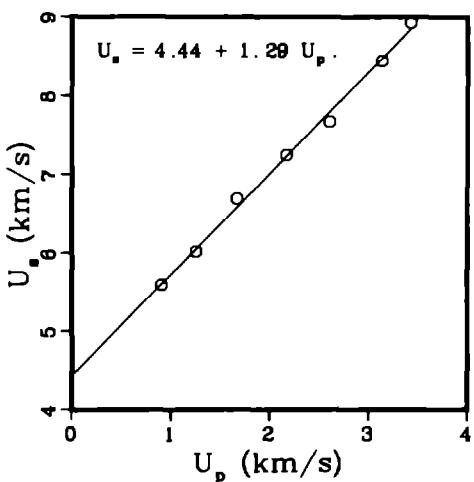
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.011	8.192	2.932	72.321	.2132	4.689	.642	im1 o
3.005	8.183	2.936	72.196	.2134	4.686	.641	im1 o
3.006	9.083	3.383	92.368	.2088	4.790	.628	im1 o
3.012	8.744	3.450	90.862	.2010	4.975	.605	im1 o
2.998	9.067	3.878	105.415	.1909	5.239	.572	im1 o

ENSTATITE , ceramic , $\rho_0 = 2.95 \text{ g/cm}^3$

Average $\rho_0 = 2.950 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.937	5.597	.909	14.942	.2852	3.506	.538	i m1 o
2.933	6.022	1.255	22.166	.2699	3.705	.792	i m1 o
2.933	6.702	1.671	32.847	.2559	3.907	.751	i m1 o
2.936	7.246	2.168	46.123	.2387	4.189	.701	i m1 o
2.973	7.672	2.610	59.531	.2219	4.506	.660	i m1 o
2.985	8.446	3.136	79.063	.2106	4.748	.629	i m1 o
2.951	8.933	3.431	90.446	.2087	4.791	.616	i m1 o

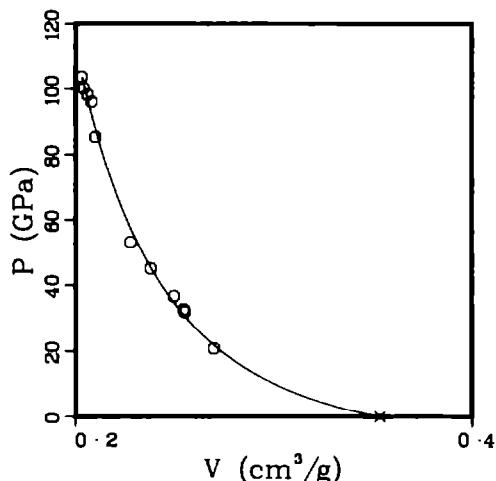
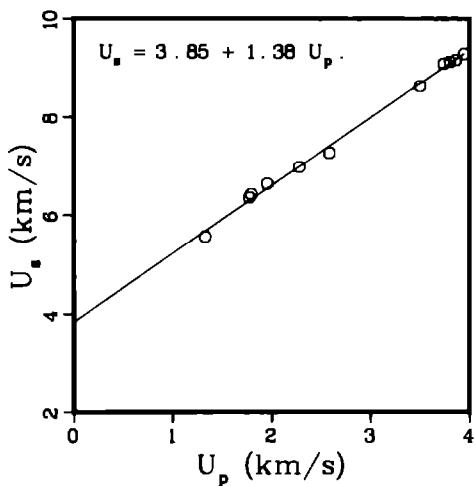


ENSTATITE, ceramic, $\rho_0 = 2.83 \text{ g/cm}^3$.

Average $\rho_0 = 2.829 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.820	5.556	1.329	20.823	.2698	3.707	.761	im1 o
2.826	6.363	1.776	31.936	.2551	3.920	.721	im1 o
2.831	6.429	1.795	32.670	.2546	3.928	.721	im1 o
2.826	6.641	1.956	36.709	.2496	4.006	.705	im1 o
2.831	6.984	2.281	45.099	.2379	4.204	.673	im1 o
2.829	7.269	2.586	53.179	.2277	4.391	.644	im1 o
2.828	8.626	3.502	85.429	.2100	4.761	.594	im1 o
2.827	9.086	3.741	96.092	.2081	4.806	.588	im1 o
2.831	9.124	3.803	98.232	.2060	4.854	.583	im1 o
2.833	9.162	3.865	100.320	.2041	4.900	.578	im1 o
2.833	9.286	3.946	103.808	.2030	4.926	.575	im1 o

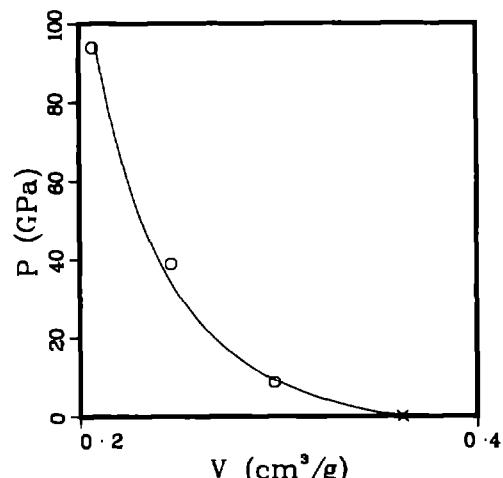
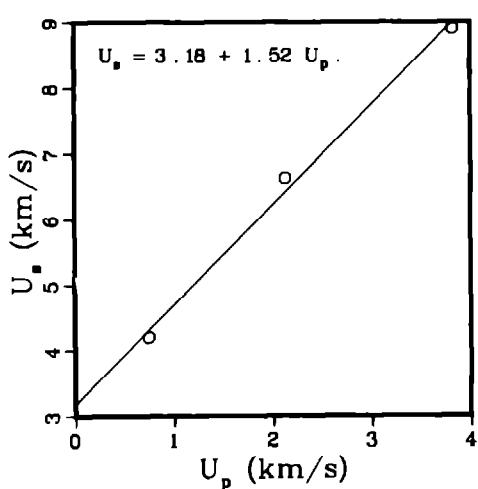


ENSTATITE, ceramic, $\rho_0 = 2.76 \text{ g/cm}^3$.

Average $\rho_0 = 2.760 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.761	4.199	.746	8.649	.2978	3.357	.822	im1 o
2.760	6.628	2.128	38.928	.2460	4.065	.679	im1 o
2.759	8.905	3.825	93.976	.2068	4.836	.570	im1 o

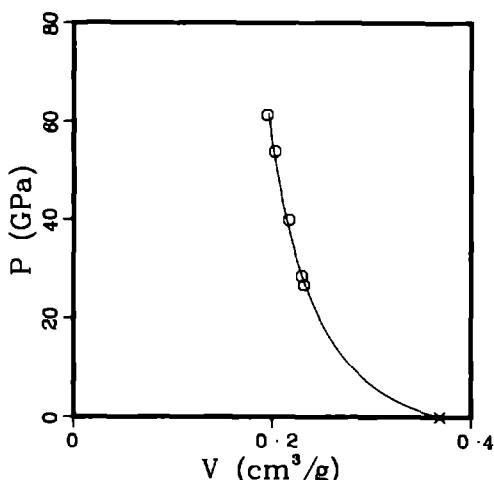
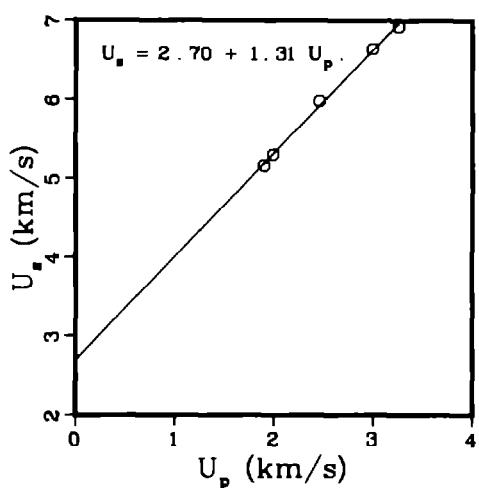


ENSTATITE, ceramic, $\rho_0 = 2.71 \text{ g/cm}^3$.

Average $\rho_0 = 2.714 \text{ g/cm}^3$.

References 6, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.720	5.159	1.901	26.676	.2322	4.307	.632	im1 o
2.714	5.297	1.992	28.637	.2299	4.350	.624	im1 o
2.715	5.982	2.458	39.921	.2170	4.609	.589	im1 o
2.706	6.641	2.993	53.786	.2030	4.926	.549	im1 o
2.717	6.926	3.258	61.309	.1949	5.130	.530	im1 o

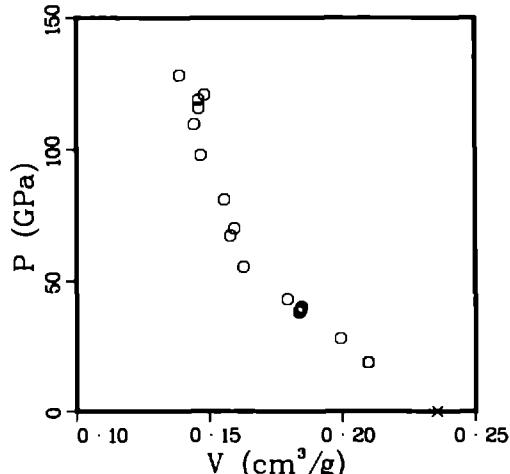
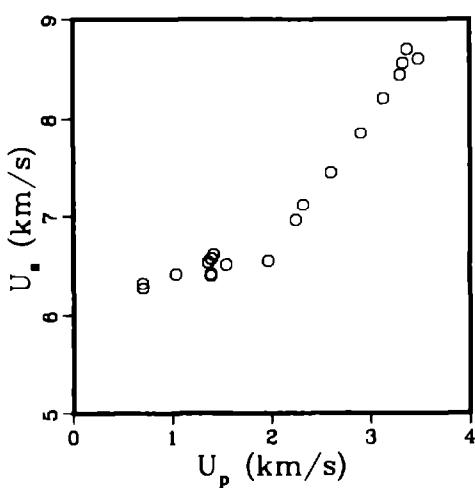


FAYALITE, Rockport, Mass.

Average $\rho_0 = 4.245 \text{ g/cm}^3$.

References 6, 30, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.241	6.329	.702	18.843	.2096	4.770	.889	im1 o
4.230	6.279	.706	18.751	.2098	4.766	.888	im1 o
4.209	6.416	1.035	27.950	.1993	5.019	.839	im1 o
4.305	6.541	1.360	38.296	.1840	5.435	.792	im1 o
4.263	6.424	1.389	38.038	.1839	5.439	.784	im1 o
4.262	6.408	1.391	37.989	.1837	5.444	.783	im1 o
4.274	6.577	1.393	39.157	.1844	5.422	.788	im1 o
4.256	6.618	1.416	39.883	.1847	5.414	.786	im1 o
4.256	6.516	1.545	42.846	.1793	5.579	.763	im1 o
4.296	6.555	1.967	55.391	.1629	6.138	.700	im1 o
4.293	6.964	2.243	67.058	.1579	6.333	.678	im1 o
4.233	7.122	2.317	69.852	.1594	6.274	.675	im1 o
4.185	7.448	2.598	80.979	.1556	6.427	.651	im1 o
4.293	7.849	2.905	97.886	.1467	6.815	.630	im1 o
4.282	8.203	3.130	109.942	.1444	6.924	.618	im1 o
4.169	8.441	3.298	116.058	.1461	6.842	.609	im1 o
4.186	8.559	3.326	119.164	.1461	6.847	.611	im1 o
4.133	8.698	3.368	121.076	.1483	6.745	.613	im1 o
4.286	8.602	3.483	128.412	.1388	7.202	.595	im1 o



FORSTERITE, ceramic, $\rho_0 = 3.20 \text{ g/cm}^3$.

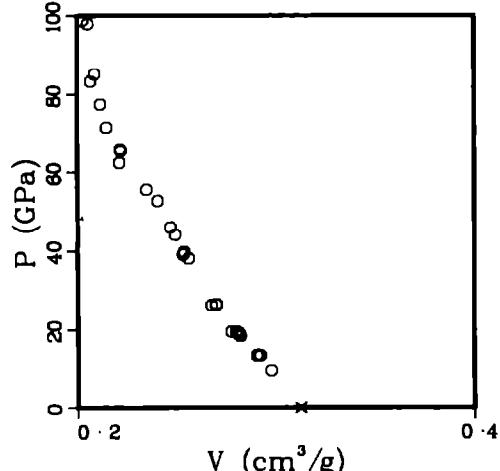
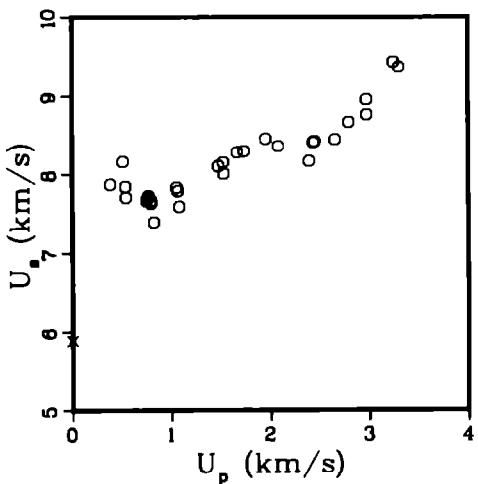
Average $\rho_0 = 3.201 \text{ g/cm}^3$.

Sound velocities longitudinal 8.15 km/s.
shear 4.88 km/s.

Reference 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.201	5.887	0.000	0.000	.3124	3.201	1.000	s p x
3.197	7.875	.384	9.668	.2975	3.361	.951	im1 o
3.210	8.164	.512	13.418	.2920	3.425	.937	im1 o
3.203	7.847	.537	13.497	.2908	3.438	.932	im1 o
3.203	7.709	.543	13.408	.2902	3.446	.930	im1 o
3.200	7.671	.749	18.386	.2820	3.546	.902	im1 o
3.201	7.725	.769	19.016	.2813	3.555	.900	im1 o
3.201	7.708	.770	18.998	.2812	3.556	.900	im1 o
3.201	7.668	.795	19.513	.2800	3.571	.896	im1 o
3.201	7.637	.797	19.483	.2798	3.574	.896	im1 o
3.202	7.397	.825	19.540	.2775	3.604	.888	im1 o
3.208	7.834	1.053	26.463	.2698	3.706	.866	im1 o
3.197	7.791	1.069	26.626	.2699	3.705	.863	im1 o
3.205	7.593	1.084	26.380	.2675	3.739	.857	im1 o
3.195	8.102	1.475	38.182	.2560	3.906	.818	im1 o
3.205	8.151	1.524	39.813	.2537	3.942	.813	im1 o
3.196	8.008	1.529	39.133	.2531	3.950	.809	im1 o
3.207	8.280	1.663	44.159	.2492	4.013	.799	im1 o
3.204	8.292	1.735	46.095	.2468	4.052	.791	im1 o

(Continued)



FORSTERITE, ceramic, $\rho_0 = 3.20 \text{ g/cm}^3$.
 (Continued)

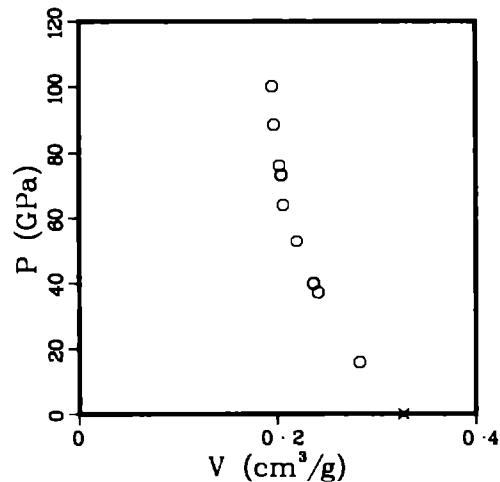
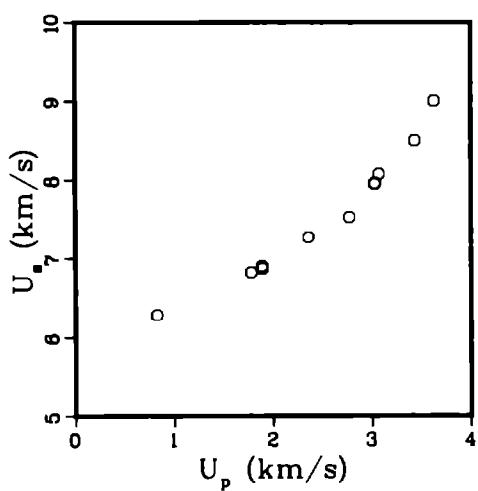
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.197	8.452	1.953	52.772	.2405	4.158	.769	im1 o
3.199	8.357	2.080	55.607	.2348	4.259	.751	im1 o
3.197	8.167	2.392	62.455	.2212	4.521	.707	im1 o
3.203	8.409	2.433	65.530	.2219	4.507	.711	im1 o
3.201	8.418	2.449	65.991	.2215	4.514	.709	im1 o
3.198	8.447	2.651	71.613	.2146	4.661	.686	im1 o
3.203	8.663	2.792	77.471	.2116	4.726	.678	im1 o
3.201	8.956	2.973	85.230	.2087	4.792	.668	im1 o
3.196	8.765	2.976	83.367	.2067	4.839	.660	im1 o
3.197	9.440	3.245	97.933	.2053	4.872	.656	im1 o
3.197	9.372	3.299	98.846	.2027	4.934	.648	im1 o

FORSTERITE, ceramic, $\rho_0 = 3.06 \text{ g/cm}^3$.

Average $\rho_0 = 3.059 \text{ g/cm}^3$

References 6, 30, 32

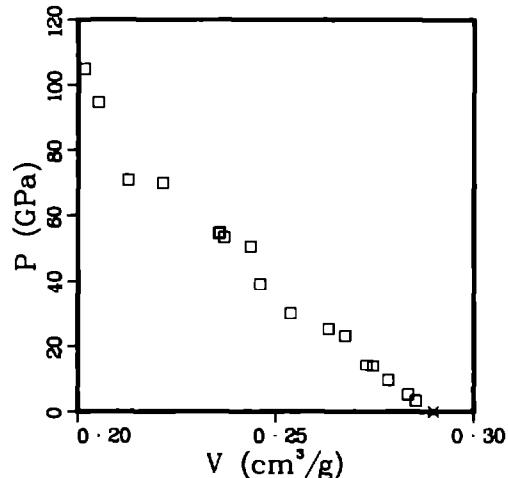
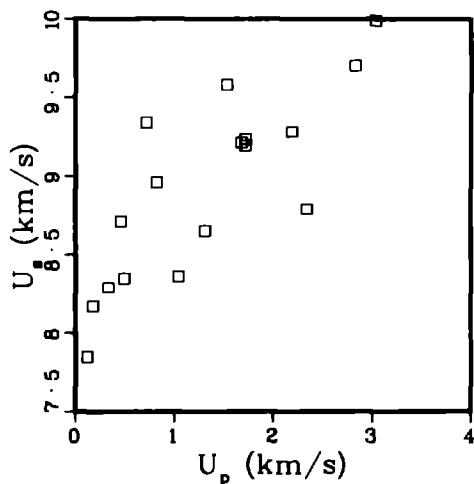
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.070	6.287	.825	15.923	.2830	3.534	.869	i m1 o
3.066	6.820	1.779	37.199	.2411	4.148	.739	i m1 o
3.069	6.900	1.887	39.959	.2367	4.224	.727	i m1 o
3.063	6.869	1.892	39.807	.2366	4.227	.725	i m1 o
3.078	7.269	2.357	52.735	.2195	4.555	.676	i m1 o
3.068	7.525	2.771	63.973	.2059	4.856	.632	i m1 o
3.034	7.959	3.028	73.119	.2042	4.897	.620	i m1 o
3.034	7.953	3.029	73.088	.2041	4.900	.619	i m1 o
3.066	8.078	3.070	76.035	.2022	4.946	.620	i m1 o
3.038	8.514	3.429	88.693	.1966	5.087	.597	i m1 o
3.065	9.005	3.626	100.079	.1949	5.131	.597	i m1 o



GARNET . grossularite

Average $\rho_0 = 3.450 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.450	7.850	.120	3.250	.2854	3.504	.985	i m2 □
3.450	8.170	.180	5.074	.2835	3.528	.978	i m2 □
3.450	8.290	.330	9.438	.2783	3.593	.960	i m2 □
3.450	8.710	.460	13.823	.2745	3.642	.947	i m2 □
3.450	8.350	.490	14.116	.2728	3.665	.941	i m2 □
3.450	9.340	.720	23.201	.2675	3.738	.923	i m2 □
3.450	8.960	.820	25.348	.2633	3.798	.908	i m2 □
3.450	8.360	1.040	29.996	.2538	3.940	.876	i m2 □
3.450	8.650	1.310	39.094	.2460	4.066	.849	i m2 □
3.450	9.580	1.530	50.568	.2436	4.106	.840	i m2 □
3.450	9.210	1.680	53.381	.2370	4.220	.818	i m2 □
3.450	9.230	1.720	54.771	.2358	4.240	.814	i m2 □
3.450	9.190	1.720	54.533	.2356	4.244	.813	i m2 □
3.450	9.280	2.190	70.115	.2215	4.516	.764	i m2 □
3.450	8.790	2.340	70.962	.2127	4.702	.734	i m2 □
3.450	9.700	2.830	94.706	.2053	4.871	.708	i m2 □
3.450	9.990	3.040	104.775	.2017	4.959	.696	i m2 □

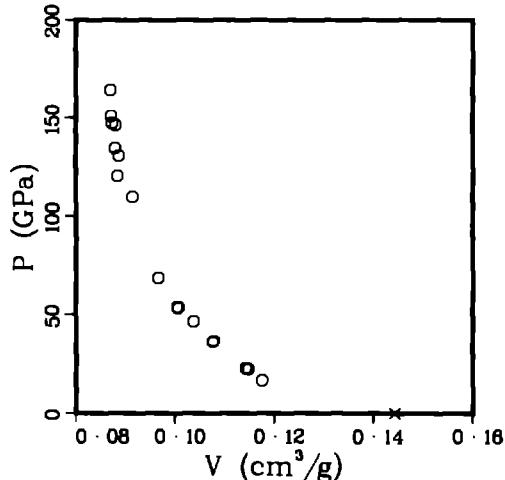
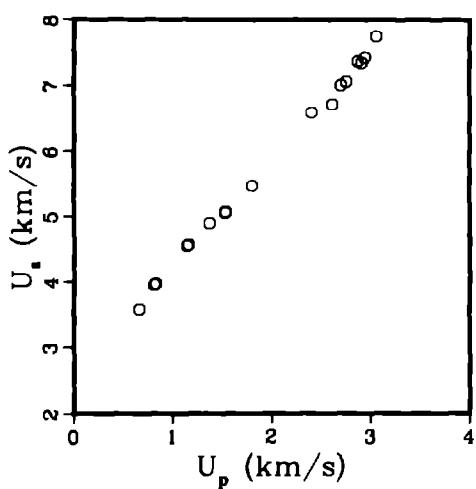


HAFNIUM TITANATE , $\rho_0 = 6.93 \text{ g/cm}^3$.

Average $\rho_0 = 6.932 \text{ g/cm}^3$.

Reference 34

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.927	3.578	.664	16.457	.1176	8.505	.814	im1 o
6.926	3.955	.812	22.243	.1147	8.715	.795	im1 o
6.929	3.969	.827	22.743	.1142	8.753	.792	im1 o
6.955	4.551	1.143	36.178	.1077	9.288	.749	im1 o
6.924	4.572	1.159	36.690	.1078	9.275	.747	im1 o
6.942	4.898	1.373	46.685	.1037	9.646	.720	im1 o
6.917	5.048	1.531	53.458	.1007	9.928	.697	im1 o
6.943	5.070	1.533	53.963	.1005	9.952	.698	im1 o
6.942	5.471	1.802	68.439	.0966	10.352	.671	im1 o
6.941	6.584	2.403	109.816	.0915	10.930	.635	im1 o
6.906	6.700	2.611	120.811	.0884	11.316	.610	im1 o
6.925	7.002	2.702	131.017	.0887	11.276	.614	im1 o
6.936	7.056	2.754	134.782	.0879	11.376	.610	im1 o
6.933	7.362	2.867	146.334	.0881	11.355	.611	im1 o
6.916	7.337	2.904	147.357	.0874	11.447	.604	im1 o
6.930	7.415	2.938	150.972	.0871	11.478	.604	im1 o
6.950	7.738	3.057	164.403	.0870	11.489	.605	im1 o

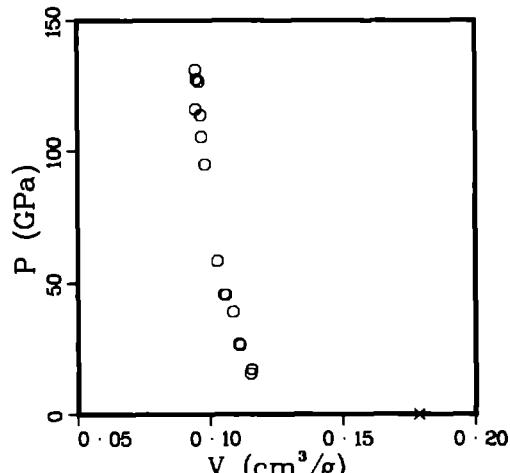
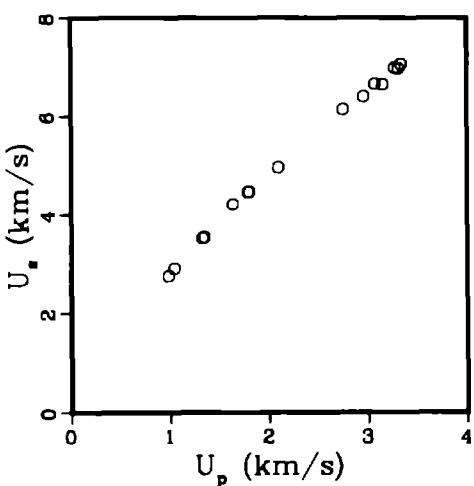


HAFNIUM TITANATE . $\rho_0 = 5.60 \text{ g/cm}^3$.

Average $\rho_0 = 5.597 \text{ g/cm}^3$.

Reference 34

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
5.599	2.773	.985	15.293	.1152	8.683	.645	im1 o
5.576	2.925	1.043	17.011	.1154	8.666	.643	im1 o
5.607	3.532	1.328	26.300	.1113	8.985	.624	im1 o
5.605	3.549	1.344	26.735	.1108	9.021	.621	im1 o
5.637	4.217	1.637	38.914	.1085	9.214	.612	im1 o
5.663	4.472	1.791	45.357	.1059	9.446	.600	im1 o
5.668	4.475	1.800	45.656	.1055	9.482	.598	im1 o
5.627	4.961	2.093	58.427	.1027	9.733	.578	im1 o
5.630	6.140	2.749	95.028	.0981	10.194	.552	im1 o
5.562	6.402	2.957	105.293	.0967	10.336	.538	im1 o
5.572	6.654	3.071	113.861	.0966	10.348	.538	im1 o
5.550	6.640	3.151	116.121	.0947	10.562	.525	im1 o
5.547	6.979	3.269	126.551	.0958	10.435	.532	im1 o
5.536	6.965	3.306	127.474	.0949	10.538	.525	im1 o
5.577	7.050	3.334	131.086	.0945	10.581	.527	im1 o

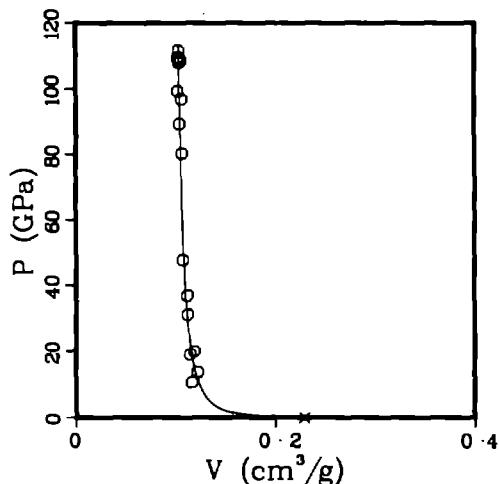
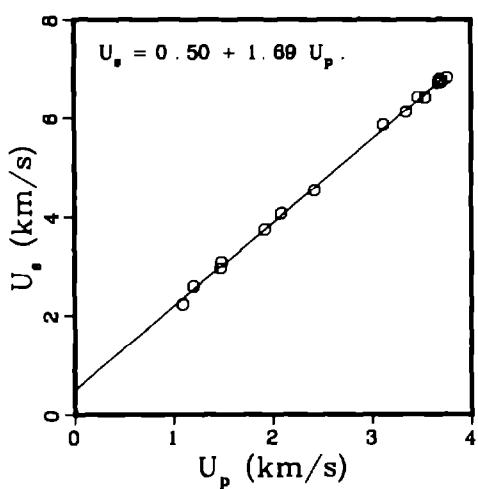


HAFNIUM TITANATE , $\rho_0 = 4.37 \text{ g/cm}^3$.

Average $\rho_0 = 4.367 \text{ g/cm}^3$.

Reference 34

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.386	2.226	1.091	10.652	.1163	8.602	.510	i m1 o
4.374	2.589	1.203	13.623	.1224	8.170	.535	i m1 o
4.382	2.959	1.474	19.112	.1145	8.732	.502	i m1 o
4.380	3.089	1.480	20.024	.1189	8.409	.521	i m1 o
4.349	3.748	1.919	31.280	.1122	8.912	.488	i m1 o
4.360	4.074	2.082	36.982	.1121	8.917	.489	i m1 o
4.359	4.549	2.421	48.006	.1073	9.318	.468	i m1 o
4.394	5.867	3.119	80.407	.1066	9.381	.468	i m1 o
4.352	6.130	3.346	89.264	.1044	9.583	.454	i m1 o
4.351	6.435	3.464	96.987	.1061	9.424	.462	i m1 o
4.375	6.425	3.536	99.395	.1028	9.730	.450	i m1 o
4.372	6.715	3.679	108.008	.1034	9.670	.452	i m1 o
4.343	6.787	3.681	108.501	.1054	9.490	.458	i m1 o
4.384	6.737	3.704	109.398	.1027	9.738	.450	i m1 o
4.348	6.825	3.760	111.578	.1033	9.682	.449	i m1 o



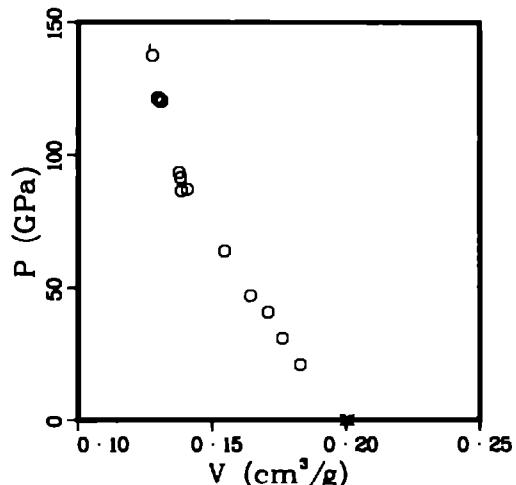
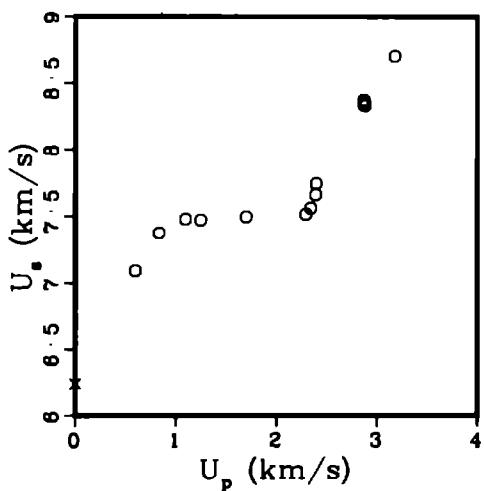
HEMATITE

Average $\rho_0 = 5.007 \text{ g/cm}^3$.

Sound velocities longitudinal 7.78 km/s.
shear 4.02 km/s.

References 6, 30, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.976	6.243	0.000	0.000	.2010	4.976	1.000	ss p x
5.010	7.092	.595	21.141	.1829	5.469	.916	im1 o
5.033	7.375	.834	30.957	.1762	5.675	.887	im1 o
4.994	7.479	1.097	40.973	.1709	5.852	.853	im1 o
5.069	7.472	1.247	47.231	.1644	6.084	.833	im1 o
5.000	7.496	1.700	63.716	.1546	6.467	.773	im1 o
5.015	7.516	2.294	86.467	.1385	7.218	.695	im1 o
4.903	7.562	2.343	86.870	.1408	7.104	.690	im1 o
4.976	7.661	2.392	91.186	.1382	7.235	.688	im1 o
5.015	7.744	2.398	93.129	.1377	7.265	.690	im1 o
5.008	8.372	2.870	120.330	.1312	7.620	.657	im1 o
5.022	8.344	2.871	120.305	.1306	7.656	.656	im1 o
5.011	8.344	2.873	120.125	.1308	7.642	.656	im1 o
5.052	8.363	2.877	121.553	.1298	7.701	.656	im1 o
5.052	8.330	2.882	121.284	.1295	7.725	.654	im1 o
4.972	8.709	3.180	137.698	.1277	7.832	.635	im1 o



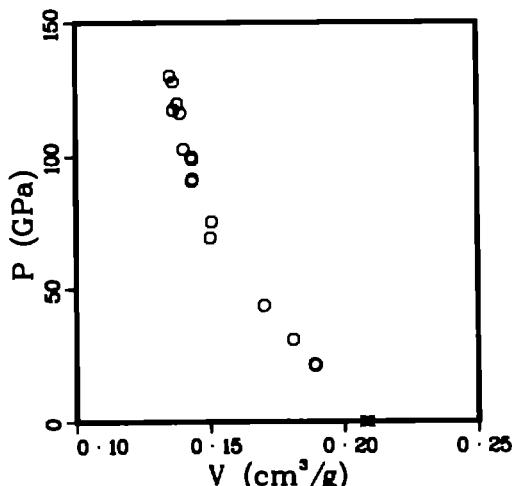
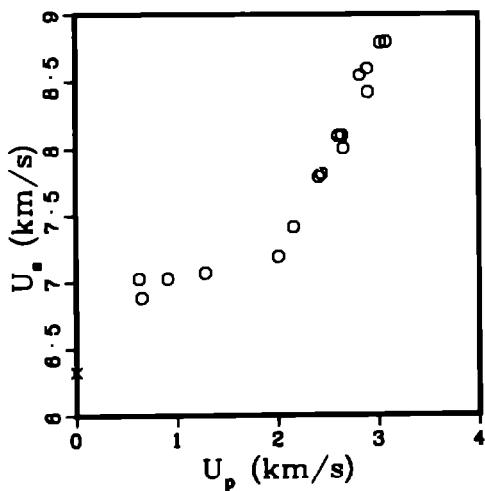
ILMENITE, Kragerø, Norway

Average $\rho_0 = 4.787 \text{ g/cm}^3$.

Sound velocities longitudinal 7.16 km/s.
shear 2.90 km/s.

Reference 30

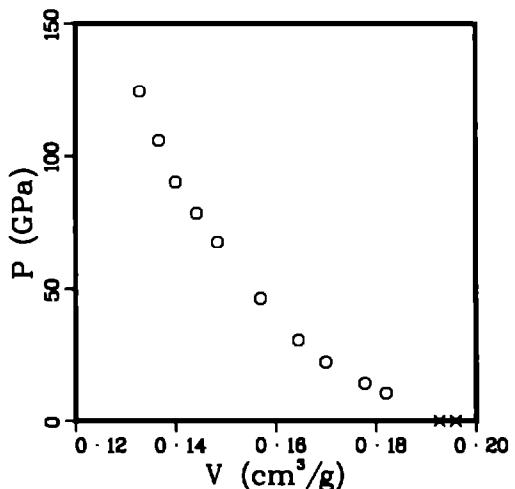
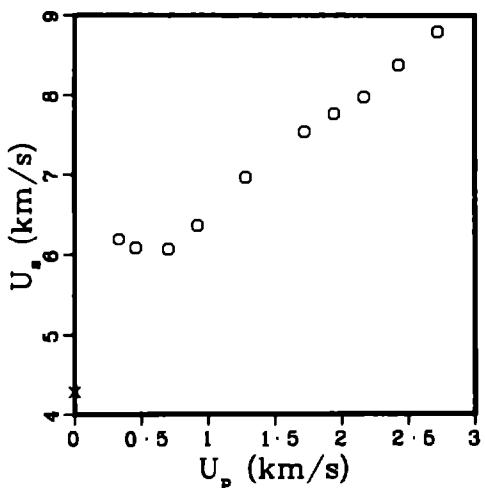
ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.817	6.329	0.000	0.000	.2076	4.817	1.000	ssp x
4.814	7.026	.626	21.173	.1892	5.285	.911	im1 o
4.793	6.883	.652	21.510	.1889	5.295	.905	im1 o
4.811	7.026	.909	30.726	.1810	5.526	.871	im1 o
4.812	7.070	1.284	43.683	.1701	5.880	.818	im1 o
4.797	7.187	2.009	69.262	.1502	6.658	.720	im1 o
4.705	7.414	2.160	75.347	.1506	6.639	.709	im1 o
4.815	7.788	2.413	90.486	.1433	6.977	.690	im1 o
4.790	7.811	2.441	91.329	.1435	6.967	.687	im1 o
4.735	8.098	2.608	100.001	.1432	6.984	.678	im1 o
4.803	8.102	2.643	102.849	.1403	7.128	.674	im1 o
4.656	8.006	2.657	99.042	.1435	6.969	.668	im1 o
4.815	8.548	2.824	116.232	.1391	7.191	.670	im1 o
4.805	8.598	2.896	119.644	.1380	7.245	.663	im1 o
4.800	8.420	2.903	117.328	.1365	7.326	.655	im1 o
4.805	8.791	3.027	127.863	.1365	7.328	.656	im1 o
4.805	8.796	3.082	130.260	.1352	7.397	.650	im1 o



IRON MAGNESIUM OXIDE, $\text{Fe}_{\text{sp}} \cdot \text{Mg}_{\text{sp}}\text{O}$

Average $\rho_0 = 5.191 \text{ g/cm}^3$.

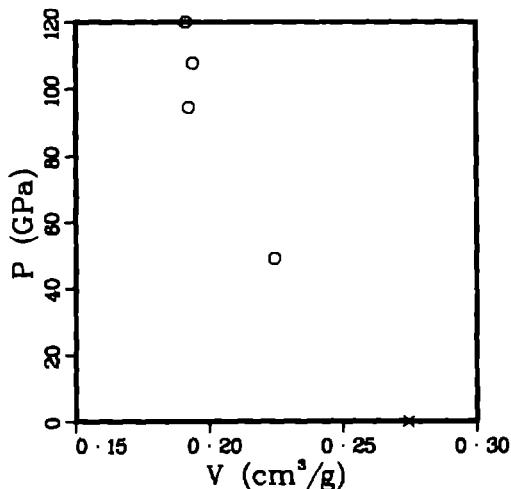
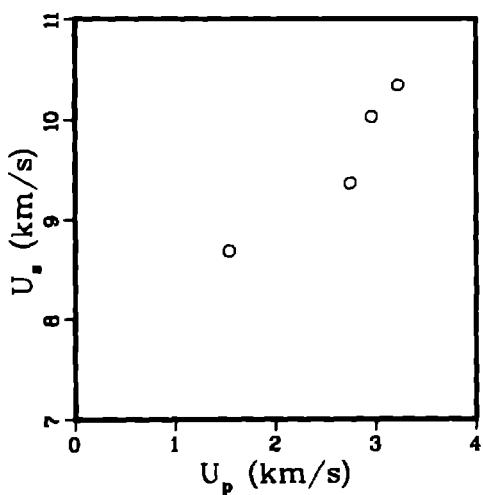
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.106	4.290	0.000	0.000	.1958	5.106	1.000	ss p x
5.200	6.198	.332	10.700	.1820	5.494	.946	im1 o
5.200	6.086	.459	14.526	.1778	5.624	.925	im1 o
5.200	6.074	.705	22.267	.1700	5.883	.884	im1 o
5.200	6.376	.921	30.536	.1645	6.078	.856	im1 o
5.200	6.968	1.280	46.379	.1570	6.370	.816	im1 o
5.200	7.545	1.724	67.639	.1484	6.740	.772	im1 o
5.200	7.767	1.944	78.515	.1442	6.936	.750	im1 o
5.200	7.975	2.169	89.948	.1400	7.143	.728	im1 o
5.200	8.388	2.427	105.860	.1367	7.317	.711	im1 o
5.200	8.798	2.721	124.485	.1328	7.528	.691	im1 o



KYANITE , ceramic , $\rho_0 = 3.6$ g/cm³.

Average $\rho_0 = 3.645$ g/cm³.

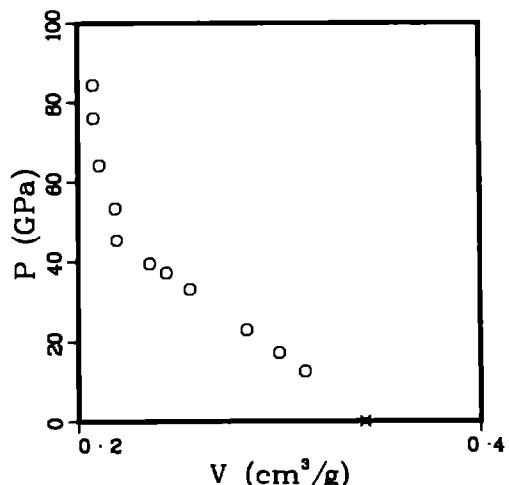
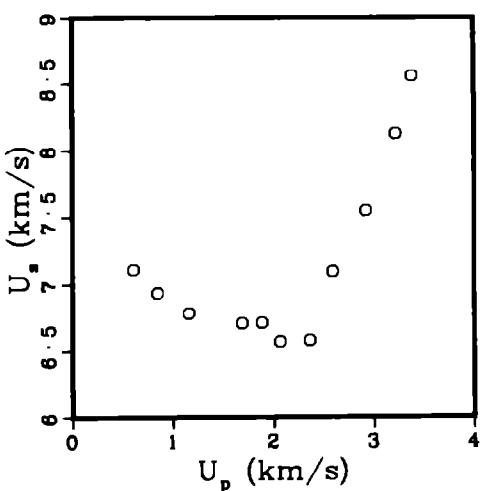
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.668	8.682	1.537	48.947	.2244	4.457	.823	im1 o
3.675	9.364	2.745	94.463	.1923	5.199	.707	im1 o
3.636	10.030	2.957	107.839	.1939	5.156	.705	im1 o
3.602	10.342	3.220	119.951	.1912	5.231	.689	im1 o



KYANITE , ceramic , $\rho_0 = 2.9 \text{ g/cm}^3$.

Average $\rho_0 = 2.921 \text{ g/cm}^3$.

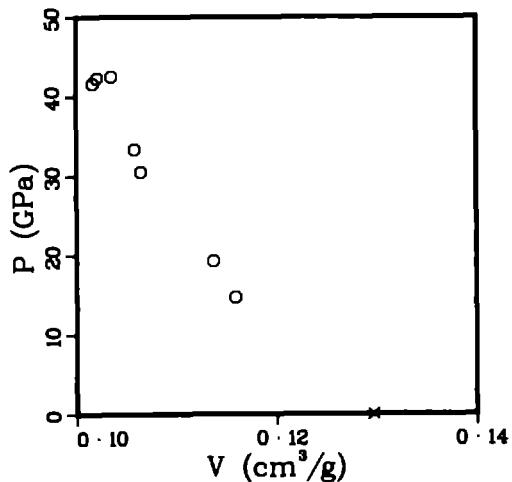
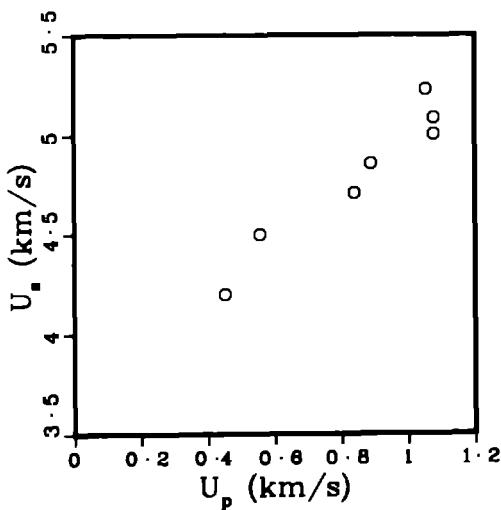
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.925	7.107	.608	12.639	.3126	3.199	.914	im1 o
2.927	6.935	.847	17.193	.2999	3.334	.878	im1 o
2.924	6.785	1.157	22.954	.2837	3.525	.829	im1 o
2.925	6.708	1.691	33.179	.2557	3.911	.748	im1 o
2.952	6.710	1.882	37.279	.2437	4.103	.720	im1 o
2.910	6.568	2.066	39.487	.2355	4.245	.685	im1 o
2.926	6.576	2.359	45.390	.2192	4.563	.641	im1 o
2.907	7.095	2.591	53.440	.2184	4.579	.635	im1 o
2.910	7.549	2.923	64.211	.2106	4.749	.613	im1 o
2.910	8.128	3.217	76.090	.2076	4.816	.604	im1 o
2.912	8.558	3.383	84.307	.2077	4.816	.605	im1 o



LEAD ZIRCONIUM TITANATE . PZT

Average $\rho_0 = 7.714 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.700	4.203	.452	14.628	.1159	8.628	.892	im1 o
7.710	4.499	.556	19.286	.1137	8.797	.876	im1 o
7.720	4.710	.839	30.507	.1065	9.393	.822	im1 o
7.720	4.855	.889	33.320	.1058	9.450	.817	im1 o
7.710	5.226	1.054	42.468	.1035	9.658	.798	im1 o
7.720	5.086	1.077	42.287	.1021	9.794	.788	im1 o
7.720	5.006	1.077	41.622	.1017	9.836	.785	im1 o

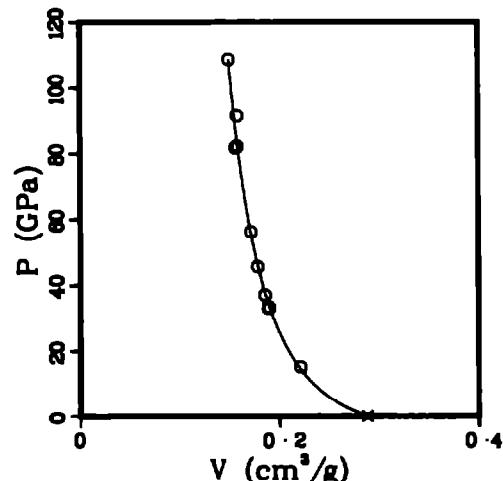
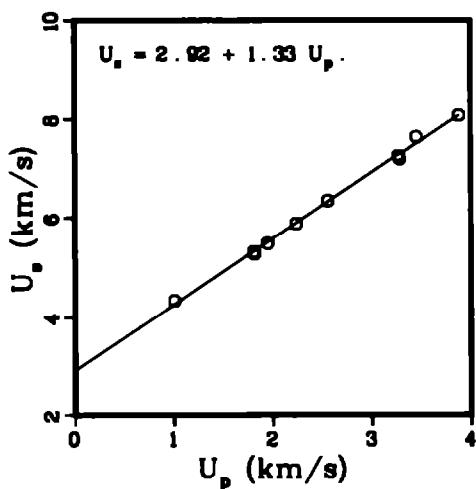


LITHIUM BROMIDE . single-crystal , [100]

Average $\rho_0 = 3.470 \text{ g/cm}^3$.

Reference 35

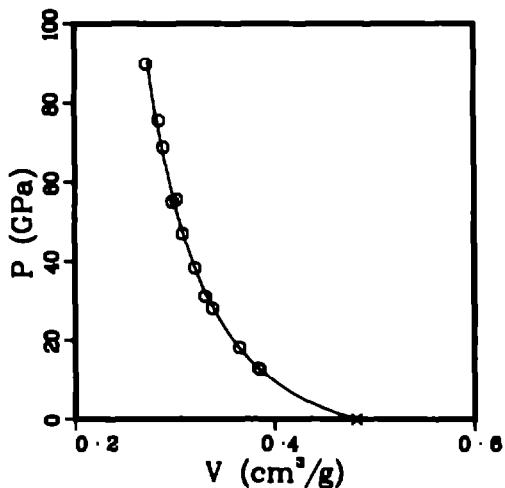
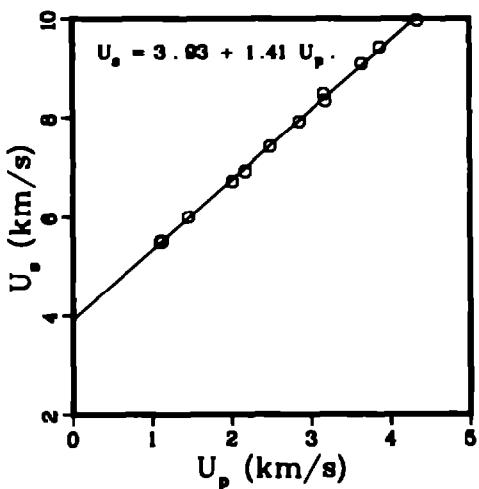
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.470	4.332	1.007	15.137	.2212	4.521	.768	im1 o
3.470	5.310	1.808	33.314	.1901	5.261	.680	im1 o
3.470	5.268	1.814	33.160	.1890	5.292	.658	im1 o
3.470	5.481	1.948	37.049	.1858	5.383	.645	im1 o
3.470	5.877	2.237	45.620	.1785	5.603	.619	im1 o
3.470	6.337	2.557	56.227	.1719	5.817	.596	im1 o
3.470	7.253	3.270	82.299	.1583	6.319	.549	im1 o
3.470	7.181	3.283	81.806	.1564	6.393	.543	im1 o
3.470	7.640	3.452	91.515	.1580	6.330	.548	im1 o
3.470	8.079	3.881	108.800	.1497	6.678	.520	im1 o



LITHIUM CHLORIDE , single-crystal , [100]

Average $\rho_0 = 2.075 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.075	5.494	1.100	12.540	3854	2.594	.800	im1 o
2.075	5.509	1.120	12.803	3840	2.605	.797	im1 o
2.075	6.000	1.458	18.152	3648	2.741	.757	im1 o
2.075	6.718	2.011	28.033	3377	2.962	.701	im1 o
2.075	6.915	2.169	31.122	3308	3.023	.686	im1 o
2.075	7.420	2.490	38.337	3202	3.123	.684	im1 o
2.075	7.920	2.855	46.919	3082	3.245	.640	im1 o
2.075	8.479	3.167	55.720	3019	3.312	.628	im1 o
2.075	8.340	3.186	55.135	2978	3.358	.618	im1 o
2.075	9.093	3.642	68.717	2889	3.461	.599	im1 o
2.075	9.429	3.868	75.678	2842	3.518	.590	im1 o
2.075	9.968	4.344	89.850	2719	3.678	.564	im1 o

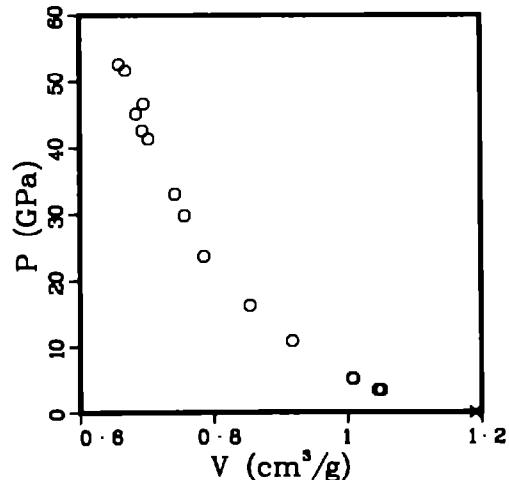
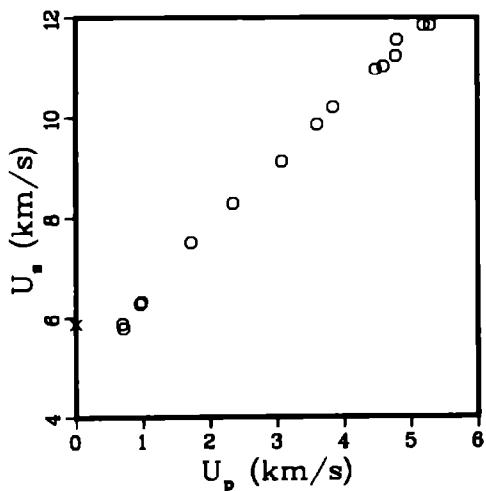


LITHIUM DEUTERIDE, pressed

Average $\rho_0 = 0.840 \text{ g/cm}^3$.

Sound velocities longitudinal 9.36 km/s
shear 6.31 km/s.

ρ_0 (g/cm ³)	U _l (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
840	5.875	0.000	0.000	1.1905	.840	1.000	ssp x
840	5.880	.695	3.433	1.0498	.953	.882	im1 o
839	5.790	.712	3.459	1.0453	.957	.877	im1 o
840	6.300	.964	5.101	1.0083	.992	.847	im1 o
839	6.330	.983	5.221	1.0068	.993	.845	im1 o
840	7.500	1.721	10.842	.9173	1.090	.771	im1 o
839	8.290	2.348	16.331	.8543	1.171	.717	im1 o
844	9.110	3.074	23.635	.7850	1.274	.663	im1 o
838	9.860	3.606	29.795	.7569	1.321	.634	im1 o
840	10.210	3.844	32.968	.7423	1.347	.624	im1 o
842	10.970	4.477	41.353	.7030	1.423	.592	im1 o
841	11.030	4.593	42.606	.6939	1.441	.584	im1 o
840	11.240	4.778	45.112	.6844	1.461	.575	im1 o
841	11.560	4.796	46.627	.6957	1.437	.585	im1 o
840	11.850	5.195	51.711	.6686	1.496	.562	im1 o
840	11.850	5.292	52.677	.6588	1.518	.553	im1 o



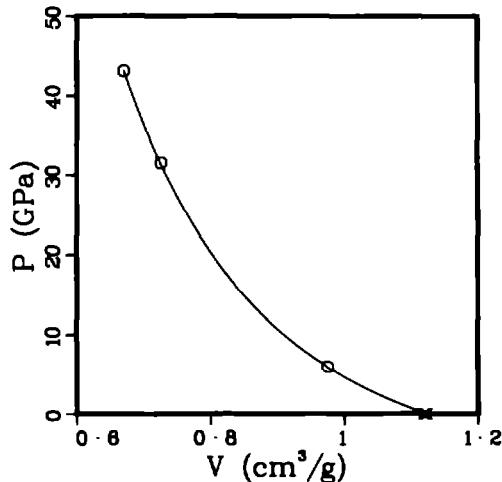
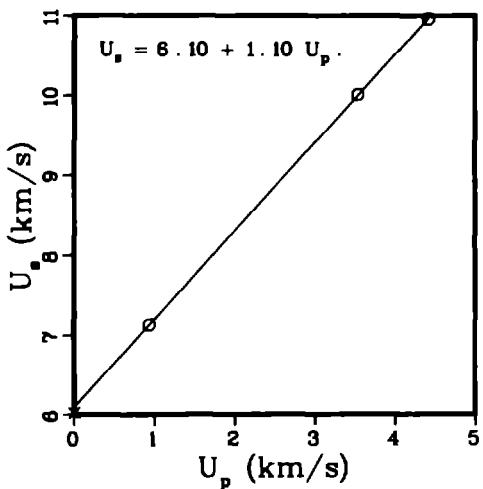
LITHIUM DEUTERIDE, single-crystal

Average $\rho_0 = 0.891 \text{ g/cm}^3$.

Sound velocities longitudinal 9.56 km/s.
shear 6.43 km/s.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.894	6.022	0.000	0.000	1.1188	.894	1.000	s p x
.890	7.130	.940	5.965	.9755	1.025	.868	i m1 o
.890	10.010	3.539	31.529	.7264	1.377	.646	i m1 o
.890	10.960	4.417	43.085	.6708	1.491	.597	i m1 o



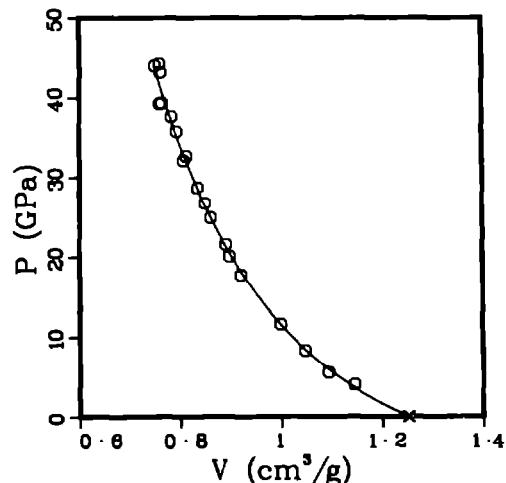
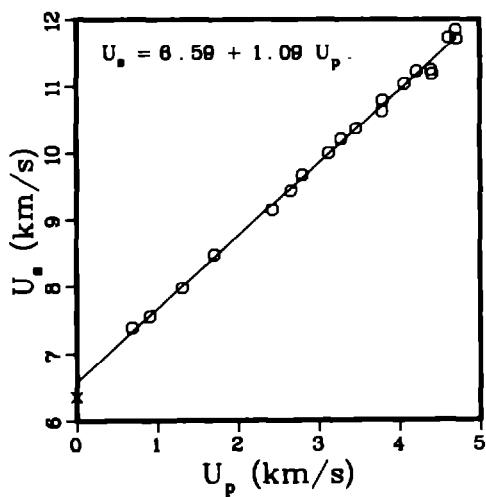
LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.80 \text{ g/cm}^3$.

Average $\rho_0 = 0.798 \text{ g/cm}^3$.

Sound velocities longitudinal 10.10 km/s.
shear 6.80 km/s.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.799	6.353	0.000	0.000	1.2509	.799	1.000	s s p x
.792	7.390	.688	4.029	1.1445	.874	.907	im1 o
.805	7.560	.911	5.541	1.0932	.915	.879	im1 o
.798	7.980	1.308	8.334	1.0472	.955	.836	im1 o
.799	8.480	1.707	11.573	.9990	1.001	.799	im1 o
.798	9.150	2.427	17.728	.9204	1.086	.735	im1 o
.800	9.440	2.656	20.063	.8981	1.113	.719	im1 o
.798	9.670	2.795	21.560	.8913	1.122	.711	im1 o
.799	10.000	3.123	24.953	.8607	1.162	.688	im1 o
.799	10.210	3.281	26.756	.8497	1.177	.679	im1 o
.798	10.370	3.468	28.702	.8339	1.199	.666	im1 o
.798	10.630	3.786	32.116	.8068	1.239	.644	im1 o
.798	10.790	3.793	32.668	.8124	1.231	.648	im1 o
.797	11.040	4.064	35.736	.7933	1.261	.632	im1 o
.798	11.220	4.211	37.703	.7828	1.277	.625	im1 o
.798	11.240	4.390	39.366	.7639	1.309	.609	im1 o
.798	11.180	4.403	39.277	.7597	1.316	.606	im1 o
.797	11.730	4.614	43.152	.7609	1.314	.607	im1 o
.794	11.840	4.703	44.224	.7590	1.318	.603	im1 o
.797	11.710	4.712	43.982	.7497	1.334	.598	im1 o



LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.76 \text{ g/cm}^3$.

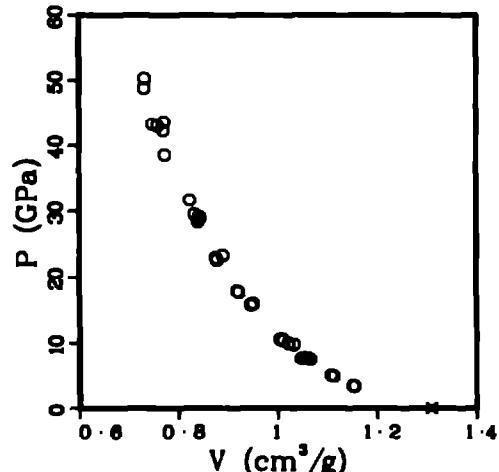
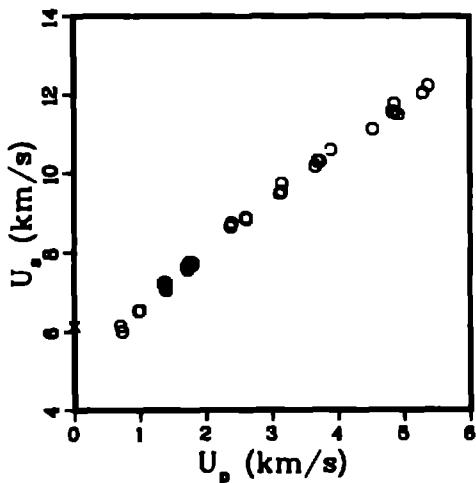
Average $\rho_0 = 0.764 \text{ g/cm}^3$.

Sound velocities longitudinal 9.72 km/s.
shear 6.53 km/s.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.764	6.134	0.000	0.000	1.3089	.764	1.000	s s p x
.767	6.140	.702	3.308	1.1547	.866	.886	im1 o
.764	6.000	.721	3.305	1.1518	.868	.880	im1 o
.764	6.520	.977	4.867	1.1128	.899	.850	im1 o
.765	6.530	.997	4.980	1.1078	.903	.847	im1 o
.761	7.190	1.360	7.439	1.0658	.938	.811	im1 o
.765	7.250	1.368	7.583	1.0611	.942	.811	im1 o
.768	7.230	1.387	7.702	1.0523	.950	.808	im1 o
.762	7.240	1.388	7.659	1.0605	.943	.808	im1 o
.764	7.100	1.394	7.563	1.0518	.951	.804	im1 o
.766	7.040	1.396	7.527	1.0467	.955	.802	im1 o
.760	7.650	1.712	9.956	1.0211	.979	.776	im1 o
.749	7.580	1.721	9.770	1.0321	.969	.773	im1 o
.767	7.750	1.745	10.373	1.0102	.990	.775	im1 o
.762	7.750	1.789	10.570	1.0089	.991	.769	im1 o
.764	7.700	1.796	10.564	1.0037	.996	.767	im1 o
.767	8.640	2.376	15.745	.9452	1.058	.725	im1 o
.764	8.730	2.393	15.950	.9507	1.052	.726	im1 o
.768	8.860	2.607	17.744	.9187	1.088	.706	im1 o

(Continued)



LITHIUM-6 DEUTERIDE . pressed . $\rho_0 = 0.76 \text{ g/cm}^3$.
 (Continued)

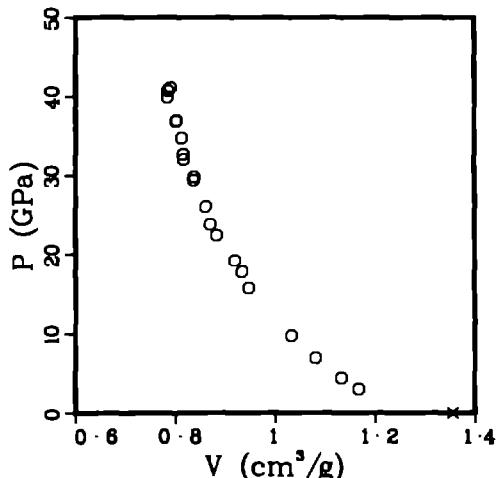
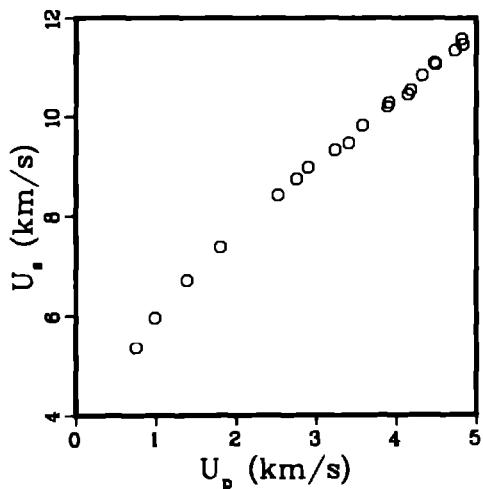
	ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.764	8.830	2.613	17.628	.9216	1.085	.704	im1	o
.765	9.480	3.118	22.612	.8773	1.140	.671	im1	o
.766	9.540	3.146	22.984	.8752	1.143	.670	im1	o
.761	9.740	3.148	23.330	.8895	1.124	.677	im1	o
.762	10.170	3.664	28.394	.8395	1.191	.640	im1	o
.761	10.300	3.705	29.026	.8418	1.188	.640	im1	o
.759	10.310	3.707	28.989	.8444	1.184	.640	im1	o
.765	10.310	3.736	29.482	.8331	1.200	.638	im1	o
.768	10.590	3.896	31.687	.8231	1.215	.632	im1	o
.766	11.110	4.529	38.543	.7733	1.293	.592	im1	o
.757	11.570	4.826	42.285	.7697	1.299	.583	im1	o
.766	11.570	4.853	43.010	.7579	1.319	.581	im1	o
.761	11.780	4.863	43.618	.7712	1.297	.587	im1	o
.766	11.500	4.914	43.287	.7476	1.338	.573	im1	o
.766	12.040	5.293	48.815	.7316	1.367	.560	im1	o
.766	12.230	5.372	50.326	.7321	1.366	.561	im1	o

LITHIUM-6 DEUTERIDE, pressed. $\rho_0 = 0.74 \text{ g/cm}^3$.

Average $\rho_0 = 0.738 \text{ g/cm}^3$.

Reference 36

	ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
736	5.350	753		2.965	1.1673	.857	.859	im1 o
737	5.960	984		4.320	1.1333	.882	.835	im1 o
733	6.700	1.390		6.828	1.0809	.925	.793	im1 o
731	7.380	1.803		9.725	1.0339	.967	.756	im1 o
739	8.410	2.522		15.672	.9475	1.055	.700	im1 o
733	8.760	2.760		17.734	.9338	1.071	.685	im1 o
737	8.980	2.901		19.194	.9188	1.088	.677	im1 o
741	9.340	3.233		22.360	.8830	1.133	.654	im1 o
735	9.470	3.407		23.730	.8705	1.149	.640	im1 o
738	9.820	3.580		25.948	.8609	1.162	.635	im1 o
739	10.210	3.894		29.385	.8370	1.195	.619	im1 o
741	10.300	3.906		29.812	.8378	1.194	.621	im1 o
738	10.460	4.147		32.017	.8177	1.223	.604	im1 o
740	10.550	4.182		32.644	.8158	1.226	.604	im1 o
739	10.840	4.326		34.655	.8132	1.230	.601	im1 o
742	11.090	4.483		36.875	.8032	1.245	.596	im1 o
740	11.060	4.495		36.794	.8020	1.247	.594	im1 o
744	11.340	4.732		39.897	.7837	1.276	.583	im1 o
738	11.560	4.816		41.081	.7906	1.265	.583	im1 o
736	11.450	4.829		40.723	.7851	1.274	.578	im1 o

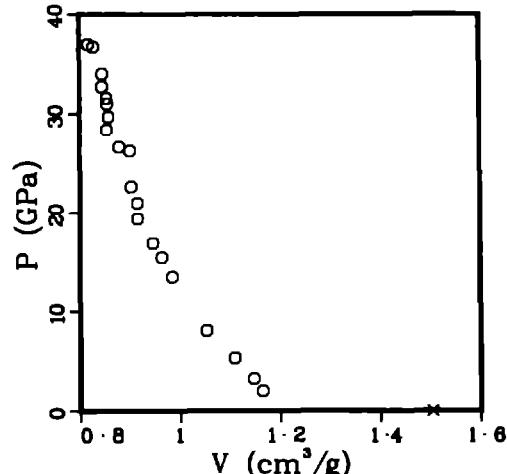
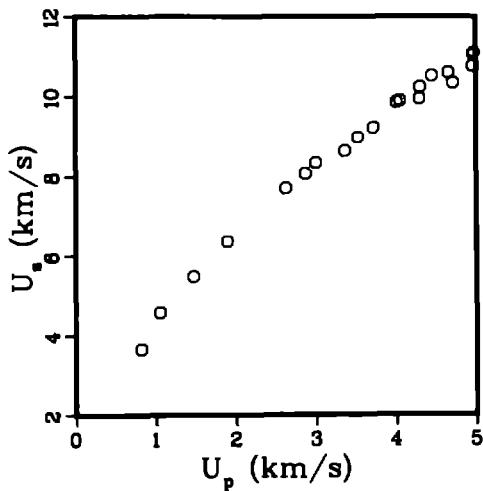


LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.66 \text{ g/cm}^3$.

Average $\rho_0 = 0.665 \text{ g/cm}^3$.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.668	3.660	.815	1.991	1.1645	.859	.777	i m1 o
.672	4.570	1.049	3.222	1.1463	.872	.770	i m1 o
.660	5.490	1.474	5.342	1.1082	.902	.732	i m1 o
.668	6.360	1.894	8.044	1.0515	.951	.702	i m1 o
.670	7.710	2.625	13.558	.9845	1.016	.660	i m1 o
.669	8.070	2.867	15.481	.9636	1.038	.645	i m1 o
.677	8.340	3.004	16.951	.9456	1.058	.640	i m1 o
.667	8.640	3.365	19.392	.9153	1.092	.611	i m1 o
.664	8.980	3.526	21.021	.9148	1.093	.607	i m1 o
.662	9.230	3.718	22.708	.9025	1.108	.597	i m1 o
.675	9.860	4.005	26.671	.8792	1.137	.594	i m1 o
.656	9.900	4.050	26.294	.9011	1.110	.591	i m1 o
.666	9.950	4.292	28.420	.8545	1.170	.569	i m1 o
.676	10.230	4.299	29.721	.8579	1.166	.580	i m1 o
.676	10.510	4.447	31.576	.8539	1.171	.577	i m1 o
.664	10.590	4.653	32.709	.8446	1.184	.561	i m1 o
.637	10.340	4.711	31.010	.8552	1.169	.544	i m1 o
.638	10.750	4.957	33.982	.8450	1.183	.539	i m1 o
.673	11.060	4.968	37.001	.8180	1.223	.551	i m1 o
.665	11.090	4.978	36.729	.8284	1.207	.551	i m1 o

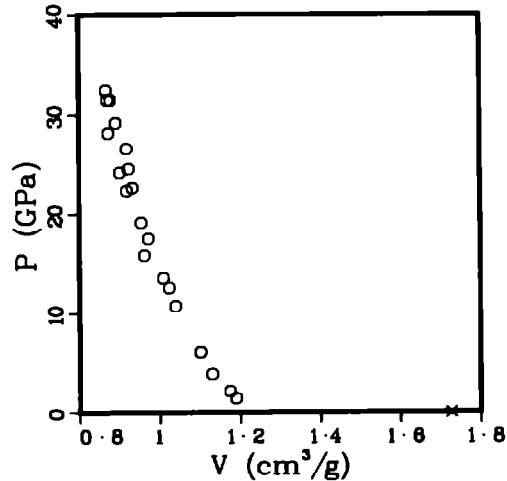
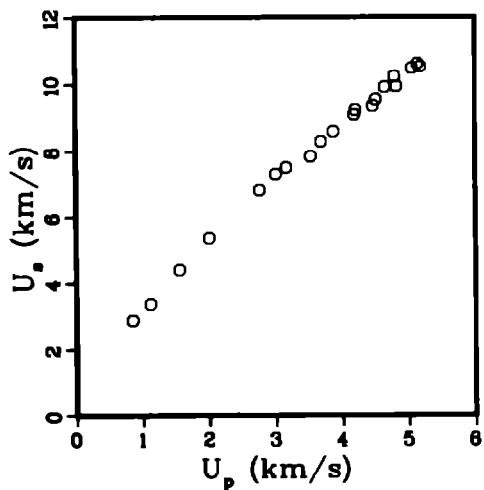


LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.58 \text{ g/cm}^3$.

Average $\rho_0 = 0.579 \text{ g/cm}^3$.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.592	2.870	.849	1.442	1.1897	.841	.704	im1 o
.571	3.390	1.115	2.160	1.1745	.851	.671	im1 o
.572	4.400	1.558	3.918	1.1300	.885	.646	im1 o
.567	5.340	2.004	6.069	1.1016	.908	.625	im1 o
.571	6.810	2.767	10.761	1.0395	.962	.594	im1 o
.574	7.290	3.010	12.586	1.0235	.977	.587	im1 o
.572	7.490	3.168	13.565	1.0093	.991	.577	im1 o
.570	7.830	3.535	15.769	.9628	1.039	.549	im1 o
.571	8.290	3.690	17.461	.9721	1.029	.555	im1 o
.575	8.590	3.878	19.144	.9545	1.048	.549	im1 o
.587	9.090	4.191	22.359	.9183	1.089	.539	im1 o
.583	9.230	4.207	22.654	.9328	1.072	.544	im1 o
.579	9.350	4.471	24.200	.9014	1.109	.522	im1 o
.570	9.540	4.515	24.573	.9233	1.083	.527	im1 o
.578	9.910	4.650	26.626	.9186	1.089	.531	im1 o
.596	10.230	4.794	29.224	.8917	1.121	.531	im1 o
.588	9.930	4.826	28.202	.8734	1.145	.514	im1 o
.594	10.480	5.056	31.490	.8709	1.148	.518	im1 o
.594	10.620	5.144	32.461	.8678	1.152	.516	im1 o
.578	10.520	5.183	31.488	.8785	1.138	.507	im1 o

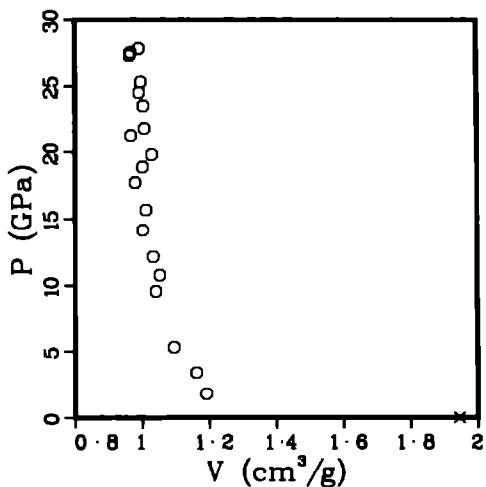
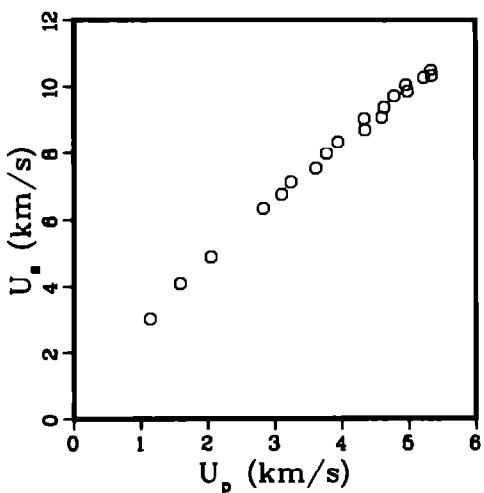


LITHIUM-6 DEUTERIDE . pressed . $\rho_0 = 0.51 \text{ g/cm}^3$.

Average $\rho_0 = 0.514 \text{ g/cm}^3$.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.522	3.010	1.136	1.788	1.1912	.839	.622	im1 o
.526	4.080	1.589	3.408	1.1616	.861	.611	im1 o
.530	4.880	2.049	5.298	1.0950	.913	.580	im1 o
.532	6.350	2.830	9.569	1.0410	.961	.554	im1 o
.514	6.760	3.103	10.782	1.0525	.950	.541	im1 o
.527	7.120	3.239	12.165	1.0333	.968	.545	im1 o
.519	7.540	3.615	14.157	1.0022	.998	.521	im1 o
.521	7.980	3.775	15.692	1.0116	.989	.527	im1 o
.539	8.350	3.944	17.741	.9795	1.021	.528	im1 o
.506	9.040	4.335	19.825	1.0288	.972	.520	im1 o
.499	8.700	4.349	18.895	1.0014	.999	.500	im1 o
.511	9.080	4.599	21.326	.9663	1.035	.494	im1 o
.502	9.380	4.635	21.838	1.0071	.993	.506	im1 o
.506	9.720	4.784	23.520	1.0040	.996	.508	im1 o
.508	10.050	4.958	25.333	.9966	1.003	.507	im1 o
.499	9.860	4.984	24.517	.9912	1.009	.495	im1 o
.510	10.270	5.226	27.356	.9636	1.038	.491	im1 o
.497	10.510	5.333	27.874	.9905	1.010	.493	im1 o
.500	10.330	5.345	27.585	.9659	1.035	.483	im1 o

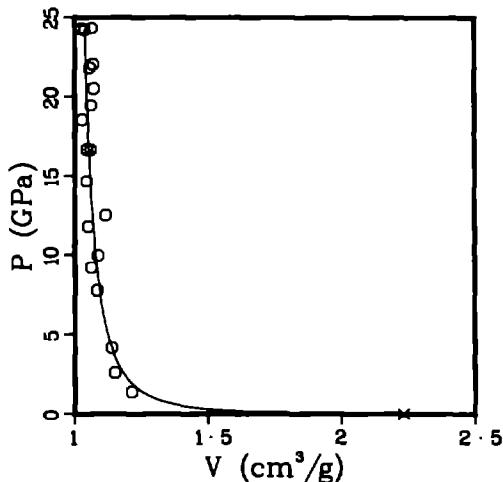
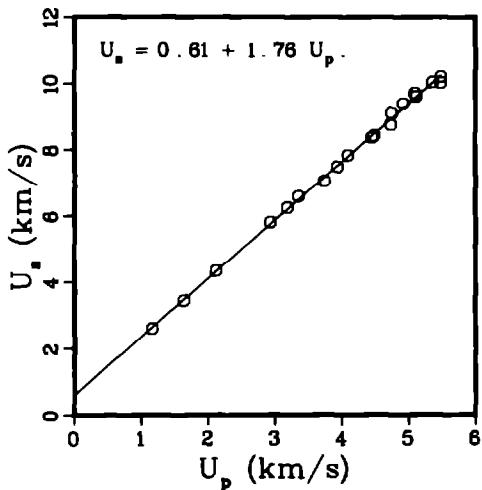


LITHIUM-6 DEUTERIDE, pressed, $\rho_0 = 0.45 \text{ g/cm}^3$.

Average $\rho_0 = 0.448 \text{ g/cm}^3$.

Reference 36

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.456	2.600	1.164	1.379	1.2125	.825	.552	im1 o
.456	3.450	1.641	2.581	1.1501	.869	.524	im1 o
.450	4.340	2.117	4.137	1.1375	.879	.512	im1 o
.457	5.800	2.928	7.766	1.0828	.924	.495	im1 o
.462	6.250	3.187	9.194	1.0617	.942	.490	im1 o
.452	6.590	3.354	9.984	1.0871	.920	.491	im1 o
.448	7.050	3.734	11.799	1.0494	.953	.470	im1 o
.425	7.480	3.933	12.512	1.1150	.897	.474	im1 o
.458	7.830	4.093	14.665	1.0430	.959	.477	im1 o
.447	8.370	4.455	16.675	1.0459	.956	.468	im1 o
.441	8.420	4.484	16.658	1.0595	.944	.467	im1 o
.448	8.750	4.728	18.521	1.0267	.974	.460	im1 o
.451	9.090	4.745	19.448	1.0601	.943	.478	im1 o
.444	9.390	4.919	20.527	1.0714	.933	.476	im1 o
.446	9.710	5.094	22.041	1.0668	.937	.475	im1 o
.444	9.610	5.114	21.806	1.0544	.948	.468	im1 o
.450	10.040	5.363	24.203	1.0363	.965	.466	im1 o
.434	10.200	5.487	24.312	1.0637	.940	.462	im1 o
.442	10.020	5.488	24.289	1.0240	.977	.452	im1 o



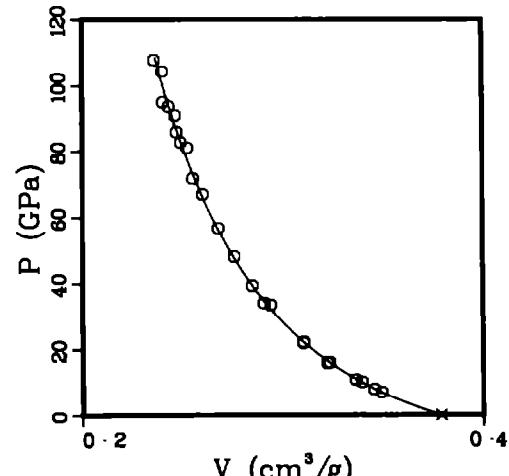
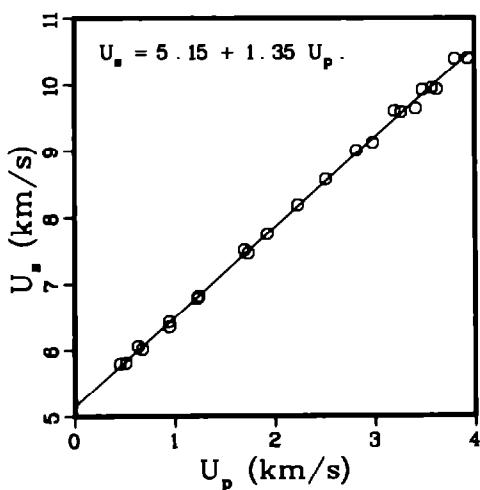
LITHIUM FLUORIDE, single-crystal, [100]

Average $\rho_0 = 2.638 \text{ g/cm}^3$.

Reference 37

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.640	5.797	.451	6.902	.3493	2.863	.922	im1 o
2.640	5.808	.509	7.805	.3456	2.894	.912	im1 o
2.639	6.061	.631	10.093	.3395	2.946	.896	im1 o
2.640	6.016	.672	10.673	.3365	2.972	.888	im1 o
2.639	6.432	.943	16.007	.3234	3.092	.853	im1 o
2.642	6.354	.945	15.864	.3222	3.104	.851	im1 o
2.641	6.789	1.224	21.946	.3104	3.222	.820	im1 o
2.636	6.821	1.238	22.259	.3105	3.221	.819	im1 o
2.633	7.509	1.696	33.532	.2940	3.401	.774	im1 o
2.641	7.459	1.734	34.158	.2906	3.441	.768	im1 o
2.639	7.749	1.924	39.345	.2848	3.511	.752	im1 o
2.637	8.184	2.229	48.105	.2759	3.624	.728	im1 o
2.640	8.570	2.508	56.743	.2679	3.732	.707	im1 o
2.641	9.002	2.815	66.925	.2602	3.843	.687	im1 o
2.637	9.123	2.981	71.715	.2553	3.917	.673	im1 o
2.641	9.604	3.197	81.089	.2526	3.959	.667	im1 o
2.646	9.586	3.263	82.765	.2493	4.011	.660	im1 o
2.614	9.639	3.410	85.920	.2472	4.045	.646	im1 o
2.635	9.923	3.477	90.913	.2465	4.056	.650	im1 o
2.635	9.952	3.572	93.670	.2433	4.110	.641	im1 o
2.642	9.929	3.621	94.988	.2405	4.159	.635	im1 o

(Continued)



LITHIUM FLUORIDE, single-crystal, [100]
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/v ₀	Exp
2.641	10.397	3.801	104.370	.2402	4.163	.634	im1 o
2.636	10.407	3.931	107.839	.2361	4.236	.622	im1 o

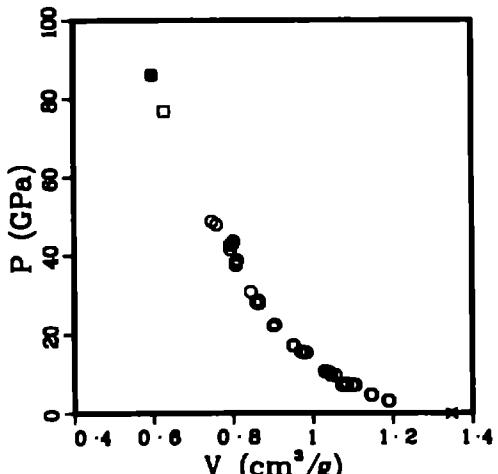
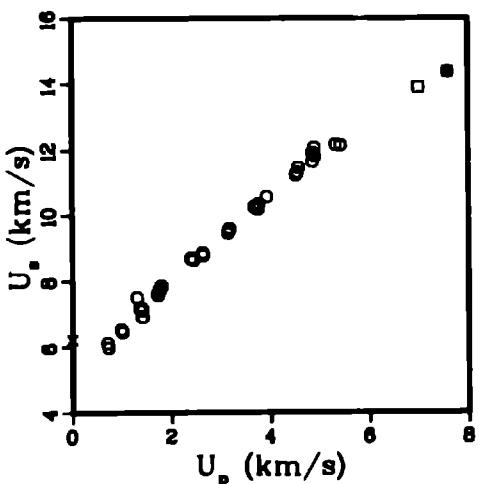
LITHIUM HYDRIDE, single-crystal and pressed

Average $\rho_0 = 0.742 \text{ g/cm}^3$.

Reference 38

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.743	6.210	0.000	0.000	1.3459	.743	1.000	ss p x
.743	6.110	.708	3.214	1.1899	.840	.884	im1 o
.740	5.970	.728	3.207	1.1870	.842	.878	im1 o
.742	6.520	.984	4.760	1.1443	.874	.849	im1 o
.735	6.440	1.009	4.778	1.1474	.872	.843	im1 o
.763	7.500	1.304	7.466	1.0822	.924	.828	im1 o
.736	7.150	1.371	7.217	1.0979	.911	.808	im1 o
.729	7.170	1.387	7.249	1.1065	.904	.807	im1 o
.741	7.120	1.402	7.400	1.0834	.923	.803	im1 o
.741	7.150	1.403	7.433	1.0847	.922	.804	im1 o
.742	6.900	1.412	7.229	1.0719	.933	.795	im1 o
.736	6.920	1.414	7.202	1.0811	.925	.798	im1 o
.739	7.570	1.727	9.657	1.0449	.957	.772	im1 o
.732	7.630	1.728	9.652	1.0568	.946	.774	im1 o
.741	7.730	1.759	10.075	1.0424	.959	.772	im1 o
.741	7.830	1.796	10.428	1.0394	.962	.771	im1 o
.749	7.840	1.797	10.555	1.0288	.972	.771	im1 o
.742	8.660	2.392	15.370	.9755	1.025	.724	im1 o
.733	8.670	2.420	15.375	.9837	1.017	.721	im1 o

(Continued)



LITHIUM HYDRIDE, single-crystal and pressed
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.739	8.620	2.446	15.577	.9695	1.031	.716	im1 o
.737	8.630	2.635	17.143	.9522	1.050	.702	im1 o
.735	8.760	2.643	17.015	.9502	1.052	.698	im1 o
.742	9.460	3.143	22.062	.8999	1.111	.668	im1 o
.740	9.580	3.169	22.457	.9047	1.105	.669	im1 o
.737	9.580	3.184	22.477	.9060	1.104	.668	im1 o
.741	10.250	3.680	27.951	.8650	1.158	.641	im1 o
.740	10.270	3.723	28.279	.8619	1.160	.637	im1 o
.737	10.240	3.729	28.158	.8623	1.160	.636	im1 o
.740	10.220	3.738	28.282	.8571	1.167	.634	im1 o
.735	10.190	3.747	28.056	.8605	1.162	.632	im1 o
.735	10.340	3.770	28.659	.8642	1.157	.635	im1 o
.743	10.580	3.930	30.835	.8450	1.183	.628	im1 o
.740	11.220	4.516	37.495	.8074	1.238	.598	im1 o
.741	11.300	4.547	38.073	.8065	1.240	.598	im1 o
.741	11.450	4.571	38.782	.8108	1.233	.601	im1 o
.734	11.630	4.856	41.453	.7935	1.260	.582	im1 o
.741	11.910	4.858	42.873	.7991	1.251	.582	im1 o
.741	12.070	4.898	43.789	.8021	1.247	.594	im1 o
.738	11.800	4.898	42.660	.7925	1.262	.585	im1 o
.741	12.180	5.323	47.963	.7588	1.318	.582	im1 o
.741	12.150	5.423	48.824	.7472	1.338	.554	im1 o
.790	13.890	7.000	76.812	.6279	1.593	.496	im2 □
.790	14.380	7.590	86.224	.5977	1.673	.472	s f 2 ●

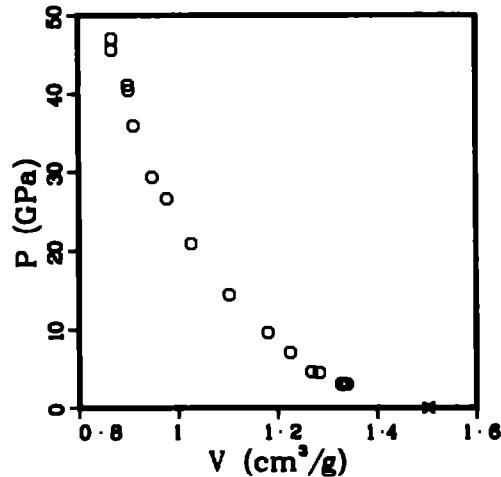
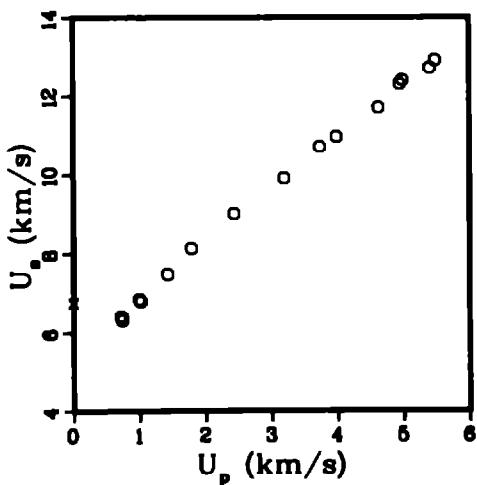
LITHIUM-6 HYDRIDE, pressed

Average $\rho_0 = 0.665 \text{ g/cm}^3$.

Sound velocities longitudinal 10.42 km/s.
 shear 6.86 km/s.

Reference 36

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.666	6.770	0.000	0.000	1.5015	.666	1.000	s s p x
.669	6.420	.717	3.080	1.3278	.753	.888	im1 o
.661	6.380	.733	3.091	1.3390	.747	.885	im1 o
.664	6.310	.734	3.075	1.3308	.751	.884	im1 o
.666	6.860	.995	4.548	1.2837	.779	.855	im1 o
.671	6.810	1.016	4.843	1.2680	.789	.851	im1 o
.661	7.490	1.425	7.055	1.2250	.816	.810	im1 o
.661	8.130	1.786	9.598	1.1805	.847	.780	im1 o
.662	9.020	2.433	14.528	1.1031	.907	.730	im1 o
.660	9.910	3.194	20.891	1.0268	.974	.678	im1 o
.666	10.710	3.736	26.648	.9777	1.023	.651	im1 o
.671	10.970	3.989	29.363	.9484	1.054	.636	im1 o
.664	11.710	4.626	35.969	.9111	1.098	.605	im1 o
.664	12.310	4.947	40.436	.9008	1.110	.598	im1 o
.664	12.410	4.992	41.135	.9002	1.111	.598	im1 o
.664	12.730	5.403	45.670	.8668	1.154	.576	im1 o
.664	12.930	5.484	47.083	.8673	1.153	.576	im1 o



MAGNETITE

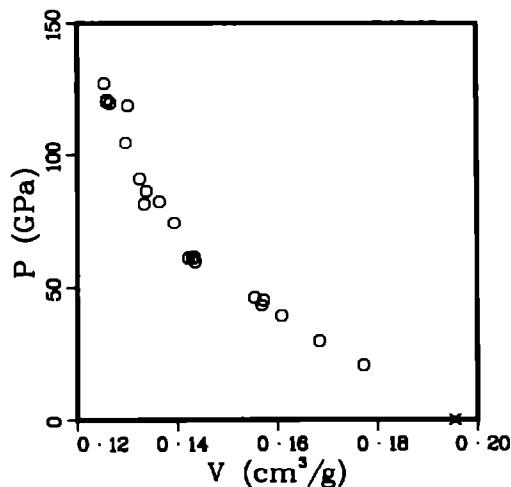
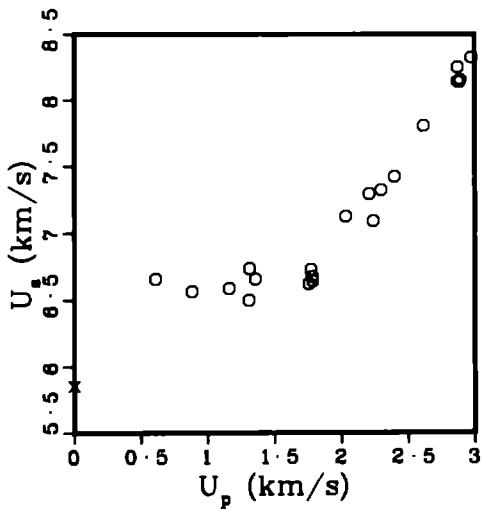
Average $\rho_0 = 5.117 \text{ g/cm}^3$.

Sound velocities longitudinal 7.00 km/s.
shear 3.32 km/s.

References 6, 30, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.118	5.857	0.000	0.000	.1954	5.118	1.000	ss p x
5.125	6.655	.610	20.805	.1772	5.642	.908	im1 o
5.139	6.564	.882	29.752	.1684	5.937	.866	im1 o
5.120	6.585	1.161	39.143	.1609	6.216	.824	im1 o
5.093	6.499	1.306	43.228	.1569	6.374	.799	im1 o
5.119	6.732	1.313	45.247	.1572	6.359	.805	im1 o
5.120	6.654	1.357	46.231	.1555	6.432	.796	im1 o
5.115	6.620	1.757	59.494	.1436	6.963	.735	im1 o
5.136	6.724	1.772	61.195	.1434	6.974	.736	im1 o
5.125	6.672	1.781	60.900	.1430	6.991	.733	im1 o
5.138	6.640	1.786	60.932	.1423	7.028	.731	im1 o
5.127	7.126	2.032	74.239	.1394	7.172	.715	im1 o
5.109	7.294	2.209	82.318	.1365	7.328	.697	im1 o
5.128	7.091	2.240	81.452	.1334	7.496	.684	im1 o
5.127	7.323	2.298	86.278	.1338	7.472	.686	im1 o
5.108	7.423	2.398	90.924	.1325	7.546	.677	im1 o
5.126	7.809	2.617	104.756	.1297	7.710	.665	im1 o
5.138	8.141	2.873	120.173	.1259	7.940	.647	im1 o
5.008	8.253	2.873	118.744	.1302	7.682	.652	im1 o

(Continued)



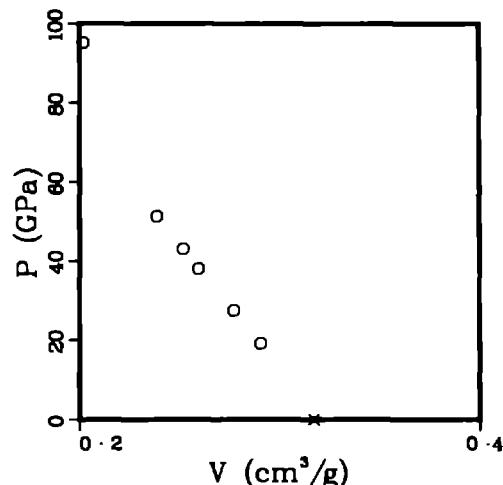
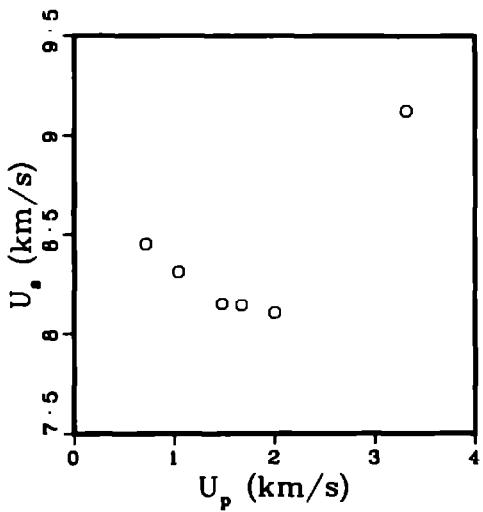
MAGNETITE
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
5.096	8.135	2.885	119.600	.1266	7.896	.645	i m1 o
5.125	8.156	2.891	120.842	.1260	7.939	.646	i m1 o
5.125	8.327	2.975	126.961	.1254	7.974	.643	i m1 o

MULLITE, ceramic, $\rho_0 = 3.15 \text{ g/cm}^3$.

Average $\rho_0 = 3.154 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.152	8.453	717	19.104	.2903	3.444	.915	im1 o
3.154	8.315	1.042	27.327	.2773	3.806	.875	im1 o
3.157	8.152	1.479	38.063	.2593	3.857	.819	im1 o
3.155	8.145	1.674	43.018	.2518	3.971	.794	im1 o
3.153	8.105	2.003	51.187	.2388	4.188	.753	im1 o
3.154	9.123	3.311	95.271	.2020	4.951	.637	im1 o

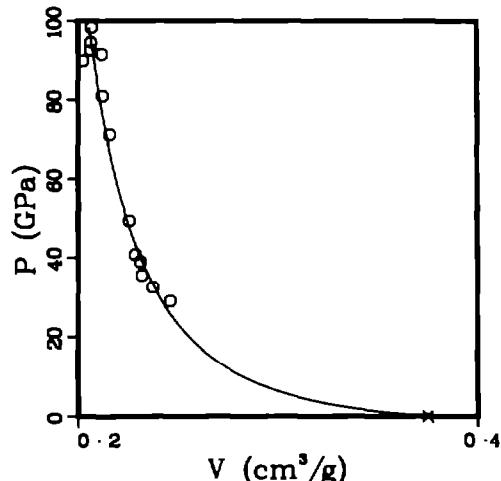
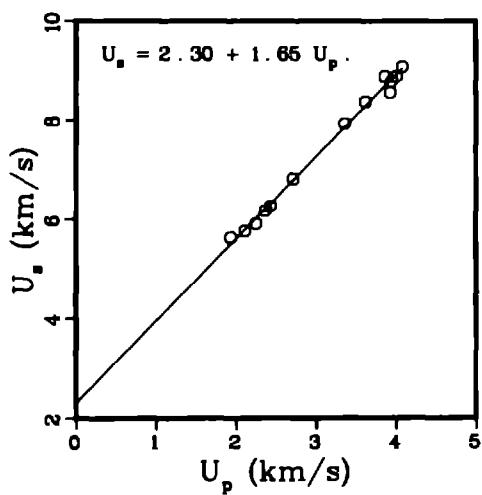


MULLITE, ceramic, $\rho_0 = 2.67 \text{ g/cm}^3$.

Average $\rho_0 = 2.668 \text{ g/cm}^3$.

Reference 30

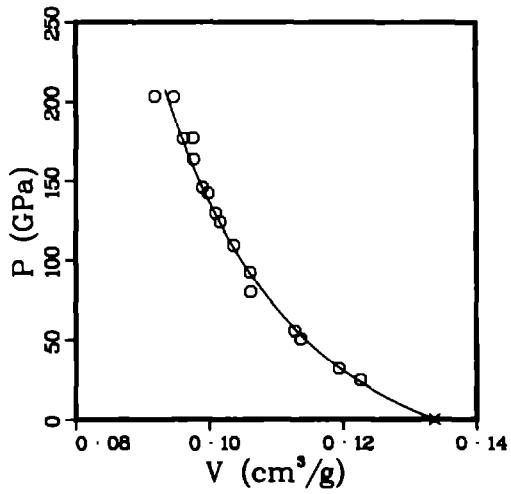
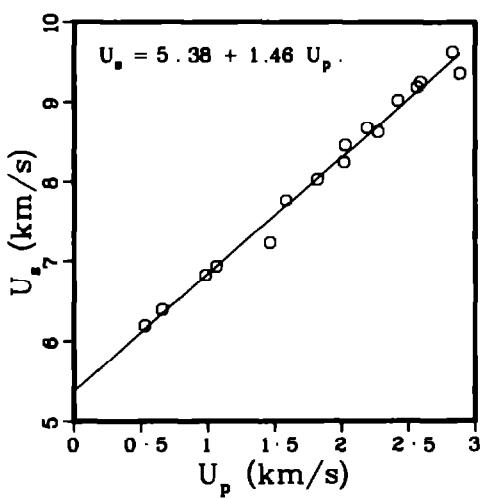
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.665	5.632	1.935	29.043	.2463	4.060	.656	im1 o
2.669	5.761	2.113	32.490	.2373	4.215	.633	im1 o
2.668	5.909	2.253	35.519	.2319	4.312	.619	im1 o
2.666	6.171	2.368	38.958	.2312	4.326	.616	im1 o
2.676	6.263	2.431	40.743	.2286	4.374	.612	im1 o
2.663	6.809	2.714	49.211	.2258	4.428	.601	im1 o
2.671	7.924	3.358	71.072	.2157	4.635	.576	im1 o
2.673	8.366	3.620	80.952	.2122	4.712	.567	im1 o
2.669	8.879	3.858	91.427	.2119	4.720	.565	im1 o
2.670	8.553	3.931	89.770	.2024	4.941	.540	im1 o
2.670	8.780	3.944	92.458	.2063	4.848	.551	im1 o
2.659	8.879	4.006	94.579	.2064	4.845	.549	im1 o
2.661	9.068	4.077	98.378	.2068	4.835	.550	im1 o



NIOBIUM CARBIDE , $\rho_0 = 7.5 \text{ g/cm}^3$.

Average $\rho_0 = 7.483 \text{ g/cm}^3$.

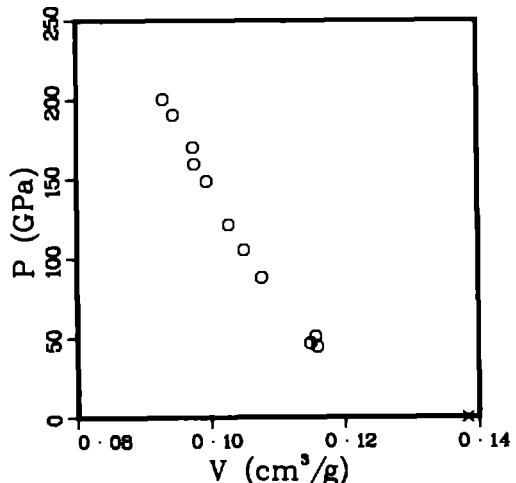
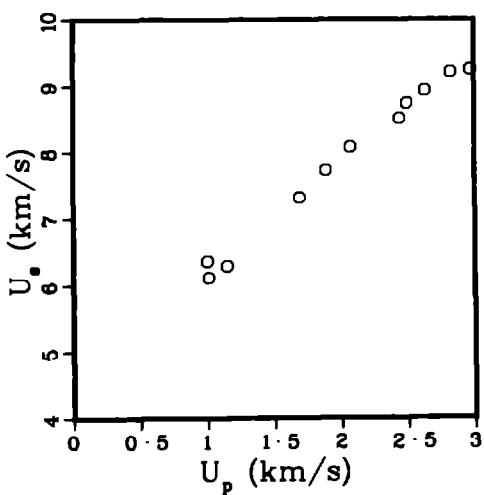
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.459	6.191	.531	24.521	.1226	8.159	.914	i m1 o
7.510	6.391	.662	31.774	.1194	8.378	.896	i m1 o
7.529	6.822	.983	50.490	.1137	8.797	.856	i m1 o
7.505	6.932	1.064	55.354	.1128	8.866	.847	i m1 o
7.509	7.231	1.467	79.655	.1062	9.420	.797	i m1 o
7.502	7.761	1.584	92.225	.1061	9.426	.796	i m1 o
7.458	8.026	1.821	109.001	.1037	9.647	.773	i m1 o
7.433	8.246	2.020	123.811	.1016	9.845	.755	i m1 o
7.538	8.465	2.026	129.277	.1009	9.910	.761	i m1 o
7.492	8.680	2.190	142.417	.0998	10.020	.748	i m1 o
7.443	8.627	2.272	145.887	.0990	10.104	.737	i m1 o
7.486	9.020	2.423	163.610	.0977	10.236	.731	i m1 o
7.501	9.185	2.566	176.789	.0961	10.409	.721	i m1 o
7.377	9.248	2.594	176.969	.0975	10.253	.720	i m1 o
7.451	9.620	2.834	203.137	.0947	10.563	.705	i m1 o
7.528	9.358	2.888	203.451	.0918	10.888	.691	i m1 o



NIOBIUM CARBIDE . $\rho_0 = 7.2 \text{ g/cm}^3$.

Average $\rho_0 = 7.232 \text{ g/cm}^3$.

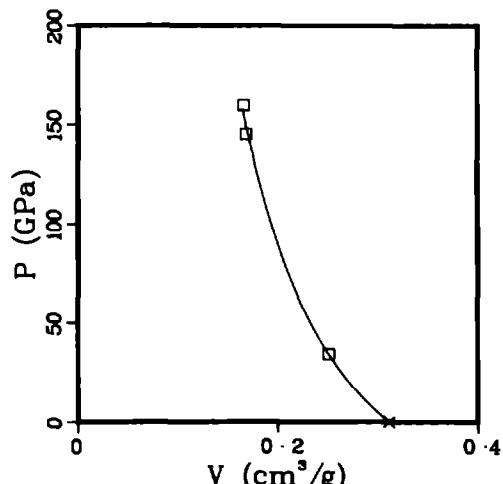
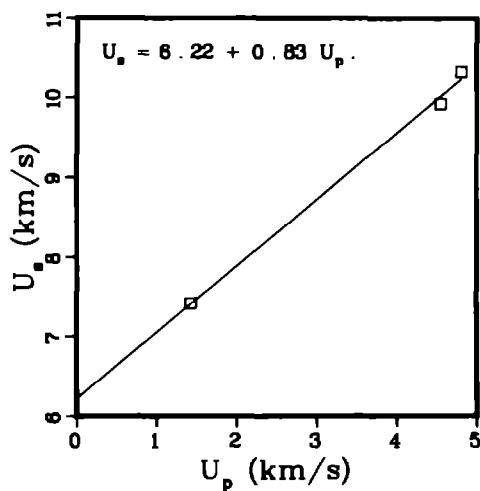
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
7.337	6.374	1.003	46.906	.1148	8.707	.843	im1 o
7.200	6.124	1.013	44.666	.1159	8.627	.835	im1 o
7.070	6.293	1.149	51.121	.1156	8.649	.817	im1 o
7.140	7.318	1.694	88.512	.1076	9.291	.769	im1 o
7.200	7.733	1.890	105.231	.1049	9.529	.756	im1 o
7.240	8.080	2.071	121.152	.1027	9.735	.744	im1 o
7.170	8.513	2.438	148.811	.0995	10.047	.714	im1 o
7.320	8.743	2.493	159.549	.0977	10.240	.715	im1 o
7.240	8.933	2.630	170.095	.0975	10.261	.706	im1 o
7.335	9.205	2.825	190.740	.0945	10.583	.693	im1 o
7.300	9.244	2.971	200.487	.0930	10.757	.679	im1 o



OLIVINE

Average $\rho_0 = 3.214 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.212	7.420	1.430	34.081	.2513	3.979	.807	i m2 □
3.215	9.920	4.550	145.112	.1684	5.939	.541	i m2 □
3.215	10.320	4.810	159.590	.1661	6.022	.534	i m2 □



PERICLASE, ceramic, $\rho_0 = 3.34 \text{ g/cm}^3$.

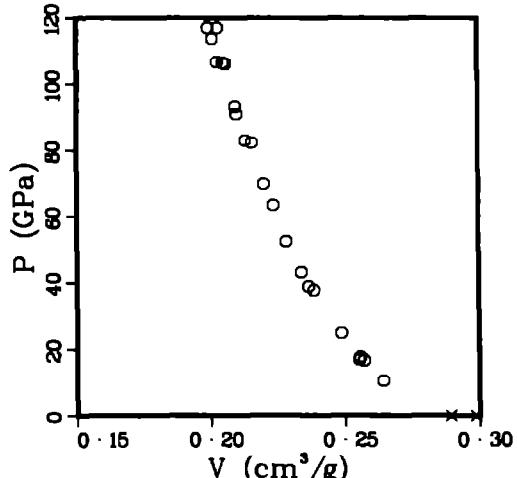
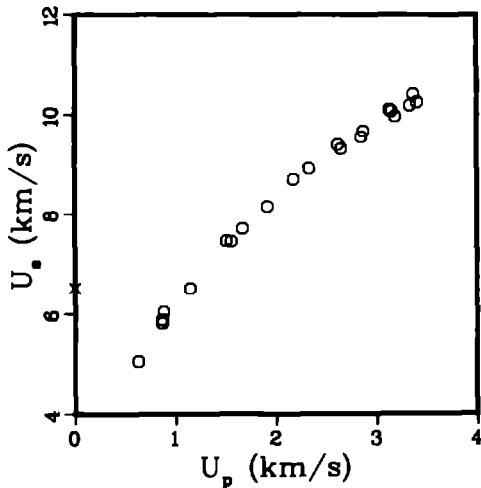
Average $\rho_0 = 3.350 \text{ g/cm}^3$.

Sound velocities longitudinal 9.37 km/s.
shear 5.83 km/s.

References 18, 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.457	6.518	0.000	0.000	.2893	3.457	1.000	s s p x
3.314	5.060	.629	10.548	.2642	3.784	.876	im1 o
3.343	5.881	.863	16.967	.2552	3.918	.853	im1 o
3.310	5.815	.867	16.688	.2571	3.890	.851	im1 o
3.343	6.039	.877	17.705	.2557	3.911	.855	im1 o
3.313	6.511	1.147	24.742	.2487	4.021	.824	im1 o
3.345	7.464	1.509	37.675	.2385	4.193	.798	im1 o
3.345	7.454	1.557	38.822	.2365	4.228	.791	im1 o
3.352	7.713	1.669	43.150	.2338	4.278	.784	im1 o
3.349	8.158	1.918	52.402	.2284	4.378	.765	im1 o
3.356	8.705	2.173	63.482	.2236	4.472	.750	im1 o
3.359	8.920	2.331	69.842	.2199	4.547	.739	im1 o
3.346	9.398	2.619	82.356	.2156	4.639	.721	im1 o
3.357	9.317	2.652	82.947	.2131	4.693	.715	im1 o
3.344	9.555	2.851	91.095	.2098	4.766	.702	im1 o
3.359	9.675	2.871	93.303	.2094	4.776	.703	im1 o
3.353	10.110	3.129	106.069	.2059	4.856	.691	im1 o
3.354	10.071	3.150	106.401	.2049	4.881	.687	im1 o
3.355	9.967	3.188	106.604	.2027	4.933	.680	im1 o

(Continued)



PERICLASE, ceramic. $\rho_0 = 3.34 \text{ g/cm}^3$.
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.348	10.186	3.334	113.698	.2009	4.977	.673	im1 o
3.336	10.414	3.367	116.973	.2028	4.930	.677	im1 o
3.352	10.252	3.405	117.012	.1992	5.019	.668	im1 o

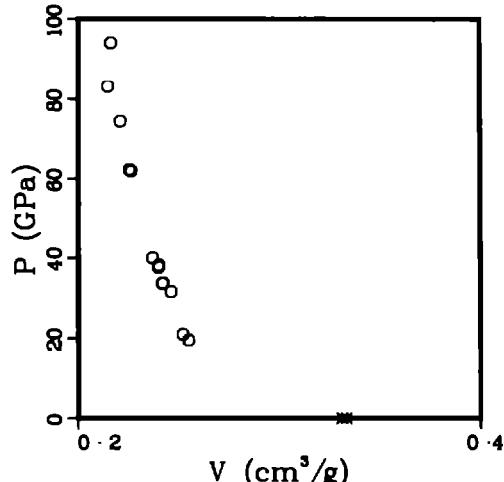
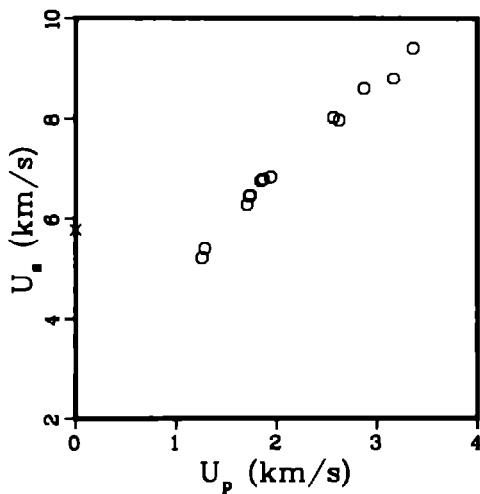
PERICLASE, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$.

Average $\rho_0 = 3.001 \text{ g/cm}^3$.

Sound velocities longitudinal 8.23 km/s.
shear 5.08 km/s.

References 18, 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.020	5.773	0.000	0.000	.3311	3.020	1.000	ssp x
2.973	5.200	1.259	19.464	.2549	3.923	.758	im1 o
3.020	5.385	1.286	20.914	.2520	3.967	.761	im1 o
2.956	6.274	1.709	31.695	.2461	4.063	.728	im1 o
3.022	6.444	1.732	33.729	.2420	4.133	.731	im1 o
3.018	6.455	1.739	33.878	.2421	4.131	.731	im1 o
3.027	6.748	1.847	37.727	.2399	4.168	.726	im1 o
3.017	6.781	1.869	38.237	.2401	4.165	.724	im1 o
3.018	6.825	1.943	40.022	.2370	4.219	.715	im1 o
3.004	8.025	2.568	61.907	.2264	4.418	.680	im1 o
2.975	7.970	2.625	62.241	.2254	4.436	.671	im1 o
3.014	8.603	2.873	74.495	.2210	4.525	.666	im1 o
2.983	8.808	3.167	83.211	.2147	4.658	.640	im1 o
2.973	9.413	3.362	94.085	.2162	4.625	.643	im1 o

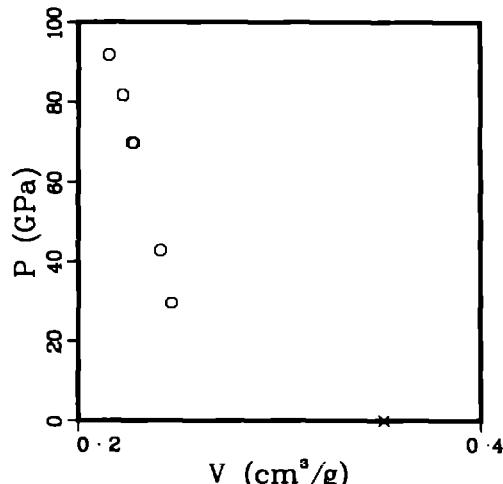
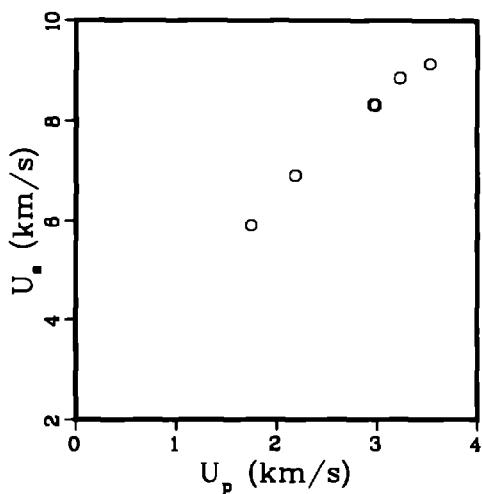


PERICLASE, ceramic, $\rho_0 = 2.8 \text{ g/cm}^3$.

Average $\rho_0 = 2.842 \text{ g/cm}^3$.

References 18, 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.859	5.909	1.749	29.547	.2462	4.061	.704	im1 o
2.835	6.905	2.187	42.812	.2410	4.149	.683	im1 o
2.836	8.321	2.967	70.016	.2269	4.408	.643	im1 o
2.816	8.311	2.984	69.837	.2276	4.393	.641	im1 o
2.856	8.844	3.233	81.661	.2221	4.502	.634	im1 o
2.852	9.131	3.528	91.875	.2152	4.648	.614	im1 o



PERICLASE , single-crystal

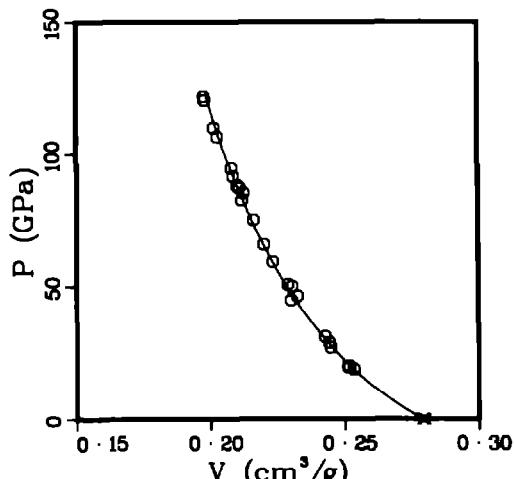
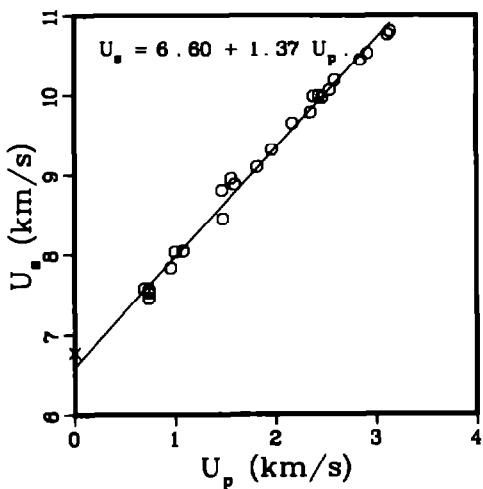
Average $\rho_0 = 3.584 \text{ g/cm}^3$.

Sound velocities longitudinal 9.71 km/s.
shear 6.02 km/s.

References 6, 18, 30, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.575	6.780	0.000	0.000	.2797	3.575	1.000	s s p x
3.584	7.574	.695	18.866	.2534	3.946	.908	im1 o
3.585	7.450	.740	19.764	.2512	3.980	.901	im1 o
3.585	7.563	.740	20.064	.2516	3.974	.902	im1 o
3.585	7.522	.743	20.036	.2514	3.978	.901	im1 o
3.585	7.830	.959	26.920	.2448	4.085	.878	im1 o
3.585	8.034	1.001	28.831	.2442	4.095	.875	im1 o
3.567	8.045	1.082	31.050	.2426	4.121	.866	im1 o
3.585	8.807	1.465	46.255	.2325	4.300	.834	im1 o
3.585	8.450	1.476	44.713	.2302	4.344	.825	im1 o
3.585	8.953	1.554	49.878	.2305	4.338	.826	im1 o
3.585	8.878	1.591	50.638	.2290	4.368	.821	im1 o
3.585	9.100	1.813	59.146	.2234	4.477	.801	im1 o
3.585	9.317	1.967	65.701	.2201	4.544	.789	im1 o
3.585	9.648	2.172	75.125	.2161	4.627	.775	im1 o
3.585	9.785	2.353	82.541	.2119	4.720	.760	im1 o
3.585	9.985	2.383	85.302	.2124	4.709	.761	im1 o
3.585	9.993	2.436	87.269	.2109	4.741	.756	im1 o
3.585	9.968	2.467	88.159	.2099	4.764	.753	im1 o

(Continued)



PERICLASE, single-crystal
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.585	10.063	2.542	91.705	.2085	4.797	.747	i m1 o
3.585	10.187	2.592	94.661	.2080	4.808	.746	i m1 o
3.585	10.442	2.848	106.614	.2029	4.929	.727	i m1 o
3.585	10.520	2.918	110.050	.2016	4.961	.723	i m1 o
3.585	10.760	3.121	120.391	.1980	5.050	.710	i m1 o
3.585	10.802	3.144	121.752	.1978	5.057	.709	i m1 o

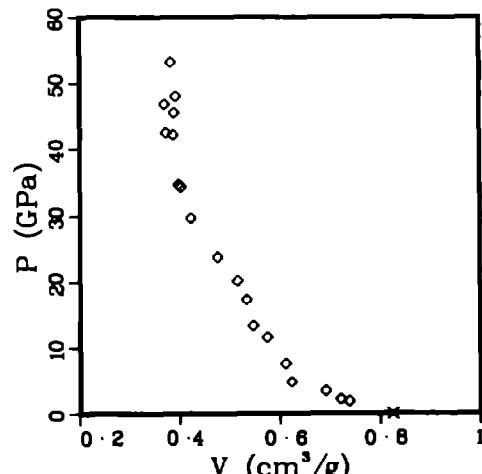
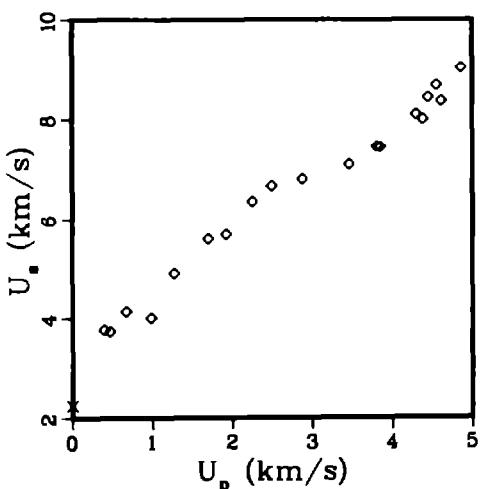
PHENANTHRENE, reagent-grade, polycrystalline, pressed

Average $\rho_0 = 1.212 \text{ g/cm}^3$.

Sound velocities longitudinal 2.78 km/s.
shear 1.42 km/s.

Reference 29

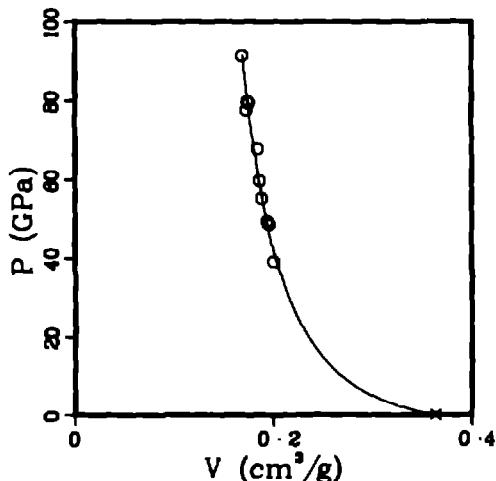
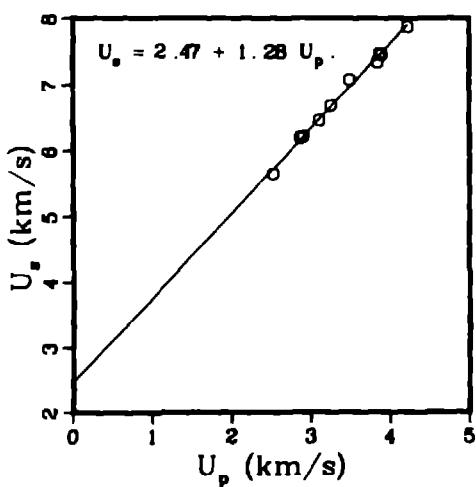
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.212	2.245	0.000	0.000	.8251	1.212	1.000	ssp x
1.212	3.774	.399	1.825	.7379	1.355	.894	im5 o
1.212	3.741	.473	2.145	.7208	1.387	.874	im5 o
1.212	4.138	.674	3.380	.6907	1.448	.837	im5 o
1.212	4.005	.983	4.772	.6226	1.606	.755	im5 o
1.212	4.907	1.276	7.589	.6105	1.638	.740	im5 o
1.213	5.597	1.697	11.521	.5744	1.741	.697	im5 o
1.212	5.692	1.922	13.259	.5465	1.830	.662	im5 o
1.212	6.348	2.249	17.303	.5328	1.877	.646	im5 o
1.213	6.662	2.496	20.170	.5155	1.940	.625	im5 o
1.213	6.804	2.877	23.745	.4758	2.102	.577	im5 o
1.212	7.086	3.462	29.732	.4220	2.370	.511	im5 o
1.213	7.443	3.805	34.353	.4030	2.482	.489	im5 o
1.212	7.437	3.850	34.703	.3980	2.513	.482	im5 o
1.212	8.099	4.301	42.219	.3869	2.585	.469	im5 o
1.213	8.000	4.385	42.552	.3725	2.684	.452	im5 o
1.212	8.441	4.451	45.536	.3900	2.564	.473	im5 o
1.213	8.689	4.552	47.977	.3925	2.548	.476	im5 o
1.212	8.372	4.614	46.818	.3704	2.700	.449	im5 o
1.212	9.048	4.858	53.274	.3821	2.617	.463	im5 o



POTASSIUM BROMIDE, single-crystal, [100]

Average $\rho_0 = 2.750 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.750	5.639	2.526	39.171	.2007	4.981	.552	im1 o
2.750	6.196	2.862	48.766	.1957	5.111	.538	im1 o
2.750	6.211	2.900	49.533	.1938	5.159	.533	im1 o
2.750	6.458	3.112	55.268	.1884	5.308	.518	im1 o
2.750	6.676	3.255	59.759	.1863	5.367	.512	im1 o
2.750	7.077	3.492	67.960	.1842	5.429	.507	im1 o
2.750	7.342	3.845	77.632	.1732	5.774	.476	im1 o
2.750	7.469	3.869	79.468	.1753	5.705	.482	im1 o
2.750	7.456	3.894	79.843	.1737	5.756	.478	im1 o
2.750	7.876	4.225	91.509	.1686	5.932	.464	im1 o



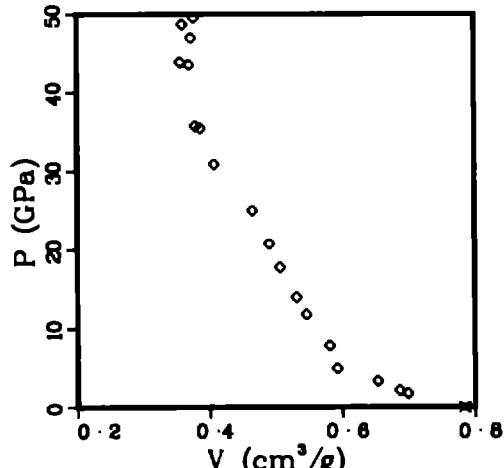
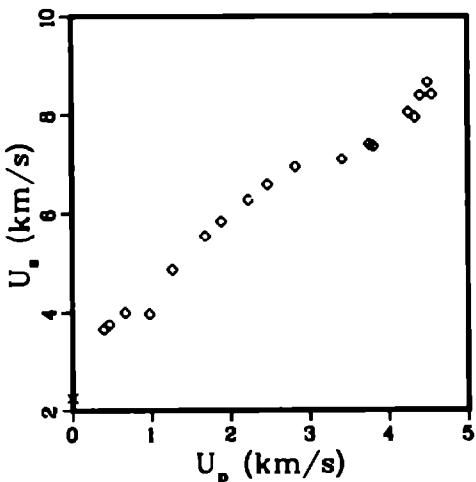
PYRENE, reagent-grade, polycrystalline, pressed

Average $\rho_0 = 1.275 \text{ g/cm}^3$.

Sound velocities longitudinal 2.64 km/s.
shear 1.18 km/s.

Reference 29

ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.275	2.261	0.000	0.000	7843	1.275	1.000	s s p x
1.275	3.647	.398	1.851	6987	1.431	.891	i m5 o
1.275	3.746	.467	2.230	6865	1.457	.875	i m5 o
1.275	3.998	.667	3.400	6535	1.530	.833	i m5 o
1.275	3.974	.974	4.935	5921	1.669	.755	i m5 o
1.274	4.881	1.263	7.822	5810	1.721	.740	i m5 o
1.275	5.534	1.680	11.854	5462	1.831	.696	i m5 o
1.275	5.836	1.884	14.019	5311	1.883	.677	i m5 o
1.274	6.273	2.226	17.790	5064	1.975	.645	i m5 o
1.275	6.584	2.470	20.735	4901	2.040	.625	i m5 o
1.275	6.942	2.824	24.995	4653	2.149	.593	i m5 o
1.274	7.099	3.415	30.886	4073	2.455	.519	i m5 o
1.275	7.412	3.759	35.524	3865	2.587	.493	i m5 o
1.275	7.372	3.808	35.793	3792	2.637	.483	i m5 o
1.275	8.044	4.251	43.599	3698	2.704	.472	i m5 o
1.275	7.947	4.335	43.924	3585	2.805	.455	i m5 o
1.275	8.382	4.399	47.012	3727	2.683	.475	i m5 o
1.274	8.651	4.497	49.563	3769	2.653	.480	i m5 o
1.275	8.401	4.548	48.715	3597	2.780	.459	i m5 o

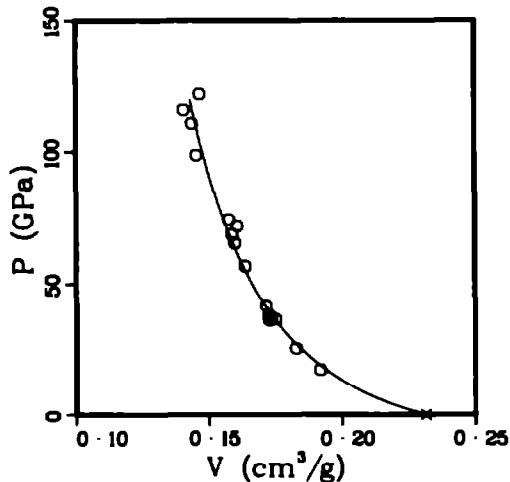
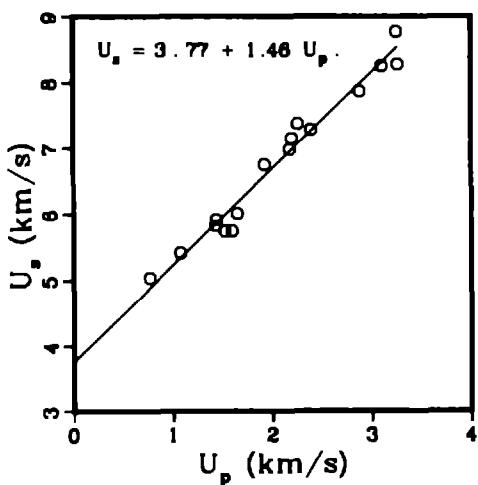


PYROLUSITE, Ironton, Minnesota

Average $\rho_0 = 4.318 \text{ g/cm}^3$.

References 6, 32

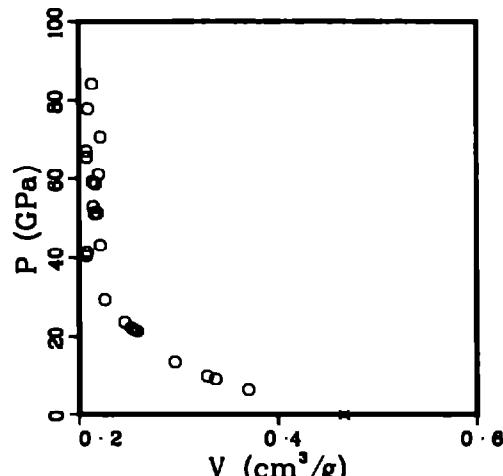
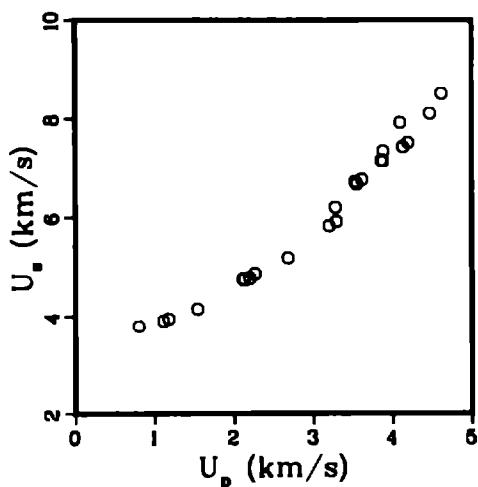
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.417	5.039	.769	17.116	.1918	5.212	.847	im1 o
4.389	5.413	1.074	25.516	.1826	5.475	.802	im1 o
4.372	5.822	1.429	36.373	.1726	5.794	.755	im1 o
4.332	5.917	1.434	36.757	.1749	5.718	.758	im1 o
4.241	5.740	1.521	37.026	.1733	5.770	.735	im1 o
4.190	5.744	1.594	38.363	.1724	5.799	.722	im1 o
4.237	6.013	1.647	41.961	.1714	5.835	.726	im1 o
4.366	6.751	1.925	56.739	.1637	6.108	.715	im1 o
4.305	6.983	2.179	65.505	.1598	6.258	.688	im1 o
4.362	7.154	2.198	68.590	.1588	6.297	.693	im1 o
4.317	7.379	2.259	71.961	.1607	6.222	.694	im1 o
4.261	7.287	2.393	74.302	.1576	6.344	.672	im1 o
4.358	7.870	2.881	98.811	.1455	6.875	.634	im1 o
4.341	8.254	3.102	111.147	.1438	6.955	.624	im1 o
4.291	8.770	3.250	122.304	.1467	6.817	.629	im1 o
4.306	8.278	3.263	116.310	.1407	7.108	.606	im1 o



QUARTZ, ceramic, $\rho_0 = 2.1 \text{ g/cm}^3$.

Average $\rho_0 = 2.145 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.133	3.798	.799	6.473	.3702	2.701	.790	im1 o
2.125	3.907	1.109	9.207	.3370	2.967	.716	im1 o
2.137	3.954	1.176	9.937	.3288	3.042	.703	im1 o
2.123	4.144	1.537	13.522	.2963	3.375	.629	im1 o
2.170	4.751	2.118	21.836	.2554	3.916	.554	im1 o
2.133	4.739	2.125	21.480	.2586	3.867	.552	im1 o
2.134	4.766	2.198	22.355	.2525	3.961	.539	im1 o
2.170	4.856	2.264	23.857	.2460	4.065	.534	im1 o
2.133	5.165	2.678	29.503	.2257	4.430	.482	im1 o
2.174	5.826	3.199	40.518	.2074	4.821	.451	im1 o
2.126	6.199	3.281	43.241	.2214	4.516	.471	im1 o
2.130	5.914	3.294	41.494	.2080	4.808	.443	im1 o
2.170	6.709	3.531	51.406	.2183	4.581	.474	im1 o
2.169	6.660	3.548	51.253	.2154	4.642	.467	im1 o
2.166	6.755	3.617	52.922	.2145	4.663	.465	im1 o
2.124	7.156	3.862	58.700	.2167	4.614	.460	im1 o
2.138	7.134	3.876	59.119	.2136	4.682	.457	im1 o
2.142	7.344	3.884	61.099	.2199	4.546	.471	im1 o
2.179	7.924	4.099	70.775	.2215	4.514	.483	im1 o
2.134	7.429	4.133	65.522	.2079	4.810	.444	im1 o
2.126	7.518	4.199	67.114	.2077	4.816	.441	im1 o
2.145	8.112	4.474	77.849	.2091	4.783	.448	im1 o
2.145	8.513	4.619	84.345	.2132	4.689	.457	im1 o

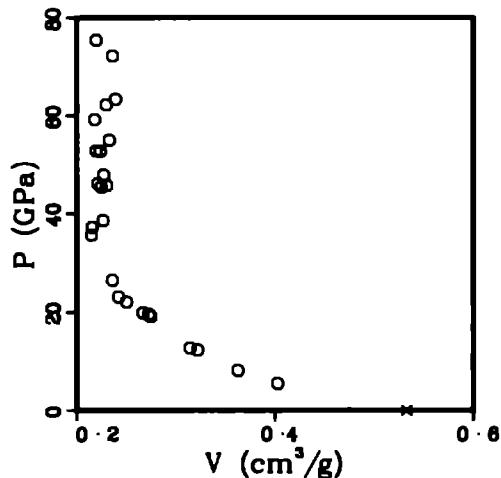
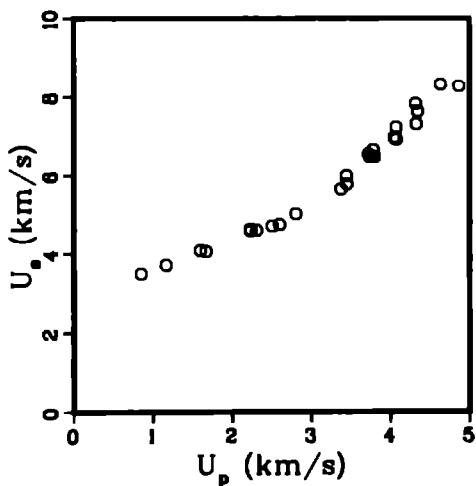


QUARTZ, ceramic, $\rho_0 = 1.9 \text{ g/cm}^3$.

Average $\rho_0 = 1.877 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.879	3.497	.849	5.579	.4030	2.481	.757	im1 o
1.893	3.715	1.164	8.186	.3627	2.757	.687	im1 o
1.889	4.079	1.597	12.305	.3221	3.104	.608	im1 o
1.871	4.055	1.670	12.670	.3144	3.181	.588	im1 o
1.876	4.597	2.227	19.206	.2748	3.639	.516	im1 o
1.902	4.828	2.229	19.821	.2725	3.669	.518	im1 o
1.871	4.610	2.308	19.907	.2689	3.747	.499	im1 o
1.871	4.711	2.504	22.071	.2504	3.994	.468	im1 o
1.870	4.750	2.598	23.077	.2423	4.128	.453	im1 o
1.873	5.022	2.804	26.375	.2358	4.241	.442	im1 o
1.874	5.647	3.374	35.705	.2148	4.656	.403	im1 o
1.873	5.987	3.445	38.631	.2267	4.411	.425	im1 o
1.870	5.776	3.448	37.242	.2155	4.640	.403	im1 o
1.875	6.554	3.721	45.728	.2305	4.338	.432	im1 o
1.875	6.471	3.743	45.414	.2248	4.448	.422	im1 o
1.899	6.660	3.784	47.858	.2274	4.398	.432	im1 o
1.875	6.484	3.792	46.101	.2214	4.516	.415	im1 o
1.873	6.971	4.048	52.853	.2239	4.467	.419	im1 o
1.872	7.225	4.072	55.075	.2331	4.290	.438	im1 o
1.875	6.929	4.073	52.916	.2198	4.549	.412	im1 o
1.872	7.828	4.319	63.291	.2395	4.176	.448	im1 o
1.872	7.313	4.325	59.209	.2183	4.582	.409	im1 o

(Continued)



QUARTZ, ceramic, $\rho_0 = 1.9$ g/cm³.
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.875	7.633	4.343	62.156	.2299	4.350	.431	i m1 o
1.875	8.318	4.632	72.242	.2363	4.231	.443	i m1 o
1.875	8.275	4.863	75.452	.2199	4.547	.412	i m1 o

QUARTZ, fused

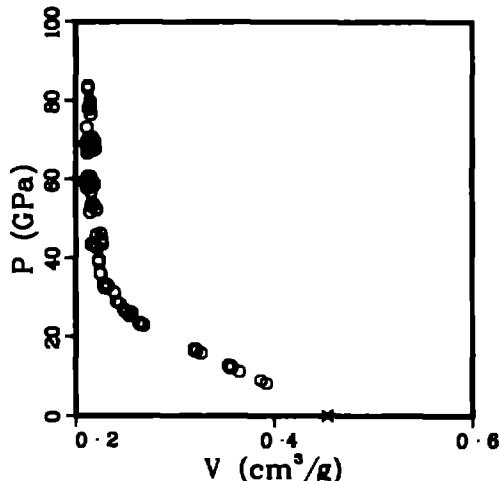
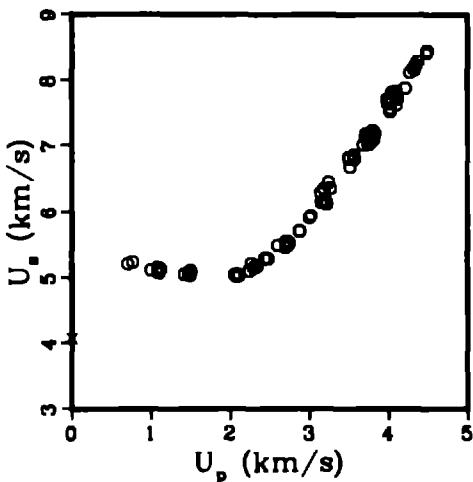
Average $\rho_0 = 2.204 \text{ g/cm}^3$.

Sound velocities longitudinal 5.96 km/s.
shear 3.77 km/s.

References 6, 30, 38, 39

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.204	4.071	0.000	0.000	.4537	2.204	1.000	ssp x
2.203	5.212	.707	8.118	.3924	2.549	.864	im1 o
2.204	5.239	.772	8.914	.3869	2.585	.853	im1 o
2.203	5.116	1.001	11.282	.3651	2.739	.804	im1 o
2.204	5.155	1.092	12.407	.3576	2.796	.788	im1 o
2.204	5.076	1.094	12.239	.3559	2.810	.784	im1 o
2.204	5.091	1.100	12.343	.3557	2.811	.784	im1 o
2.204	5.143	1.108	12.559	.3580	2.809	.785	im1 o
2.204	5.137	1.124	12.726	.3544	2.821	.781	im1 o
2.203	5.056	1.424	15.861	.3261	3.067	.718	im1 o
2.204	5.061	1.477	16.475	.3213	3.112	.708	im1 o
2.204	5.049	1.491	16.592	.3197	3.128	.705	im1 o
2.204	5.047	1.491	16.585	.3197	3.128	.705	im1 o
2.204	5.047	1.493	16.808	.3195	3.130	.704	im1 o
2.204	5.084	1.494	16.740	.3204	3.121	.706	im1 o
2.204	5.113	1.506	16.971	.3201	3.124	.705	im1 o
2.203	5.047	2.063	22.938	.2684	3.726	.591	im1 o
2.204	5.031	2.075	23.008	.2668	3.751	.588	im1 o
2.204	5.049	2.083	23.180	.2665	3.752	.587	im1 o

(Continued)



QUARTZ, fused
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.202	5.026	2.101	23.252	2643	3.784	.582	im1 o
2.204	5.049	2.105	23.424	2646	3.780	.583	im1 o
2.204	5.040	2.106	23.394	2641	3.786	.582	im1 o
2.204	5.106	2.245	25.284	2542	3.933	.560	im1 o
2.204	5.220	2.272	26.139	2562	3.903	.565	im1 o
2.204	5.153	2.302	26.144	2510	3.984	.553	im1 o
2.203	5.182	2.340	26.713	2490	4.017	.548	im1 o
2.204	5.185	2.342	26.764	2488	4.020	.548	im1 o
2.204	5.295	2.444	28.522	2443	4.093	.538	im1 o
2.204	5.292	2.480	28.926	2411	4.148	.531	im1 o
2.203	5.491	2.601	31.463	2389	4.186	.526	im1 o
2.204	5.464	2.703	32.551	2293	4.362	.505	im1 o
2.204	5.553	2.703	33.082	2329	4.294	.513	im1 o
2.204	5.553	2.723	33.326	2312	4.325	.510	im1 o
2.204	5.503	2.728	33.087	2288	4.371	.504	im1 o
2.204	5.539	2.729	33.316	2302	4.344	.507	im1 o
2.204	5.525	2.742	33.390	2285	4.376	.504	im1 o
2.204	5.713	2.877	36.226	2252	4.440	.496	im1 o
2.204	5.708	2.877	36.194	2250	4.444	.496	im1 o
2.204	5.914	3.002	39.129	2234	4.476	.492	im1 o
2.204	5.950	3.022	39.630	2233	4.479	.492	im1 o
2.204	6.291	3.147	43.634	2268	4.410	.500	im1 o
2.204	6.153	3.153	42.759	2212	4.520	.488	im1 o
2.204	6.161	3.186	43.262	2191	4.564	.483	im1 o
2.204	6.353	3.190	44.666	2259	4.427	.498	im1 o
2.204	6.162	3.195	43.391	2185	4.577	.481	im1 o
2.204	6.169	3.209	43.631	2177	4.593	.480	im1 o
2.203	6.131	3.223	43.532	2153	4.645	.474	im1 o
2.204	6.453	3.249	46.209	2253	4.439	.497	im1 o
2.204	6.363	3.289	45.845	2206	4.533	.486	im1 o
2.203	6.821	3.495	52.518	2213	4.518	.488	im1 o
2.203	6.816	3.504	52.615	2206	4.534	.486	im1 o
2.204	6.681	3.520	51.832	2147	4.658	.473	im1 o
2.202	6.857	3.561	53.768	2183	4.581	.481	im1 o
2.202	6.801	3.571	53.479	2157	4.636	.475	im1 o
2.204	7.015	3.680	58.897	2157	4.636	.475	im1 o
2.204	7.123	3.713	58.291	2172	4.604	.479	im1 o
2.204	7.191	3.714	58.863	2194	4.558	.484	im1 o
2.204	7.143	3.737	58.832	2163	4.622	.477	im1 o
2.204	7.038	3.743	58.060	2124	4.708	.468	im1 o
2.204	7.193	3.744	59.355	2176	4.597	.479	im1 o
2.203	7.020	3.747	57.948	2116	4.725	.466	im1 o
2.204	7.072	3.786	59.011	2108	4.743	.485	im1 o

(Continued)

QUARTZ, fused
(Continued)

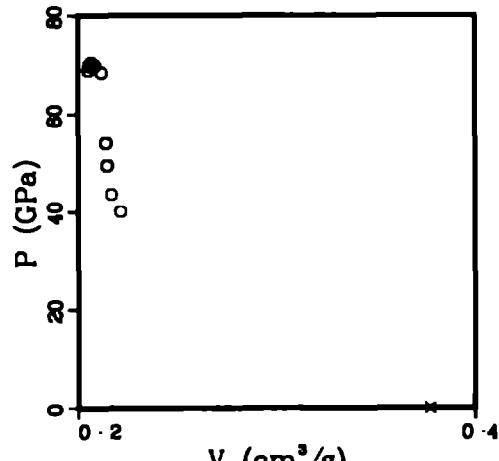
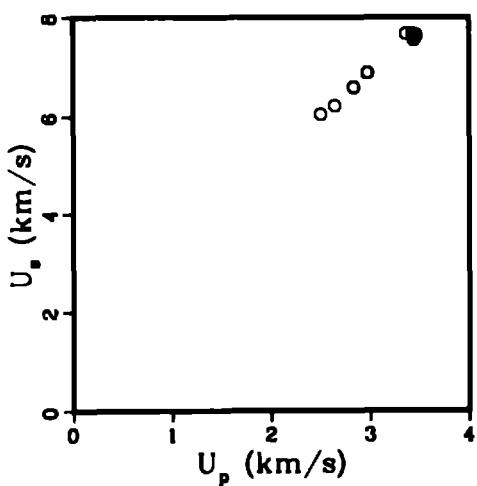
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.203	7.242	3.802	60.658	.2156	4.638	.475	im1 o
2.204	7.103	3.802	59.520	.2109	4.743	.465	im1 o
2.204	7.213	3.804	60.474	.2144	4.683	.473	im1 o
2.202	7.136	3.809	59.853	.2117	4.723	.468	im1 o
2.202	7.107	3.814	59.688	.2104	4.752	.463	im1 o
2.203	7.200	3.827	60.702	.2127	4.703	.468	im1 o
2.204	7.716	3.980	67.684	.2197	4.552	.484	im1 o
2.204	7.655	3.993	67.368	.2171	4.607	.478	im1 o
2.203	7.528	4.020	66.668	.2115	4.728	.466	im1 o
2.204	7.575	4.022	67.148	.2128	4.699	.469	im1 o
2.203	7.690	4.045	68.527	.2152	4.648	.474	im1 o
2.204	7.822	4.048	69.752	.2190	4.566	.483	im1 o
2.204	7.841	4.095	70.768	.2168	4.613	.478	im1 o
2.204	7.631	4.099	68.940	.2100	4.762	.463	im1 o
2.203	7.778	4.105	70.339	.2144	4.665	.472	im1 o
2.204	7.722	4.116	70.051	.2119	4.720	.467	im1 o
2.204	7.888	4.216	73.296	.2112	4.735	.466	im1 o
2.204	8.126	4.274	76.546	.2151	4.649	.474	im1 o
2.204	8.197	4.320	78.046	.2146	4.680	.473	im1 o
2.204	8.168	4.333	78.004	.2130	4.694	.470	im1 o
2.204	8.237	4.342	78.826	.2145	4.661	.473	im1 o
2.204	8.293	4.368	79.837	.2147	4.657	.473	im1 o
2.204	8.418	4.479	83.100	.2123	4.710	.468	im1 o
2.204	8.461	4.494	83.804	.2127	4.701	.469	im1 o

QUARTZ, single-crystal

Average $\rho_0 = 2.650 \text{ g/cm}^3$.

References 6, 30, 32, 38, 39

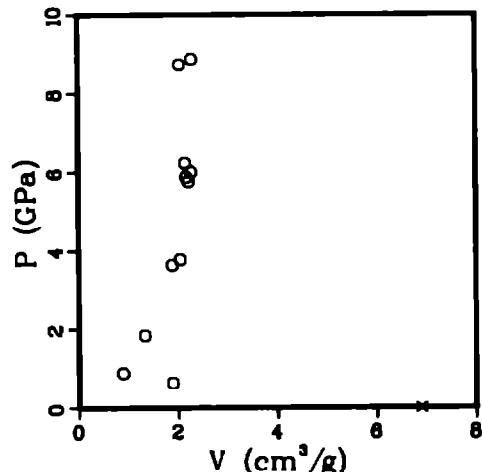
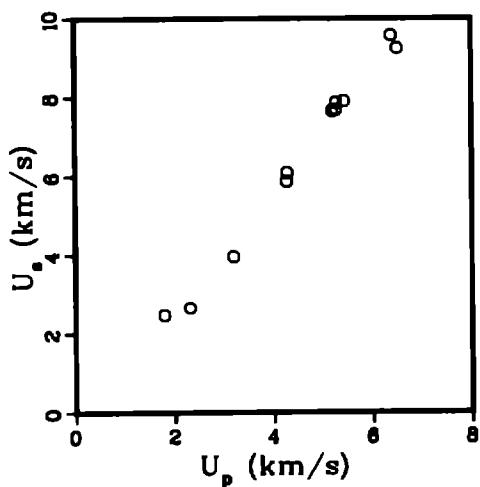
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.650	6.047	2.499	40.045	.2214	4.517	.587	i m1 o
2.650	6.215	2.647	43.595	.2166	4.616	.574	i m1 o
2.650	6.580	2.837	49.469	.2147	4.659	.569	i m1 o
2.650	6.580	2.837	49.469	.2147	4.659	.569	i m1 o
2.650	6.867	2.976	54.156	.2138	4.677	.567	i m1 o
2.650	6.867	2.976	54.156	.2138	4.677	.567	i m1 o
2.650	7.667	3.363	68.328	.2118	4.721	.561	i m1 o
2.650	7.667	3.432	69.730	.2084	4.798	.552	i m1 o
2.650	7.539	3.442	68.765	.2051	4.876	.543	i m1 o
2.650	7.628	3.442	69.577	.2071	4.829	.549	i m1 o
2.650	7.808	3.462	69.798	.2056	4.863	.545	i m1 o
2.650	7.857	3.462	70.248	.2067	4.837	.548	i m1 o



QUARTZ, spun

Average $\rho_0 = 0.145 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.145	2.461	1.789	.638	1.8832	.531	.273	im1 o
.145	2.649	2.309	.887	.8852	1.130	.128	im1 o
.145	3.957	3.190	1.830	1.3368	.748	.194	im1 o
.145	5.873	4.268	3.635	1.8847	.531	.273	im1 o
.145	6.086	4.278	3.775	2.0488	.488	.287	im1 o
.145	7.656	5.192	5.764	2.2198	.451	.322	im1 o
.145	7.693	5.267	5.875	2.1748	.460	.315	im1 o
.145	7.861	5.271	6.008	2.2722	.440	.329	im1 o
.145	7.902	5.434	6.226	2.1540	.464	.312	im1 o
.145	9.574	6.391	8.872	2.2928	.436	.332	im1 o
.145	9.251	6.507	8.728	2.0458	.489	.297	im1 o

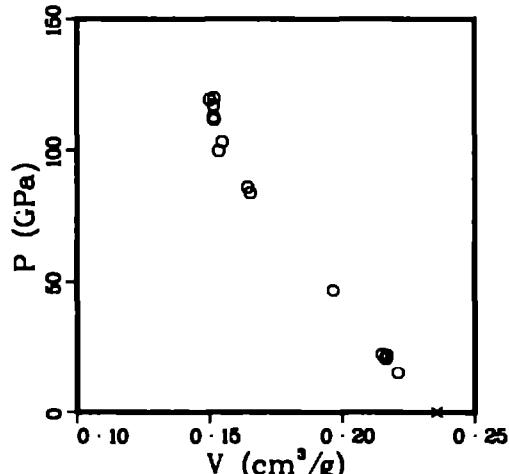
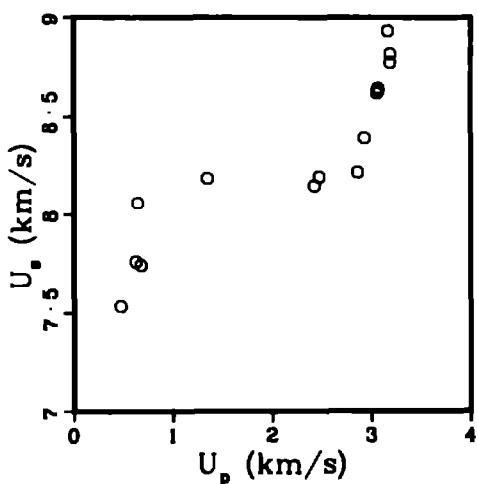


RUTILE

Average $\rho_0 = 4.243 \text{ g/cm}^3$.

References 6, 30, 32, 40

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.245	7.535	.468	14.969	.2209	4.526	.938	im1 o
4.250	7.762	.624	20.585	.2164	4.622	.920	im1 o
4.245	8.059	.642	21.963	.2168	4.612	.920	im1 o
4.245	7.744	.676	22.222	.2150	4.651	.913	im1 o
4.250	8.183	1.343	46.707	.1967	5.084	.836	im1 o
4.250	8.145	2.421	83.806	.1654	6.048	.703	im1 o
4.250	8.191	2.469	85.950	.1644	6.084	.699	im1 o
4.250	8.215	2.858	99.783	.1534	6.517	.652	im1 o
4.207	8.388	2.926	103.254	.1548	6.461	.651	im1 o
4.250	8.619	3.056	111.944	.1519	6.585	.645	im1 o
4.250	8.643	3.068	112.696	.1518	6.589	.645	im1 o
4.250	8.634	3.071	112.689	.1516	6.596	.644	im1 o
4.250	8.932	3.166	120.185	.1519	6.584	.646	im1 o
4.196	8.773	3.188	117.355	.1517	6.591	.637	im1 o
4.250	8.816	3.191	119.560	.1501	6.661	.638	im1 o

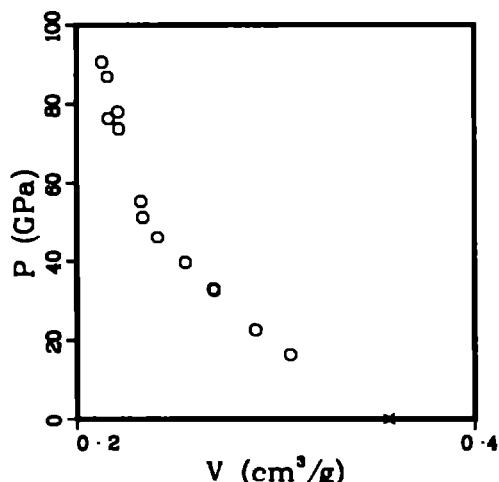
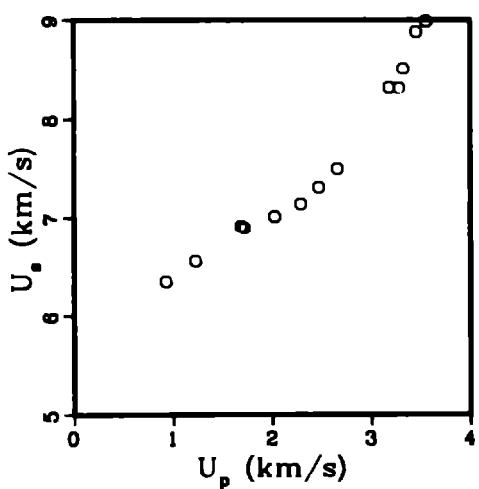


SERPENTINE, Ver-myen, Italy

Average $\rho_0 = 2.802 \text{ g/cm}^3$.

References 6, 32

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.779	6.351	.926	16.343	.3074	3.253	.854	im1 o
2.804	6.557	1.226	22.541	.2900	3.449	.813	im1 o
2.809	6.911	1.686	32.730	.2691	3.715	.756	im1 o
2.792	6.894	1.719	33.087	.2689	3.719	.751	im1 o
2.793	7.014	2.025	39.670	.2547	3.927	.711	im1 o
2.822	7.138	2.289	46.108	.2407	4.154	.679	im1 o
2.837	7.307	2.471	51.224	.2333	4.287	.662	im1 o
2.777	7.494	2.658	55.315	.2324	4.303	.645	im1 o
2.790	8.316	3.182	73.828	.2213	4.519	.617	im1 o
2.800	8.311	3.283	76.398	.2161	4.628	.605	im1 o
2.758	8.510	3.326	78.063	.2209	4.528	.609	im1 o
2.833	8.881	3.457	86.978	.2156	4.639	.611	im1 o
2.838	8.988	3.558	90.757	.2129	4.698	.604	im1 o



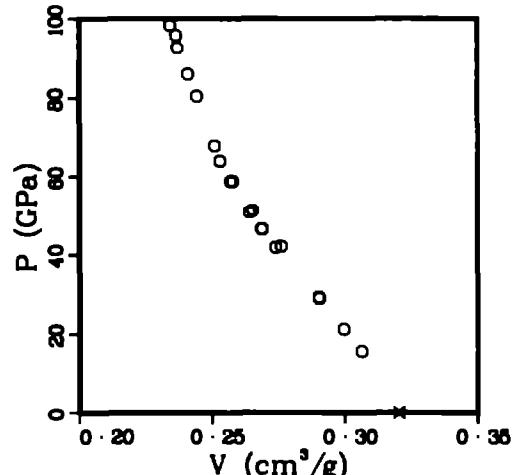
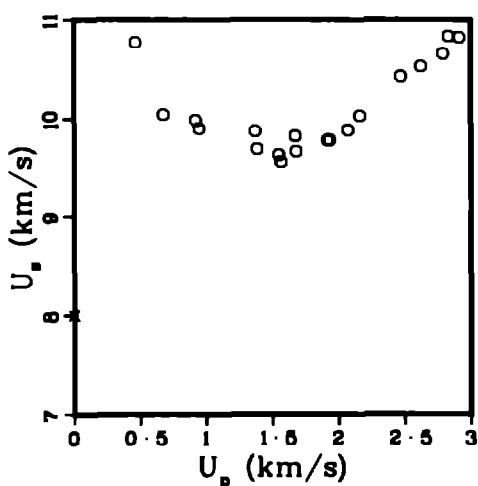
SILICON CARBIDE , $\rho_0 = 3.1 \text{ g/cm}^3$.

Average $\rho_0 = 3.122 \text{ g/cm}^3$.

Sound velocities longitudinal 11.73 km/s .
shear 7.43 km/s .

References 13 , 30

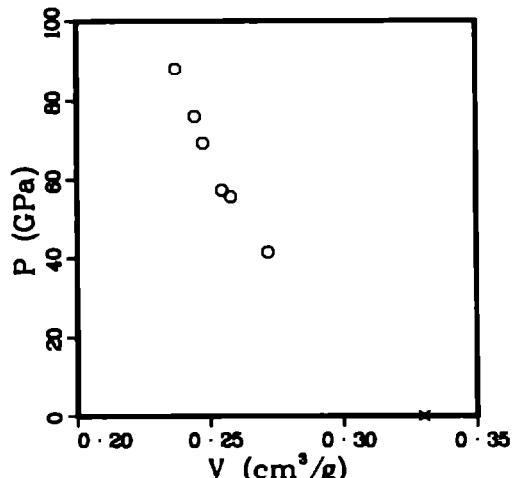
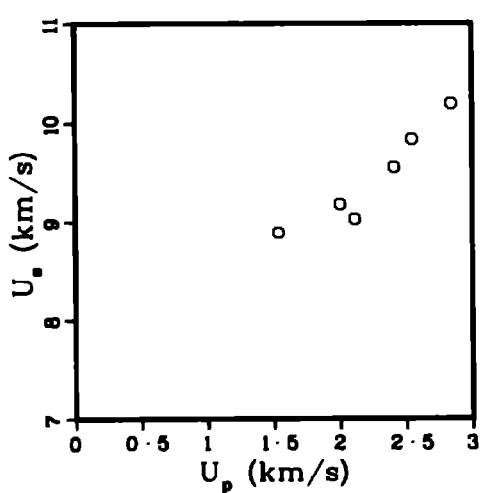
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.121	7.999	0.000	0.000	.3204	3.121	1.000	s s p x
3.124	10.771	.464	15.613	.3063	3.265	.957	i m i o
3.114	10.047	.674	21.087	.2996	3.338	.933	i m i o
3.127	9.989	.921	28.768	.2903	3.445	.908	i m i o
3.118	9.903	.944	29.148	.2901	3.447	.905	i m i o
3.120	9.877	1.368	42.157	.2761	3.622	.861	i m i o
3.129	9.691	1.381	41.876	.2740	3.649	.857	i m i o
3.123	9.633	1.547	46.540	.2688	3.720	.839	i m i o
3.110	9.561	1.584	46.505	.2689	3.718	.836	i m i o
3.128	9.826	1.670	51.329	.2654	3.768	.830	i m i o
3.129	9.669	1.678	50.767	.2641	3.786	.826	i m i o
3.130	9.783	1.915	58.639	.2569	3.892	.804	i m i o
3.116	9.784	1.931	58.870	.2576	3.882	.803	i m i o
3.126	9.887	2.069	63.946	.2530	3.853	.791	i m i o
3.126	10.031	2.162	67.794	.2509	3.985	.784	i m i o
3.123	10.425	2.472	80.482	.2443	4.094	.763	i m i o
3.115	10.526	2.623	86.004	.2410	4.149	.751	i m i o
3.115	10.655	2.790	92.601	.2370	4.220	.738	i m i o
3.124	10.833	2.831	95.808	.2364	4.229	.739	i m i o
3.120	10.821	2.912	98.314	.2343	4.269	.731	i m i o



SILICON CARBIDE . $\rho_0 = 3.0 \text{ g/cm}^3$.

Average $\rho_0 = 3.029 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
3.044	8.888	1.535	41.530	.2718	3.679	.827	i m1 o
3.032	9.176	2.002	55.699	.2579	3.878	.782	i m1 o
3.008	9.023	2.112	57.322	.2546	3.927	.766	i m1 o
3.020	9.550	2.410	69.507	.2476	4.039	.748	i m1 o
3.032	9.844	2.547	76.020	.2445	4.090	.741	i m1 o
3.040	10.194	2.842	88.073	.2372	4.215	.721	i m1 o

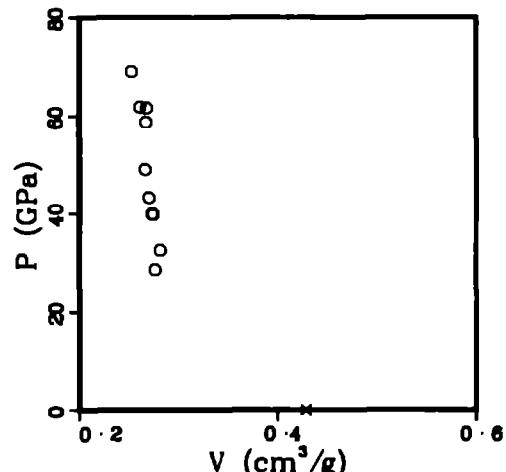
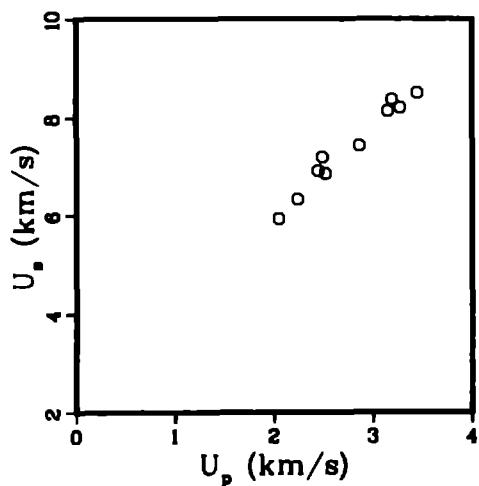


SILICON CARBIDE . $\rho_0 = 2.3 \text{ g/cm}^3$.

Average $\rho_0 = 2.333 \text{ g/cm}^3$.

References 13 , 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.368	5.928	2.048	28.749	.2764	3.618	.655	im1 o
2.295	6.339	2.241	32.602	.2817	3.550	.646	im1 o
2.364	6.912	2.443	39.919	.2735	3.656	.647	im1 o
2.423	7.191	2.485	43.298	.2701	3.702	.654	im1 o
2.307	6.858	2.517	39.811	.2743	3.645	.633	im1 o
2.311	7.425	2.857	49.024	.2662	3.756	.615	im1 o
2.292	8.144	3.150	58.798	.2675	3.738	.613	im1 o
2.308	8.375	3.192	61.700	.2681	3.729	.619	im1 o
2.302	8.213	3.272	61.861	.2613	3.826	.602	im1 o
2.357	8.512	3.444	69.096	.2526	3.959	.595	im1 o



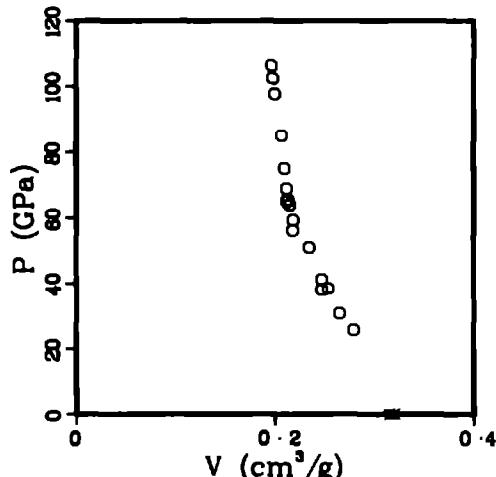
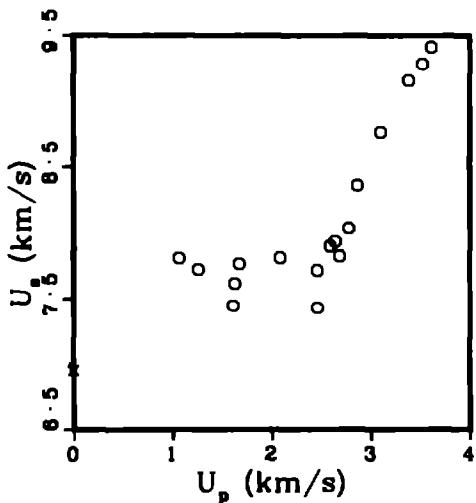
SILLIMANITE , Dillon, Montana

Average $\rho_0 = 3.127 \text{ g/cm}^3$.

Sound velocities longitudinal 9.00 km/s.
shear 4.95 km/s.

References 6, 32

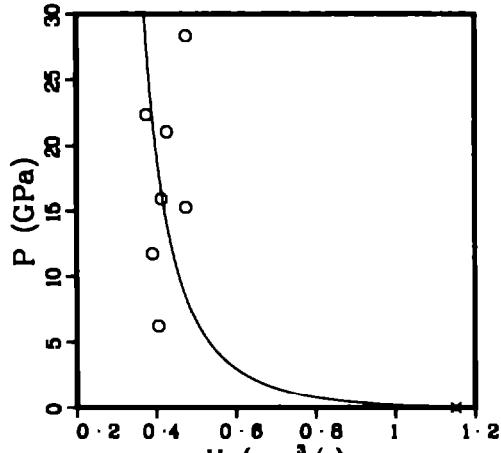
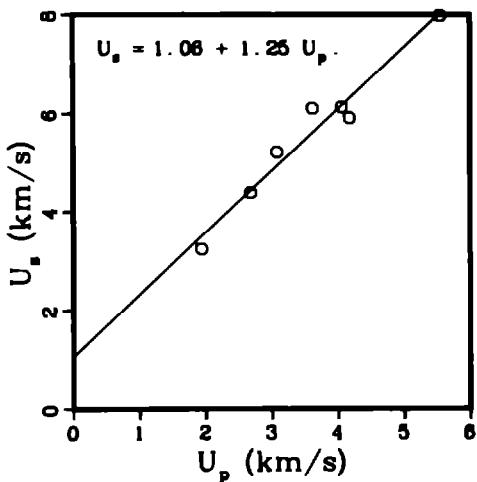
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.172	6.952	0.000	0.000	.3153	3.172	1.000	s s p x
3.086	7.808	1.068	25.734	.2797	3.575	.863	i m1 o
3.158	7.725	1.262	30.787	.2649	3.775	.837	i m1 o
3.173	7.446	1.608	37.991	.2471	4.047	.784	i m1 o
3.101	7.616	1.626	38.402	.2536	3.943	.787	i m1 o
3.173	7.765	1.673	41.220	.2473	4.044	.785	i m1 o
3.122	7.814	2.087	50.913	.2348	4.260	.733	i m1 o
3.071	7.430	2.459	56.108	.2179	4.590	.669	i m1 o
3.120	7.714	2.461	59.231	.2183	4.582	.681	i m1 o
3.129	7.900	2.587	63.948	.2149	4.653	.673	i m1 o
3.127	7.936	2.639	65.489	.2135	4.685	.667	i m1 o
3.096	7.825	2.688	65.120	.2120	4.716	.658	i m1 o
3.089	8.037	2.776	68.918	.2119	4.719	.655	i m1 o
3.131	8.360	2.866	75.018	.2099	4.764	.657	i m1 o
3.128	8.767	3.099	84.984	.2067	4.838	.647	i m1 o
3.152	9.158	3.386	97.740	.2000	5.001	.630	i m1 o
3.134	9.284	3.521	102.447	.1981	5.049	.621	i m1 o
3.127	9.412	3.611	106.277	.1971	5.073	.616	i m1 o



SODIUM CHLORIDE, powdered, unpressed

Average $\rho_0 = 0.868 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.987	3.238	1.942	6.205	.4056	2.465	.400	i m1 o
.993	4.385	2.683	11.684	.3908	2.559	.388	i m1 o
.989	5.213	3.082	15.890	.4133	2.419	.409	i m1 o
.953	6.103	3.620	21.054	.4269	2.342	.407	i m1 o
.898	6.128	4.081	22.347	.3756	2.662	.337	i m1 o
.617	5.913	4.181	15.254	.4747	2.106	.293	i m1 o
.640	7.979	5.552	28.352	.4753	2.104	.304	i m1 o



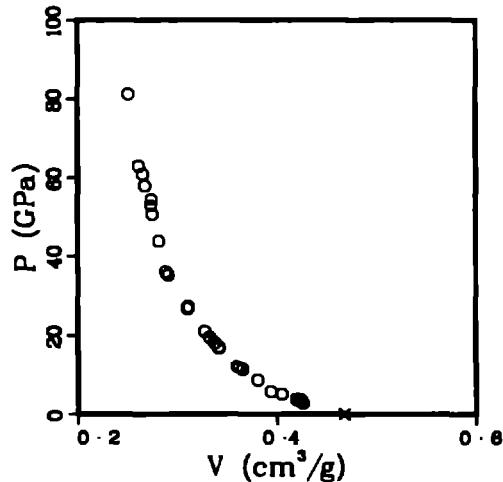
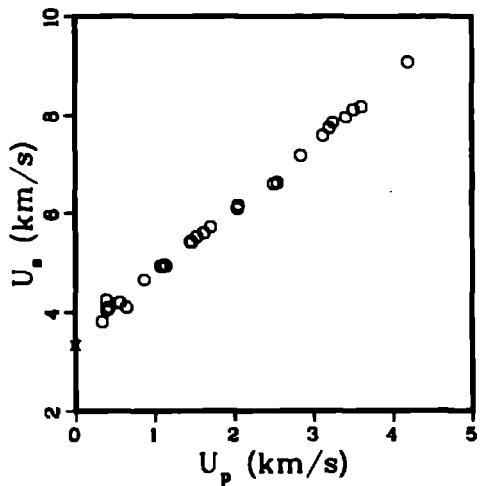
SODIUM CHLORIDE, pressed

Average $\rho_0 = 2.137 \text{ g/cm}^3$.

Sound velocities longitudinal 4.47 km/s.
shear 2.57 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.137	3.343	0.000	0.000	.4679	2.137	1.000	s s p x
2.139	3.810	.339	2.763	.4259	2.348	.911	i m l o
2.140	4.239	.394	3.574	.4239	2.359	.907	i m l o
2.137	4.050	.397	3.436	.4221	2.369	.902	i m l o
2.137	4.093	.424	3.709	.4195	2.384	.898	i m l o
2.137	4.190	.565	5.059	.4048	2.470	.865	i m l o
2.138	4.098	.647	5.886	.3938	2.539	.842	i m l o
2.138	4.650	.865	8.600	.3807	2.627	.814	i m l o
2.139	4.933	1.075	11.343	.3656	2.735	.782	i m l o
2.135	4.950	1.123	11.868	.3621	2.761	.773	i m l o
2.138	4.942	1.137	12.014	.3601	2.777	.770	i m l o
2.138	5.426	1.458	16.914	.3420	2.924	.731	i m l o
2.135	5.411	1.463	16.901	.3417	2.926	.730	i m l o
2.139	5.524	1.533	18.114	.3378	2.961	.722	i m l o
2.134	5.603	1.625	19.430	.3327	3.006	.710	i m l o
2.139	5.723	1.709	20.921	.3279	3.050	.701	i m l o
2.138	6.098	2.048	26.701	.3106	3.219	.664	i m l o
2.139	6.165	2.058	27.139	.3114	3.211	.666	i m l o
2.137	6.604	2.499	35.268	.2909	3.438	.622	i m l o
2.134	6.632	2.548	36.061	.2886	3.465	.616	i m l o

(Continued)



SODIUM CHLORIDE, pressed
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.143	7.176	2.844	43.736	2817	3.550	.604	i m1 o
2.135	7.578	3.124	50.543	2753	3.632	.588	i m1 o
2.137	7.727	3.201	52.857	2741	3.648	.586	i m1 o
2.134	7.849	3.251	54.453	2745	3.643	.586	i m1 o
2.134	7.954	3.413	57.932	2675	3.738	.571	i m1 o
2.138	8.114	3.509	60.873	2655	3.767	.568	i m1 o
2.134	8.169	3.611	62.949	2615	3.825	.558	i m1 o
2.138	9.064	4.192	81.236	2514	3.978	.538	i m1 o

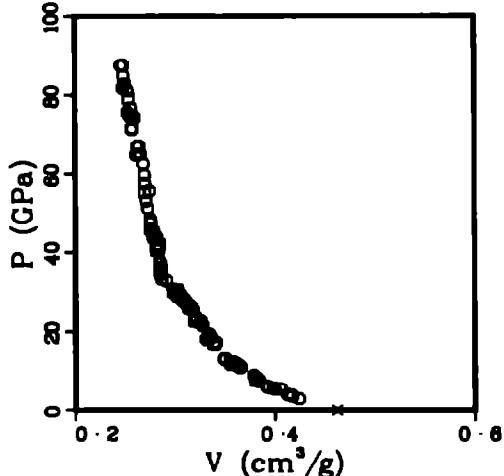
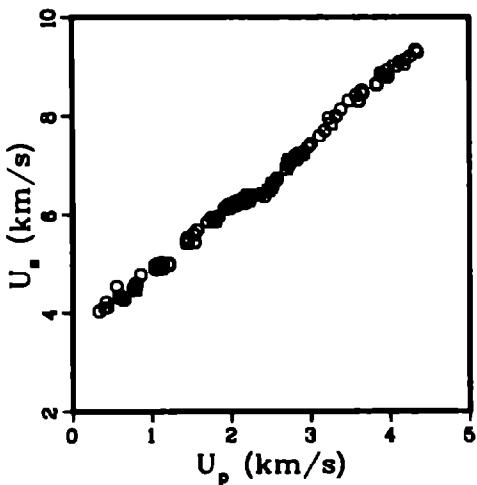
SODIUM CHLORIDE, single-crystal, [100]

Average $\rho_0 = 2.163 \text{ g/cm}^3$.

Reference 41

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.164	4.030	.332	2.895	.4240	2.358	.918	im1 o
2.164	4.101	.399	3.541	.4171	2.397	.903	im1 o
2.164	4.228	.420	3.843	.4162	2.403	.901	im1 o
2.164	4.122	.441	3.934	.4127	2.423	.893	im1 o
2.164	4.547	.554	5.451	.4058	2.464	.878	im1 o
2.164	4.305	.583	5.431	.3995	2.503	.865	im1 o
2.164	4.356	.600	5.656	.3985	2.510	.862	im1 o
2.164	4.262	.636	5.866	.3931	2.544	.851	im1 o
2.162	4.283	.647	5.991	.3927	2.547	.849	im1 o
2.162	4.269	.648	5.981	.3923	2.549	.848	im1 o
2.162	4.511	.765	7.461	.3841	2.604	.830	im1 o
2.162	4.491	.766	7.438	.3836	2.607	.829	im1 o
2.162	4.594	.789	7.837	.3831	2.610	.828	im1 o
2.165	4.480	.790	7.662	.3804	2.629	.824	im2 □
2.164	4.591	.807	8.017	.3809	2.628	.824	im1 o
2.164	4.778	.858	8.871	.3791	2.638	.820	im1 o
2.165	4.952	1.034	11.086	.3654	2.736	.791	im1 o
2.160	4.887	1.040	10.978	.3644	2.744	.787	im1 o
2.164	4.989	1.070	11.552	.3630	2.755	.786	im1 o
2.162	4.986	1.085	11.696	.3619	2.763	.782	im1 o
2.165	4.900	1.110	11.775	.3573	2.799	.773	im2 □

(Continued)



SODIUM CHLORIDE, single-crystal, [100]
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.165	4.930	1.110	11.848	.3579	2.794	.775	im2 □
2.161	4.986	1.118	12.046	.3590	2.786	.776	im1 ○
2.162	5.003	1.123	12.147	.3587	2.788	.776	im1 ○
2.162	4.970	1.125	12.088	.3578	2.795	.774	im1 ○
2.164	5.006	1.127	12.209	.3581	2.793	.775	im1 ○
2.165	4.940	1.140	12.192	.3553	2.815	.769	im2 □
2.162	5.003	1.214	13.131	.3503	2.855	.757	im1 ○
2.162	4.990	1.215	13.108	.3499	2.858	.757	im1 ○
2.162	4.969	1.217	13.074	.3493	2.863	.755	im1 ○
2.165	5.410	1.440	16.866	.3389	2.960	.734	im2 □
2.165	5.509	1.443	17.211	.3409	2.933	.738	im1 ○
2.160	5.426	1.445	16.936	.3397	2.944	.734	im1 ○
2.164	5.473	1.448	17.149	.3398	2.943	.735	im1 ○
2.164	5.587	1.526	18.450	.3359	2.977	.727	im1 ○
2.162	5.433	1.535	18.030	.3319	3.013	.717	im1 ○
2.162	5.417	1.536	17.989	.3314	3.018	.718	im1 ○
2.162	5.670	1.570	19.246	.3345	2.990	.723	im1 ○
2.164	5.839	1.698	21.455	.3277	3.051	.709	im1 ○
2.162	5.935	1.750	22.455	.3262	3.066	.705	im1 ○
2.165	5.850	1.780	22.544	.3214	3.112	.696	im2 □
2.165	5.850	1.800	22.797	.3198	3.127	.692	im2 □
2.162	5.940	1.822	23.399	.3207	3.119	.693	im1 ○
2.162	5.956	1.837	23.655	.3199	3.126	.692	im1 ○
2.162	6.115	1.918	25.357	.3175	3.150	.686	im1 ○
2.162	6.120	1.918	25.378	.3176	3.149	.687	im1 ○
2.162	6.151	1.947	25.892	.3161	3.163	.683	im1 ○
2.162	6.148	1.947	25.871	.3160	3.164	.683	im1 ○
2.165	6.130	1.960	26.012	.3142	3.183	.680	im2 □
2.165	6.126	1.964	26.048	.3138	3.187	.679	im1 ○
2.160	6.202	1.969	26.377	.3160	3.165	.683	im1 ○
2.162	6.195	2.001	26.891	.3131	3.194	.677	im1 ○
2.162	6.171	2.004	26.737	.3123	3.202	.675	im1 ○
2.164	6.175	2.005	26.792	.3121	3.204	.675	im1 ○
2.162	6.185	2.018	26.985	.3116	3.209	.674	im1 ○
2.164	6.245	2.040	27.569	.3112	3.214	.673	im1 ○
2.162	6.214	2.060	27.675	.3092	3.234	.668	im1 ○
2.162	6.183	2.064	27.591	.3081	3.245	.666	im1 ○
2.162	6.244	2.083	28.120	.3082	3.244	.666	im1 ○
2.162	6.272	2.084	28.259	.3088	3.238	.668	im1 ○
2.162	6.261	2.085	28.223	.3085	3.241	.667	im1 ○
2.165	6.240	2.130	28.775	.3042	3.287	.659	im2 □
2.162	6.333	2.156	29.520	.3051	3.278	.660	im1 ○
2.162	6.267	2.164	29.321	.3028	3.302	.655	im1 ○

(Continued)

SODIUM CHLORIDE, single-crystal, [100]
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.165	6.226	2.174	29.304	.3006	3.327	.651	im1 o
2.165	6.390	2.210	30.574	.3021	3.310	.654	im2 o
2.165	6.280	2.220	30.184	.2986	3.349	.646	im2 o
2.162	6.315	2.244	30.637	.2982	3.354	.645	im1 o
2.161	6.415	2.373	32.896	.2916	3.430	.630	im1 o
2.163	6.361	2.418	33.269	.2866	3.489	.620	im1 o
2.165	6.480	2.470	34.652	.2858	3.499	.619	im2 o
2.165	6.550	2.510	35.594	.2849	3.510	.617	im2 o
2.165	6.620	2.520	36.117	.2861	3.496	.619	im2 o
2.160	6.693	2.572	37.183	.2851	3.508	.616	im1 o
2.165	6.733	2.582	37.638	.2848	3.512	.617	im1 o
2.165	6.920	2.700	40.451	.2817	3.550	.610	im2 o
2.165	7.020	2.710	41.187	.2836	3.526	.614	im2 o
2.162	7.028	2.725	41.393	.2831	3.532	.612	im1 o
2.162	6.997	2.729	41.283	.2821	3.544	.610	im1 o
2.165	7.100	2.730	41.964	.2843	3.518	.615	im2 o
2.162	7.193	2.815	43.777	.2815	3.552	.609	im1 o
2.162	7.104	2.827	43.419	.2785	3.591	.602	im1 o
2.164	7.172	2.838	44.046	.2792	3.581	.604	im1 o
2.165	7.230	2.870	44.924	.2785	3.590	.603	im2 o
2.162	7.249	2.908	45.544	.2771	3.609	.599	im1 o
2.162	7.205	2.912	45.361	.2756	3.629	.596	im1 o
2.165	7.372	2.971	47.418	.2757	3.627	.597	im1 o
2.165	7.446	3.009	48.507	.2752	3.633	.598	im1 o
2.164	7.597	3.113	51.177	.2728	3.666	.590	im1 o
2.165	7.709	3.181	53.091	.2713	3.686	.587	im1 o
2.164	7.982	3.231	55.669	.2748	3.642	.594	im1 o
2.165	7.840	3.260	55.334	.2698	3.706	.584	im2 o
2.165	7.997	3.323	57.533	.2700	3.704	.584	im1 o
2.164	8.132	3.386	59.506	.2697	3.708	.584	im1 o
2.164	8.308	3.482	62.586	.2684	3.726	.581	im1 o
2.165	8.410	3.578	65.111	.2655	3.767	.575	im1 o
2.162	8.314	3.608	64.853	.2618	3.820	.568	im1 o
2.162	8.297	3.611	64.775	.2612	3.828	.565	im1 o
2.162	8.504	3.650	67.108	.2640	3.788	.571	im1 o
2.161	8.493	3.654	67.063	.2637	3.793	.570	im1 o
2.162	8.451	3.658	66.836	.2623	3.812	.567	im1 o
2.162	8.630	3.833	71.516	.2571	3.890	.556	im1 o
2.162	8.623	3.834	71.477	.2569	3.893	.555	im1 o
2.160	8.630	3.841	71.599	.2569	3.892	.555	im1 o
2.162	8.852	3.888	74.409	.2594	3.855	.561	im1 o
2.162	8.815	3.893	74.193	.2583	3.872	.558	im1 o
2.165	8.779	3.928	74.658	.2552	3.918	.553	im1 o

(Continued)

SODIUM CHLORIDE, single-crystal, [100]
 (Continued)

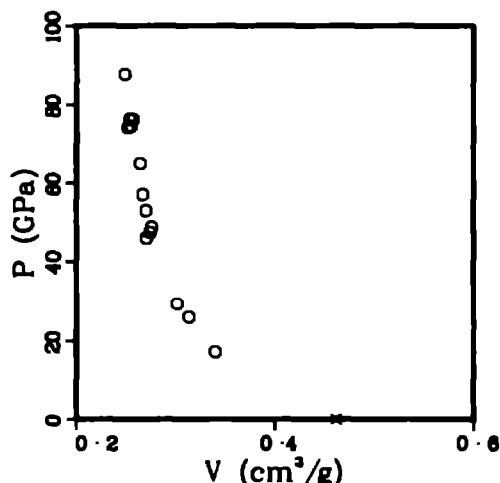
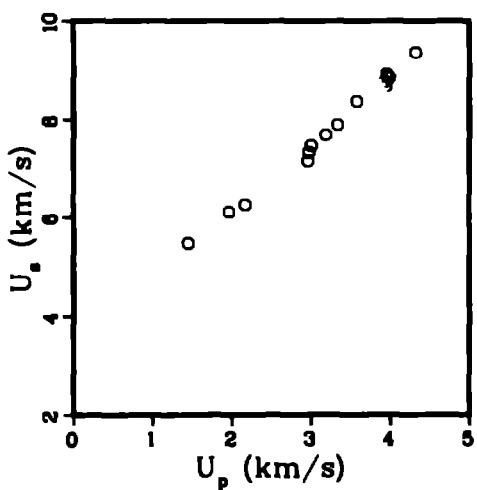
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.165	8.792	3.932	74.844	.2553	3.917	.553	i m1 o
2.165	8.777	3.977	75.572	.2528	3.959	.547	i m1 o
2.165	8.918	3.977	76.786	.2559	3.908	.554	i m1 o
2.165	9.000	4.060	79.109	.2535	3.944	.549	i m2 □
2.162	9.093	4.126	81.113	.2527	3.958	.546	i m1 o
2.164	9.027	4.185	81.752	.2479	4.034	.536	i m1 o
2.162	9.130	4.193	82.766	.2501	3.998	.541	i m1 o
2.162	9.204	4.258	84.730	.2486	4.023	.537	i m1 o
2.165	9.347	4.327	87.562	.2481	4.031	.537	i m1 o
2.162	9.291	4.353	87.439	.2458	4.068	.531	i m1 o

SODIUM CHLORIDE, single-crystal, [110]

Average $\rho_0 = 2.165 \text{ g/cm}^3$.

Reference 41

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.165	5.472	1.446	17.131	.3398	2.943	.736	im1 o
2.165	6.109	1.966	26.002	.3132	3.192	.678	im1 o
2.165	6.254	2.171	29.395	.3016	3.316	.653	im1 o
2.165	7.145	2.961	45.803	.2705	3.697	.586	im1 o
2.165	7.326	2.977	47.218	.2742	3.647	.594	im1 o
2.165	7.462	3.006	48.563	.2758	3.626	.597	im1 o
2.165	7.686	3.185	52.999	.2705	3.697	.586	im1 o
2.165	7.896	3.338	57.063	.2686	3.751	.577	im1 o
2.165	8.372	3.581	64.907	.2843	3.783	.572	im1 o
2.165	8.770	3.929	74.600	.2550	3.922	.552	im1 o
2.165	8.677	3.850	74.204	.2516	3.974	.545	im1 o
2.165	8.918	3.955	76.361	.2571	3.890	.557	im1 o
2.165	8.849	3.988	76.402	.2537	3.941	.549	im1 o
2.165	9.366	4.324	87.679	.2487	4.022	.538	im1 o



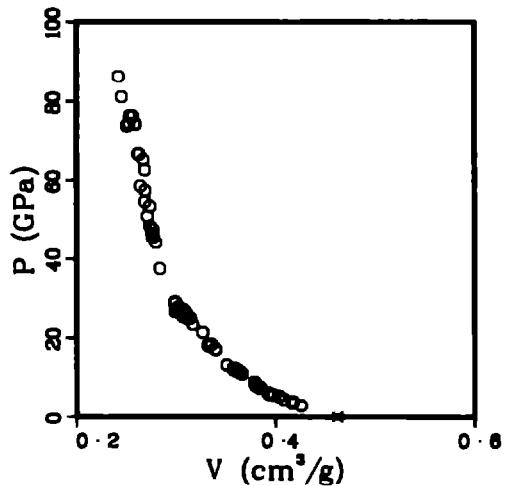
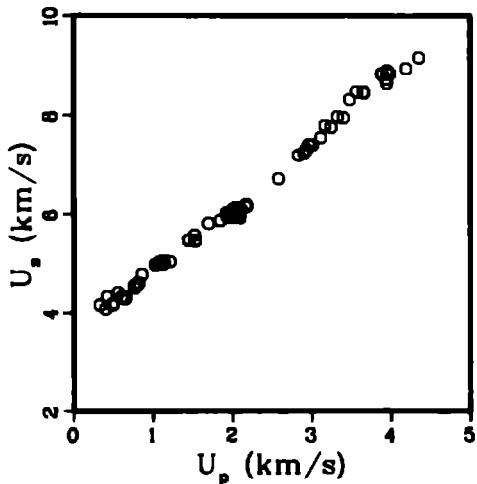
SODIUM CHLORIDE, single-crystal, [11]

Average $\rho_0 = 2.163 \text{ g/cm}^3$.

Reference 41

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.164	4.157	.328	2.951	.4256	2.349	.921	im1 o
2.164	4.080	.400	3.532	.4168	2.399	.902	im1 o
2.164	4.326	.418	3.913	.4175	2.395	.903	im1 o
2.162	4.177	.488	4.407	.4085	2.448	.883	im1 o
2.162	4.161	.489	4.399	.4082	2.450	.882	im1 o
2.164	4.402	.558	5.315	.4035	2.478	.873	im1 o
2.164	4.315	.602	5.621	.3976	2.515	.860	im1 o
2.164	4.305	.634	5.906	.3941	2.538	.853	im1 o
2.162	4.304	.646	6.011	.3931	2.544	.850	im1 o
2.162	4.289	.647	6.000	.3928	2.546	.849	im1 o
2.162	4.531	.763	7.474	.3846	2.600	.832	im1 o
2.162	4.506	.765	7.453	.3840	2.604	.830	im1 o
2.164	4.589	.807	8.014	.3808	2.626	.824	im1 o
2.164	4.587	.816	8.100	.3799	2.632	.822	im1 o
2.164	4.770	.858	8.857	.3790	2.639	.820	im1 o
2.165	4.958	1.026	11.013	.3663	2.730	.793	im1 o
2.164	4.978	1.071	11.537	.3627	2.757	.785	im1 o
2.162	5.013	1.083	11.738	.3626	2.758	.784	im1 o
2.162	4.991	1.085	11.708	.3620	2.763	.783	im1 o
2.164	4.989	1.105	11.930	.3598	2.780	.779	im1 o
2.162	5.011	1.122	12.156	.3590	2.786	.776	im1 o

(Continued)



SODIUM CHLORIDE, single-crystal, [011]
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.164	5.032	1.125	12.250	.3588	2.787	.776	i m1 o
2.162	4.975	1.125	12.100	.3579	2.794	.774	i m1 o
2.164	5.023	1.133	12.315	.3579	2.794	.774	i m1 o
2.162	5.026	1.212	13.170	.3510	2.849	.759	i m1 o
2.165	5.450	1.448	17.085	.3392	2.948	.734	i m1 o
2.164	5.468	1.448	17.134	.3397	2.943	.735	i m1 o
2.164	5.570	1.527	18.406	.3354	2.981	.726	i m1 o
2.162	5.459	1.532	18.081	.3327	3.005	.719	i m1 o
2.162	5.443	1.534	18.052	.3322	3.010	.718	i m1 o
2.164	5.808	1.700	21.366	.3268	3.060	.707	i m1 o
2.162	5.866	1.847	23.424	.3169	3.158	.685	i m1 o
2.162	6.023	1.928	25.106	.3145	3.180	.680	i m1 o
2.162	5.940	1.938	24.888	.3116	3.209	.674	i m1 o
2.162	5.984	1.968	25.376	.3099	3.227	.670	i m1 o
2.162	5.934	1.971	25.287	.3089	3.237	.668	i m1 o
2.165	5.945	1.984	25.536	.3077	3.249	.666	i m1 o
2.162	6.096	2.012	26.517	.3099	3.227	.670	i m1 o
2.162	6.037	2.019	26.352	.3078	3.248	.666	i m1 o
2.164	5.968	2.029	26.204	.3050	3.279	.660	i m1 o
2.164	6.129	2.054	27.243	.3072	3.255	.665	i m1 o
2.162	5.978	2.088	26.986	.3010	3.322	.651	i m1 o
2.162	5.924	2.094	26.819	.2990	3.344	.647	i m1 o
2.162	6.097	2.104	27.734	.3029	3.301	.655	i m1 o
2.162	6.082	2.106	27.692	.3024	3.307	.654	i m1 o
2.162	6.164	2.176	28.999	.2993	3.342	.647	i m1 o
2.162	6.153	2.178	28.973	.2988	3.347	.646	i m1 o
2.165	6.189	2.179	29.197	.2993	3.341	.648	i m1 o
2.165	6.710	2.585	37.553	.2840	3.522	.615	i m1 o
2.164	7.192	2.837	44.154	.2798	3.574	.606	i m1 o
2.162	7.242	2.907	45.515	.2769	3.612	.599	i m1 o
2.162	7.236	2.908	45.493	.2767	3.615	.598	i m1 o
2.165	7.309	2.938	46.491	.2762	3.620	.598	i m1 o
2.165	7.406	2.966	47.557	.2769	3.611	.600	i m1 o
2.165	7.406	3.014	48.326	.2739	3.651	.593	i m1 o
2.164	7.551	3.117	50.933	.2714	3.685	.587	i m1 o
2.165	7.789	3.170	53.456	.2739	3.651	.593	i m1 o
2.164	7.763	3.249	54.580	.2687	3.722	.581	i m1 o
2.165	7.971	3.327	57.415	.2691	3.716	.583	i m1 o
2.164	7.953	3.403	58.567	.2644	3.782	.572	i m1 o
2.164	8.314	3.481	62.628	.2686	3.723	.581	i m1 o
2.165	8.465	3.568	65.390	.2672	3.742	.578	i m1 o
2.162	8.461	3.656	66.878	.2627	3.807	.568	i m1 o
2.162	8.449	3.658	66.820	.2623	3.813	.567	i m1 o

(Continued)

SODIUM CHLORIDE, single-crystal, [111]
 (Continued)

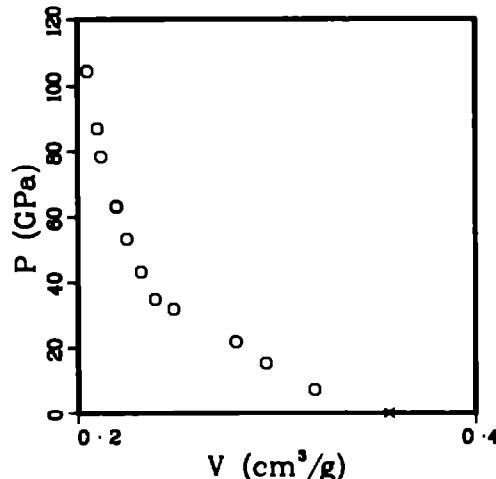
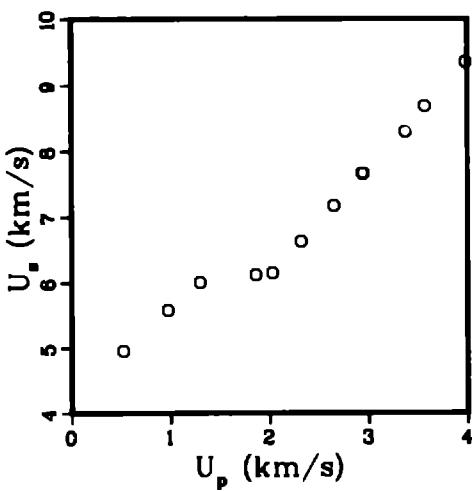
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.162	8.839	3.889	74.318	.2590	3.861	.560	im1 o
2.162	8.827	3.891	74.256	.2586	3.866	.559	im1 o
2.165	8.718	3.943	74.422	.2530	3.953	.548	im1 o
2.165	8.635	3.950	73.844	.2506	3.990	.543	im1 o
2.165	8.901	3.958	76.273	.2565	3.899	.555	im1 o
2.165	8.839	3.989	76.335	.2534	3.946	.549	im1 o
2.164	8.944	4.194	81.174	.2454	4.075	.531	im1 o
2.165	9.163	4.356	86.414	.2423	4.127	.525	im1 o

SODIUM FLUORIDE, single-crystal, [100]

Average $\rho_0 = 2.805 \text{ g/cm}^3$.

Reference 35

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.805	4.957	.521	7.244	.3190	3.134	.895	im1 o
2.805	5.585	.971	15.212	.2945	3.395	.826	im1 o
2.805	5.998	1.296	21.804	.2795	3.578	.784	im1 o
2.805	6.117	1.860	31.914	.2481	4.031	.696	im1 o
2.805	6.143	2.027	34.927	.2389	4.186	.670	im1 o
2.805	6.632	2.320	43.158	.2318	4.314	.650	im1 o
2.805	7.166	2.650	53.267	.2247	4.451	.630	im1 o
2.805	7.654	2.942	63.163	.2195	4.558	.616	im1 o
2.805	7.648	2.943	63.135	.2193	4.580	.615	im1 o
2.805	8.295	3.372	78.458	.2116	4.728	.593	im1 o
2.805	8.680	3.569	86.896	.2099	4.764	.589	im1 o
2.805	9.357	3.982	104.513	.2048	4.883	.574	im1 o



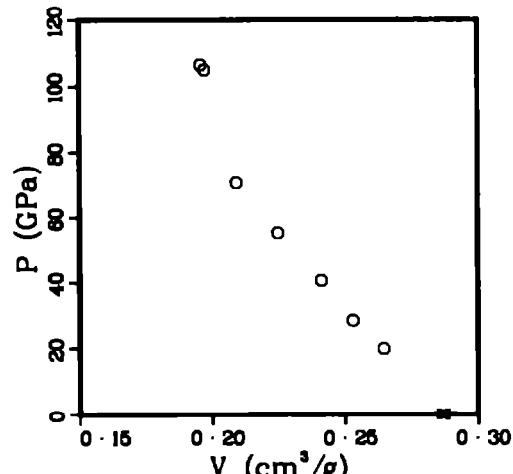
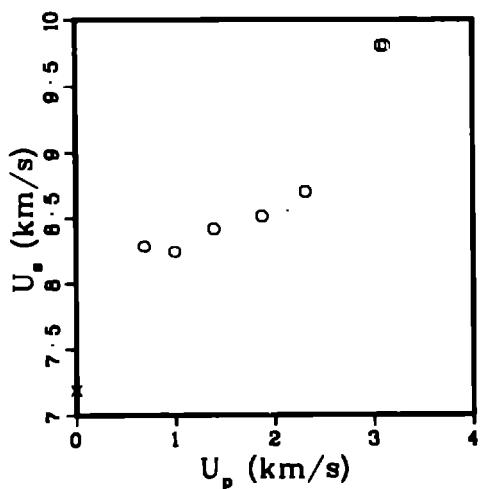
SPINEL, ceramic, $\rho_0 = 3.48 \text{ g/cm}^3$.

Average $\rho_0 = 3.479 \text{ g/cm}^3$.

Sound velocities longitudinal 9.52 km/s.
shear 5.40 km/s.

Reference 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.493	7.194	0.000	0.000	.2863	3.493	1.000	s s p x
3.466	8.282	.688	19.749	.2645	3.780	.917	i m l o
3.476	8.241	.995	28.502	.2530	3.953	.879	i m l o
3.461	8.418	1.392	40.555	.2412	4.147	.835	i m l o
3.469	8.513	1.874	55.342	.2248	4.448	.780	i m l o
3.510	8.698	2.311	70.555	.2092	4.780	.734	i m l o
3.477	9.804	3.079	104.959	.1973	5.069	.686	i m l o
3.484	9.806	3.118	106.524	.1958	5.108	.682	i m l c



SPINEL, ceramic, $\rho_0 = 3.42 \text{ g/cm}^3$.

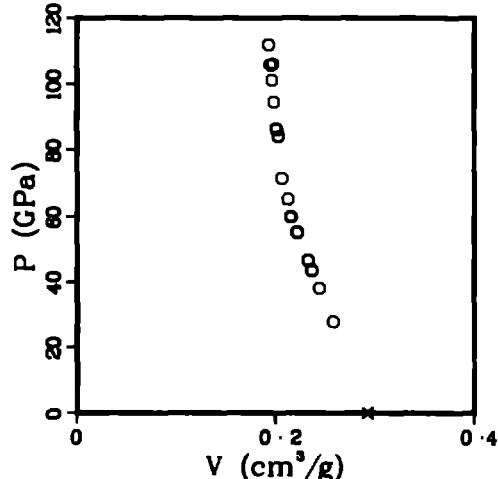
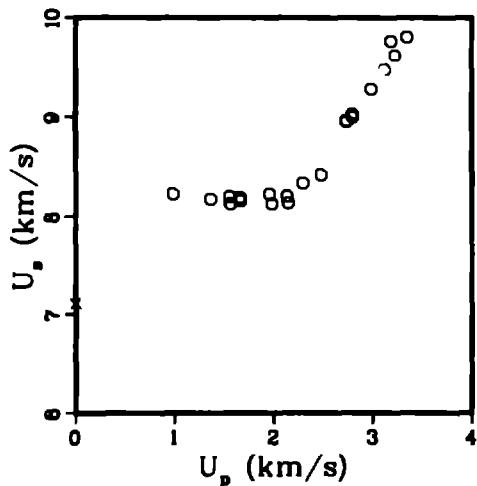
Average $\rho_0 = 3.417 \text{ g/cm}^3$.

Sound velocities longitudinal 9.41 km/s.
shear 5.34 km/s.

References 6, 30, 32

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.409	7.108	0.000	0.000	.2933	3.409	1.000	s s p x
3.410	8.227	.987	27.689	.2581	3.875	.880	i m l o
3.409	8.176	1.367	38.101	.2443	4.093	.833	i m l o
3.424	8.197	1.554	43.615	.2367	4.225	.810	i m l o
3.415	8.128	1.563	43.384	.2365	4.228	.808	i m l o
3.424	8.191	1.661	46.584	.2328	4.295	.797	i m l o
3.416	8.160	1.666	46.439	.2330	4.292	.796	i m l o
3.422	8.225	1.957	55.082	.2227	4.490	.762	i m l o
3.407	8.129	1.982	54.892	.2219	4.506	.756	i m l o
3.427	8.204	2.134	59.998	.2159	4.632	.740	i m l o
3.415	8.137	2.146	59.633	.2156	4.638	.736	i m l o
3.409	8.336	2.295	65.218	.2126	4.704	.725	i m l o
3.424	8.415	2.475	71.312	.2062	4.851	.706	i m l o
3.428	8.959	2.736	84.027	.2026	4.935	.695	i m l o
3.427	8.959	2.737	84.033	.2027	4.935	.694	i m l o
3.426	9.028	2.796	86.480	.2015	4.963	.690	i m l o
3.428	8.998	2.799	86.336	.2010	4.976	.689	i m l o
3.413	9.279	2.985	94.533	.1987	5.032	.678	i m l o
3.416	9.479	3.123	101.124	.1963	5.094	.671	i m l o

(Continued)



SPINEL, ceramic, $\rho_0 = 3.42 \text{ g/cm}^3$.
(Continued)

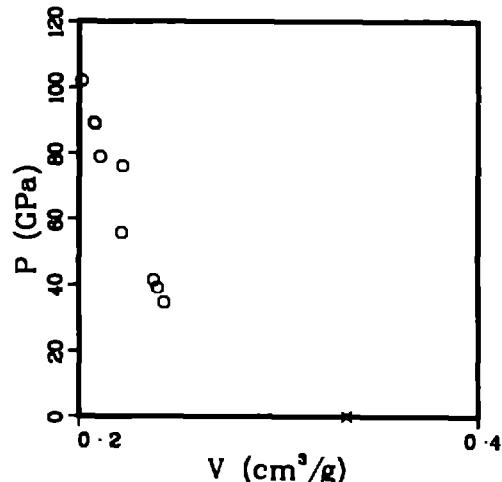
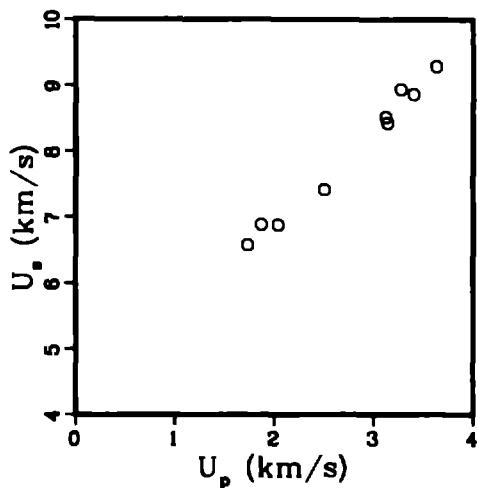
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.414	9.768	3.185	106.213	.1974	5.066	.674	im1 o
3.405	9.618	3.228	105.715	.1951	5.125	.664	im1 o
3.411	9.808	3.348	112.008	.1931	5.179	.659	im1 o

SPINEL, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$.

Average $\rho_0 = 2.991 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.037	6.573	1.727	34.475	.2428	4.119	.737	im1 o
3.042	6.881	1.869	39.122	.2394	4.176	.728	im1 o
2.963	6.878	2.037	41.513	.2375	4.210	.704	im1 o
2.993	7.426	2.507	55.721	.2213	4.518	.662	im1 o
2.857	8.527	3.124	76.106	.2218	4.509	.634	im1 o
2.984	8.439	3.139	79.046	.2105	4.751	.628	im1 o
3.050	8.941	3.271	89.200	.2079	4.810	.634	im1 o
2.969	8.867	3.399	89.482	.2077	4.815	.617	im1 o
3.026	9.283	3.630	101.968	.2012	4.969	.609	im1 o

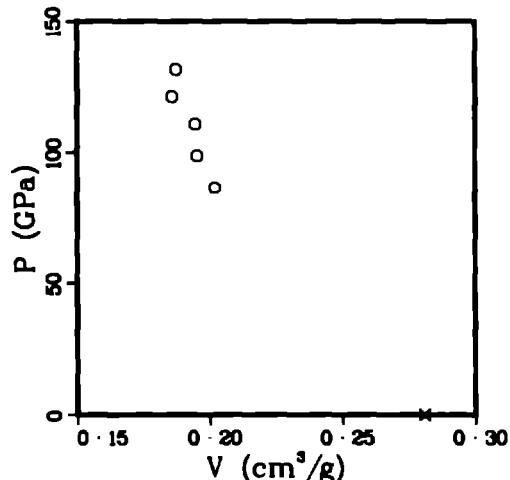
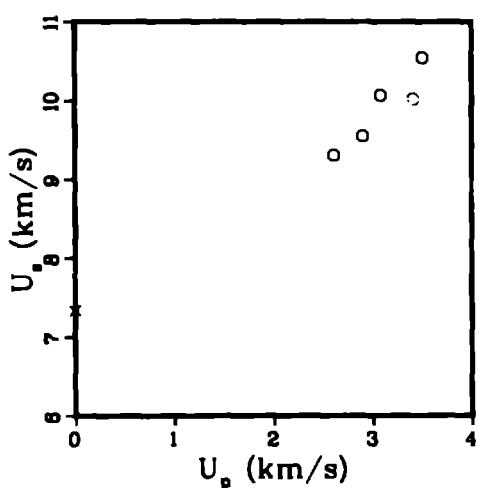


SPINEL, hot-pressed

Average $\rho_0 = 3.560 \text{ g/cm}^3$.

Sound velocities longitudinal 9.70 km/s.
shear 5.50 km/s.

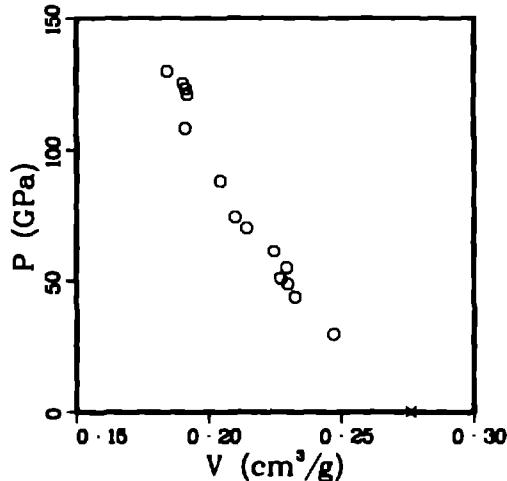
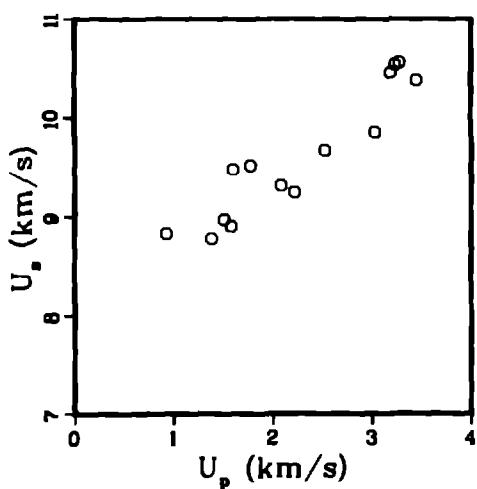
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.561	7.332	0.000	0.000	.2808	3.561	1.000	s s p x
3.564	9.305	2.610	86.555	.2019	4.953	.720	i m l o
3.560	9.545	2.903	98.645	.1955	5.116	.696	i m l o
3.565	10.064	3.081	110.541	.1946	5.138	.694	i m l o
3.549	10.020	3.412	121.334	.1858	5.382	.659	i m l o
3.562	10.538	3.507	131.640	.1873	5.339	.667	i m l o



SPINEL, single-crystal

Average $\rho_0 = 3.622 \text{ g/cm}^3$.

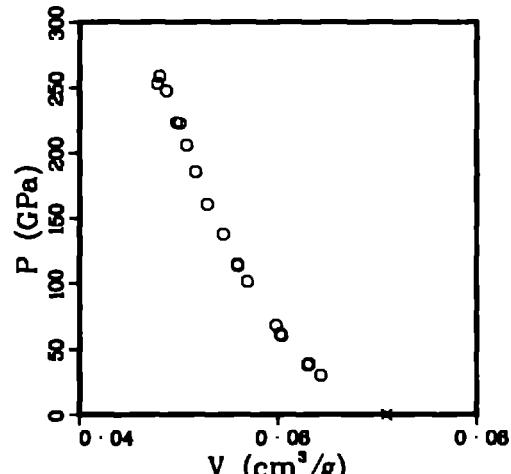
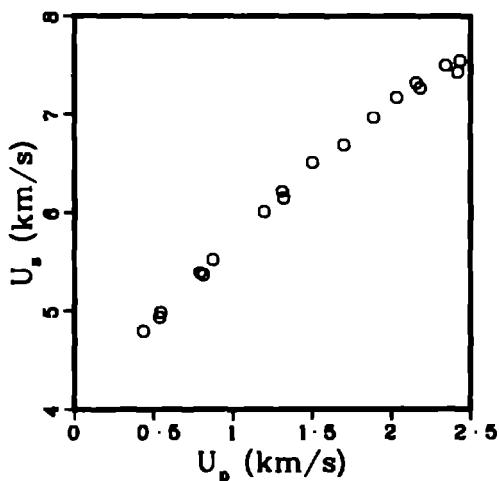
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.621	8.829	.927	29.636	.2472	4.046	.895	im1 o
3.621	8.780	1.382	43.937	.2327	4.297	.843	im1 o
3.621	8.972	1.506	48.926	.2298	4.351	.832	im1 o
3.621	8.904	1.579	50.909	.2272	4.402	.823	im1 o
3.623	9.483	1.599	54.937	.2295	4.358	.831	im1 o
3.623	9.525	1.774	61.219	.2246	4.452	.814	im1 o
3.623	9.317	2.081	70.245	.2144	4.665	.777	im1 o
3.621	9.246	2.218	74.258	.2099	4.784	.760	im1 o
3.621	9.670	2.516	88.098	.2043	4.894	.740	im1 o
3.621	9.859	3.033	108.276	.1912	5.230	.692	im1 o
3.622	10.464	3.191	120.941	.1919	5.211	.695	im1 o
3.622	10.540	3.233	123.423	.1914	5.225	.693	im1 o
3.622	10.562	3.277	125.363	.1904	5.251	.690	im1 o
3.622	10.388	3.452	129.883	.1843	5.425	.668	im1 o



TANTALUM CARBIDE , $\rho_0 = 14.1 \text{ g/cm}^3$.

Average $\rho_0 = 14.094 \text{ g/cm}^3$.

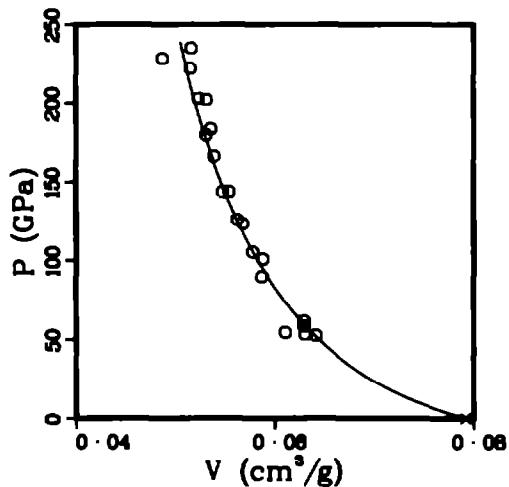
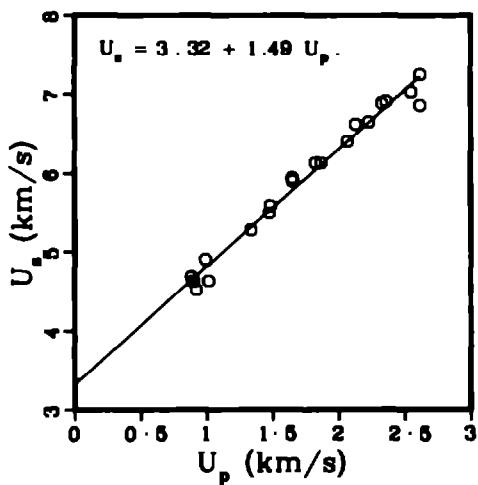
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
14.130	4.795	.435	29.473	.0644	15.540	.909	i m1 o
14.140	4.934	.538	37.535	.0630	15.871	.891	i m1 o
14.100	4.983	.545	38.292	.0632	15.832	.891	i m1 o
14.130	5.386	.793	60.351	.0604	16.570	.853	i m1 o
14.080	5.362	.814	61.455	.0602	16.600	.848	i m1 o
14.060	5.520	.876	67.987	.0598	16.712	.841	i m1 o
14.070	6.004	1.195	100.949	.0569	17.566	.801	i m1 o
14.100	6.217	1.311	114.922	.0560	17.868	.789	i m1 o
14.030	6.144	1.319	113.698	.0560	17.865	.785	i m1 o
14.120	6.505	1.500	137.776	.0545	18.352	.769	i m1 o
14.100	6.687	1.702	160.476	.0529	18.914	.745	i m1 o
14.120	6.967	1.886	185.533	.0516	19.361	.729	i m1 o
14.100	7.174	2.034	205.746	.0508	19.680	.716	i m1 o
14.080	7.322	2.158	222.478	.0501	19.964	.705	i m1 o
14.060	7.270	2.183	223.138	.0498	20.094	.700	i m1 o
14.100	7.497	2.342	247.567	.0488	20.506	.688	i m1 o
14.080	7.424	2.419	252.858	.0479	20.885	.674	i m1 o
14.090	7.537	2.433	258.376	.0461	20.806	.677	i m1 o



TANTALUM CARBIDE . $\rho_0 = 12.6 \text{ g/cm}^3$.

Average $\rho_0 = 12.626 \text{ g/cm}^3$.

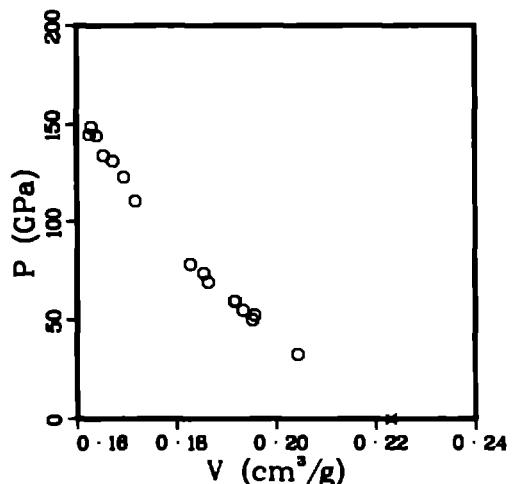
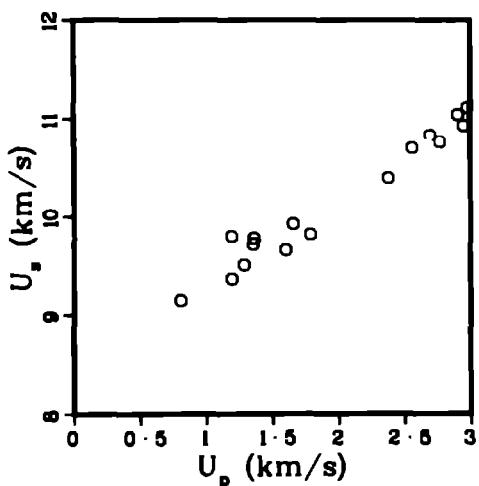
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
12.640	4.686	.887	52.538	.0841	15.591	.811	im1 o
12.780	4.628	.901	53.290	.0630	15.870	.805	im1 o
13.030	4.516	.923	54.313	.0611	16.377	.796	im1 o
12.670	4.899	.990	61.450	.0630	15.879	.798	im1 o
12.400	4.634	1.017	58.438	.0629	15.887	.781	im1 o
12.720	5.275	1.336	89.643	.0587	17.034	.747	im1 o
12.440	5.494	1.476	100.878	.0588	17.010	.731	im1 o
12.710	5.588	1.484	105.399	.0578	17.306	.734	im1 o
12.840	5.940	1.651	125.921	.0582	17.783	.722	im1 o
12.670	5.900	1.654	123.641	.0568	17.806	.720	im1 o
12.820	6.134	1.827	143.671	.0548	18.258	.702	im1 o
12.540	6.135	1.870	143.865	.0554	18.038	.695	im1 o
12.570	6.404	2.068	166.309	.0539	18.557	.677	im1 o
12.780	6.823	2.130	180.287	.0531	18.839	.678	im1 o
12.410	6.652	2.229	184.007	.0536	18.864	.665	im1 o
12.640	6.887	2.329	202.743	.0524	19.099	.662	im1 o
12.390	6.914	2.361	202.254	.0531	18.815	.659	im1 o
12.380	7.031	2.550	221.962	.0515	19.425	.637	im1 o
12.710	6.862	2.617	228.244	.0487	20.546	.619	im1 o
12.380	7.248	2.619	235.003	.0516	19.384	.639	im1 o



TITANIUM DIBORIDE

Average $\rho_0 = 4.484 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.462	9.142	.805	32.837	.2044	4.893	.912	i m1 o
4.490	9.794	1.190	52.330	.1957	5.111	.878	i m1 o
4.469	9.366	1.195	50.019	.1952	5.123	.872	i m1 o
4.472	9.509	1.287	54.729	.1933	5.172	.865	i m1 o
4.490	9.720	1.356	59.180	.1916	5.218	.860	i m1 o
4.490	9.778	1.360	59.708	.1917	5.215	.861	i m1 o
4.475	9.662	1.604	69.353	.1864	5.366	.834	i m1 o
4.490	9.924	1.656	73.789	.1856	5.389	.833	i m1 o
4.473	9.814	1.786	78.402	.1829	5.468	.818	i m1 o
4.490	10.395	2.377	110.943	.1718	5.821	.771	i m1 o
4.490	10.707	2.561	123.119	.1694	5.902	.761	i m1 o
4.490	10.834	2.697	131.195	.1673	5.978	.751	i m1 o
4.490	10.764	2.771	133.923	.1654	6.047	.743	i m1 o
4.490	11.041	2.908	144.161	.1641	6.095	.737	i m1 o
4.490	10.931	2.951	144.836	.1626	6.150	.730	i m1 o
4.490	11.113	2.980	148.694	.1630	6.135	.732	i m1 o



TITANIUM CARBIDE
 (Continued)

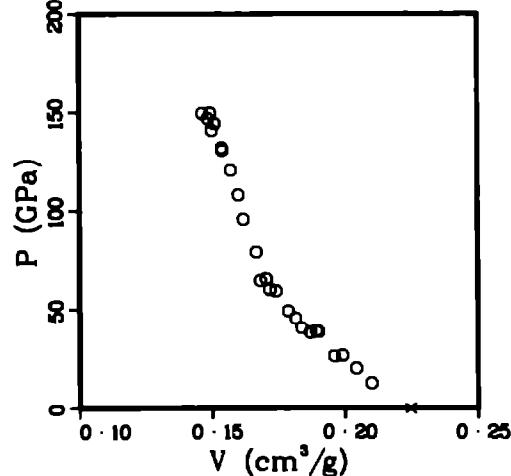
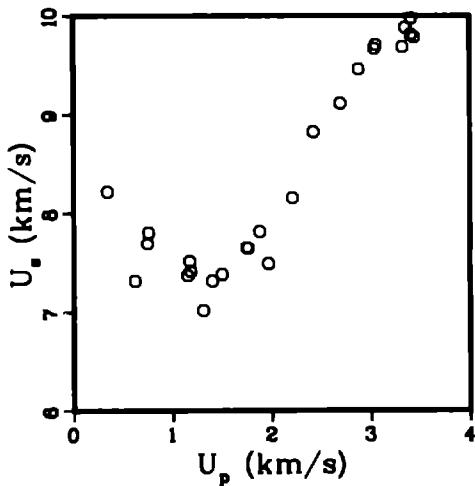
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
4.320	9.811	3.408	144.443	.1511	6.619	.653	im1 o
4.402	9.975	3.410	149.733	.1495	6.688	.658	im1 o
4.384	9.786	3.440	146.909	.1486	6.730	.648	im1 o

TITANIUM CARBIDE

Average $\rho_0 = 4.450 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.584	8.216	.342	12.824	.2100	4.762	.958	i m1 o
4.483	7.311	.618	20.255	.2042	4.897	.915	i m1 o
4.608	7.684	.744	26.343	.1960	5.102	.903	i m1 o
4.537	7.804	.756	26.768	.1991	5.024	.903	i m1 o
4.512	7.366	1.150	38.221	.1870	5.347	.844	i m1 o
4.460	7.505	1.171	39.196	.1892	5.285	.844	i m1 o
4.424	7.406	1.180	38.662	.1900	5.262	.841	i m1 o
4.430	7.017	1.306	40.597	.1837	5.443	.814	i m1 o
4.456	7.311	1.399	45.576	.1815	5.510	.809	i m1 o
4.460	7.377	1.498	49.286	.1787	5.596	.797	i m1 o
4.490	7.647	1.748	60.018	.1718	5.820	.771	i m1 o
4.422	7.636	1.758	59.361	.1741	5.745	.770	i m1 o
4.460	7.815	1.874	65.318	.1704	5.867	.760	i m1 o
4.382	7.482	1.965	64.425	.1683	5.943	.737	i m1 o
4.373	8.151	2.208	78.703	.1667	5.998	.729	i m1 o
4.484	8.825	2.421	95.802	.1618	6.179	.726	i m1 o
4.403	9.109	2.696	108.128	.1599	6.254	.704	i m1 o
4.426	9.464	2.881	120.678	.1572	6.363	.696	i m1 o
4.454	9.871	3.039	130.904	.1540	6.495	.686	i m1 o
4.455	9.709	3.055	132.140	.1538	6.500	.685	i m1 o
4.379	9.687	3.323	140.960	.1500	6.666	.657	i m1 o
4.509	9.881	3.355	149.477	.1485	6.827	.660	i m1 o

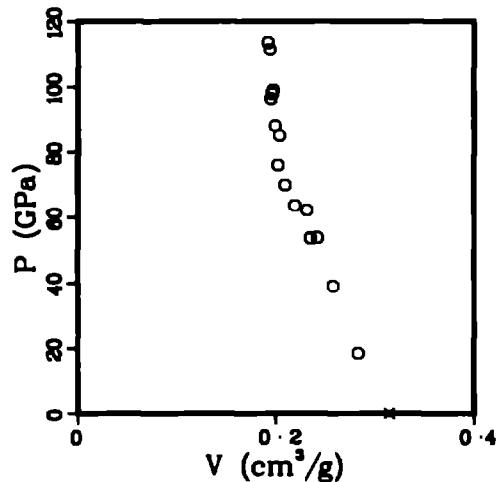
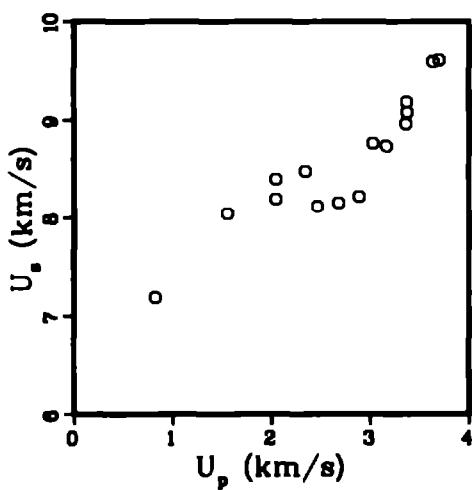
(Continued)



TOURMALINE

Average $\rho_0 = 3.179 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.122	7.187	.824	18.489	.2836	3.526	.885	im1 o
3.126	8.041	1.555	39.087	.2580	3.875	.807	im1 o
3.197	8.191	2.045	53.552	.2347	4.261	.750	im1 o
3.127	8.392	2.049	53.789	.2417	4.137	.758	im1 o
3.128	8.471	2.346	62.123	.2313	4.323	.723	im1 o
3.175	8.115	2.467	63.583	.2192	4.562	.696	im1 o
3.200	8.149	2.679	69.860	.2098	4.767	.671	im1 o
3.201	8.216	2.888	75.953	.2026	4.936	.648	im1 o
3.211	8.754	3.026	85.058	.2038	4.907	.654	im1 o
3.197	8.727	3.161	88.193	.1995	5.013	.638	im1 o
3.200	8.964	3.361	96.410	.1953	5.120	.625	im1 o
3.200	9.185	3.370	99.051	.1978	5.055	.633	im1 o
3.198	9.081	3.374	97.984	.1965	5.089	.628	im1 o
3.200	9.591	3.632	111.470	.1942	5.150	.621	im1 o
3.201	9.808	3.695	113.640	.1923	5.201	.615	im1 o

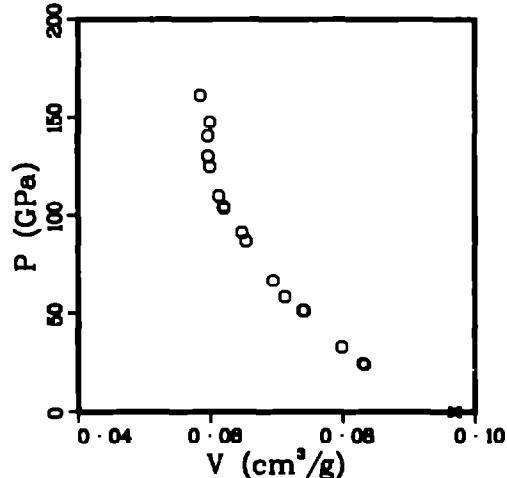
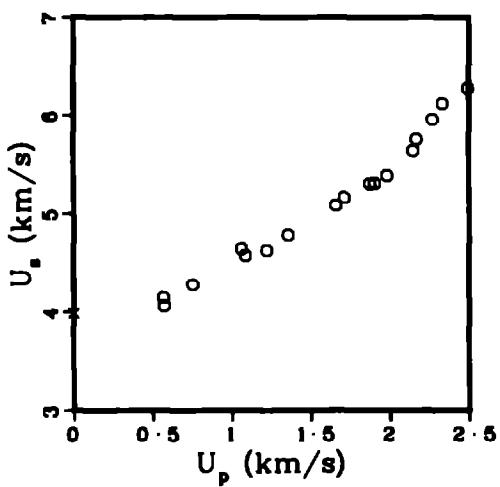


URANIUM DIOXIDE , $\rho_0 = 10.3 \text{ g/cm}^3$.

Average $\rho_0 = 10.337 \text{ g/cm}^3$.

Sound velocities longitudinal 5.01 km/s.
shear 2.63 km/s.

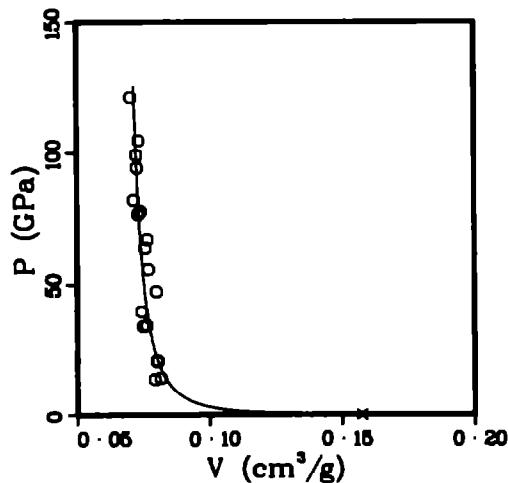
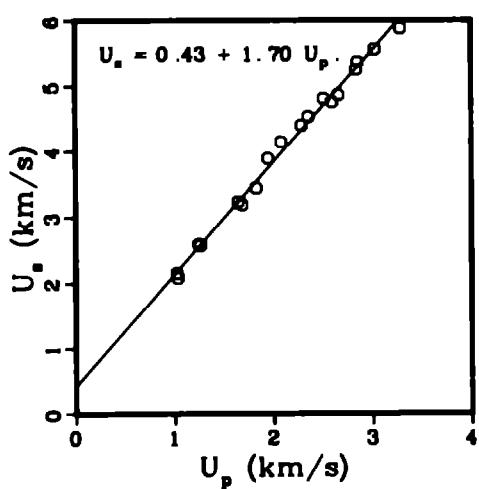
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
10.300	3.985	0.000	0.000	.0971	10.300	1.000	s s p x
10.380	4.141	.568	24.415	.0831	12.030	.863	i m l o
10.310	4.059	.571	23.895	.0833	11.998	.859	i m l o
10.310	4.276	.753	33.196	.0799	12.514	.824	i m l o
10.390	4.642	1.083	51.269	.0742	13.476	.771	i m l o
10.300	4.573	1.088	51.247	.0740	13.516	.762	i m l o
10.320	4.827	1.223	58.399	.0713	14.028	.736	i m l o
10.310	4.783	1.355	66.819	.0695	14.385	.717	i m l o
10.310	5.086	1.658	86.940	.0654	15.297	.674	i m l o
10.320	5.168	1.712	91.307	.0648	15.432	.669	i m l o
10.420	5.308	1.874	103.650	.0621	16.108	.647	i m l o
10.340	5.312	1.904	104.579	.0620	16.117	.642	i m l o
10.310	5.390	1.983	110.197	.0613	16.311	.632	i m l o
10.320	5.637	2.147	124.899	.0600	16.689	.619	i m l o
10.430	5.754	2.169	130.171	.0597	16.740	.623	i m l o
10.380	5.962	2.268	140.356	.0597	16.753	.620	i m l o
10.320	6.123	2.334	147.484	.0600	16.677	.619	i m l o
10.300	6.277	2.493	161.180	.0585	17.086	.603	i m l o



URANIUM DIOXIDE . $\rho_0 = 6.3 \text{ g/cm}^3$.

Average $\rho_0 = 6.347 \text{ g/cm}^3$.

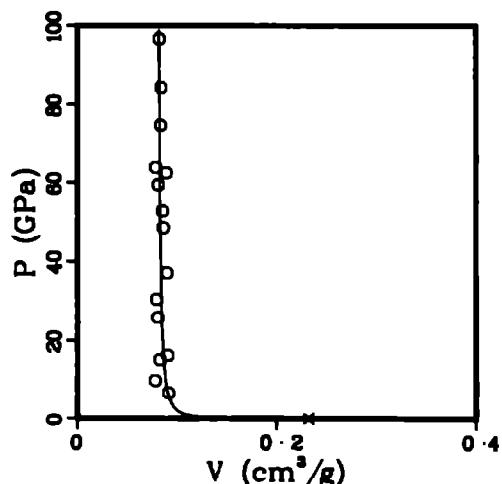
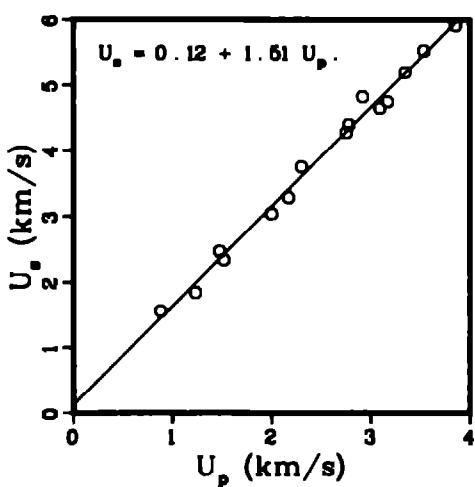
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
6.425	2.152	1.025	14.172	.0815	12.269	.524	i m1 o
6.359	2.081	1.032	13.857	.0793	12.615	.504	i m1 o
6.445	2.585	1.246	20.759	.0804	12.442	.518	i m1 o
6.354	2.571	1.262	20.616	.0801	12.480	.509	i m1 o
6.443	3.234	1.645	34.276	.0763	13.113	.491	i m1 o
6.303	3.193	1.684	33.891	.0750	13.337	.473	i m1 o
6.309	3.444	1.828	39.719	.0744	13.446	.469	i m1 o
6.247	3.891	1.948	47.350	.0799	12.510	.499	i m1 o
6.466	4.142	2.081	55.734	.0770	12.995	.498	i m1 o
6.342	4.397	2.285	63.719	.0757	13.203	.480	i m1 o
6.269	4.532	2.356	66.937	.0766	13.057	.480	i m1 o
6.451	4.809	2.512	77.929	.0740	13.506	.478	i m1 o
6.216	4.758	2.595	76.749	.0731	13.873	.455	i m1 o
6.348	4.865	2.659	82.092	.0715	13.995	.453	i m1 o
6.317	5.254	2.840	94.258	.0727	13.749	.459	i m1 o
6.465	5.373	2.855	99.173	.0725	13.795	.469	i m1 o
6.219	5.587	3.028	104.833	.0733	13.636	.456	i m1 o
6.277	5.883	3.286	121.344	.0703	14.219	.441	i m1 o



URANIUM DIOXIDE . $\rho_0 = 4.3 \text{ g/cm}^3$.

Average $\rho_0 = 4.306 \text{ g/cm}^3$.

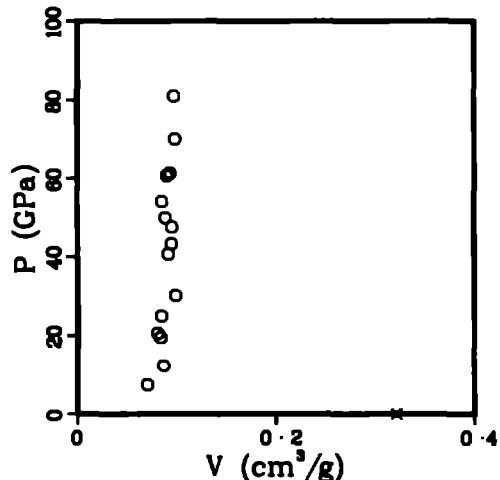
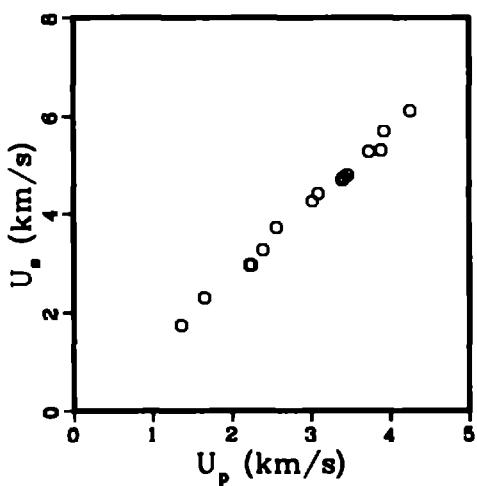
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.772	1.563	.880	6.564	.0916	10.920	.437	im1 o
4.281	1.848	1.230	9.731	.0781	12.801	.334	im1 o
4.428	2.468	1.476	16.130	.0908	11.016	.402	im1 o
4.234	2.337	1.517	15.010	.0829	12.067	.351	im1 o
4.249	3.042	1.999	25.838	.0807	12.393	.343	im1 o
4.270	3.287	2.171	30.471	.0795	12.577	.340	im1 o
4.297	3.750	2.302	37.094	.0899	11.128	.386	im1 o
4.128	4.277	2.753	48.605	.0863	11.585	.356	im1 o
4.317	4.404	2.780	52.854	.0854	11.707	.369	im1 o
4.430	4.827	2.918	62.397	.0893	11.201	.395	im1 o
4.125	4.651	3.092	59.321	.0813	12.306	.335	im1 o
4.233	4.752	3.169	63.745	.0787	12.707	.333	im1 o
4.283	5.206	3.348	74.651	.0833	12.001	.357	im1 o
4.304	5.535	3.536	84.237	.0839	11.917	.361	im1 o
4.237	5.918	3.855	96.662	.0823	12.154	.349	im1 o



URANIUM DIOXIDE , $\rho_0 = 3.1 \text{ g/cm}^3$.

Average $\rho_0 = 3.111 \text{ g/cm}^3$.

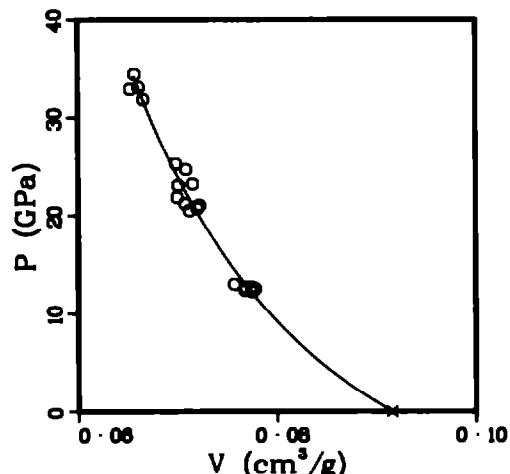
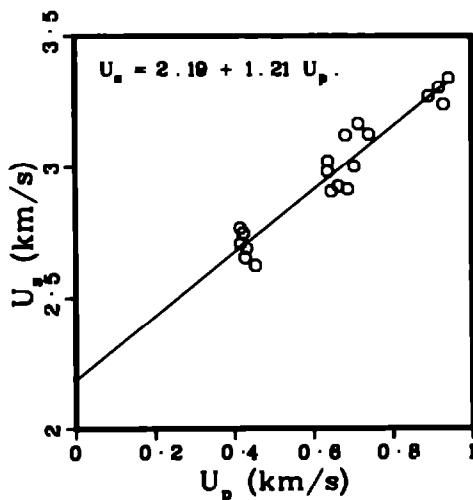
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.144	1.741	1.355	7.417	.0705	14.181	.222	im1 o
3.236	2.298	1.651	12.277	.0870	11.494	.282	im1 o
3.108	2.968	2.225	20.525	.0805	12.415	.250	im1 o
2.910	2.871	2.248	19.435	.0836	11.958	.243	im1 o
3.183	3.273	2.393	24.930	.0845	11.839	.289	im1 o
3.145	3.728	2.567	30.097	.0990	10.099	.311	im1 o
3.160	4.259	3.023	40.685	.0918	10.889	.290	im1 o
3.155	4.426	3.098	43.261	.0951	10.515	.300	im1 o
3.122	4.699	3.394	49.791	.0890	11.242	.278	im1 o
2.927	4.746	3.418	47.481	.0958	10.460	.280	im1 o
3.258	4.800	3.462	54.140	.0856	11.688	.279	im1 o
3.118	5.269	3.733	61.328	.0935	10.696	.292	im1 o
2.945	5.295	3.890	60.860	.0901	11.099	.265	im1 o
3.136	5.682	3.926	69.956	.0985	10.147	.309	im1 o
3.113	6.116	4.256	81.030	.0977	10.236	.304	im1 o



URANIUM HYDRIDE

Average $\rho_0 = 10.920 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
10.920	2.766	.416	12.565	.0778	12.853	.850	i m1 o
10.920	2.706	.416	12.293	.0775	12.904	.846	i m1 o
10.920	2.747	.424	12.719	.0774	12.913	.846	i m1 o
10.920	2.651	.428	12.390	.0768	13.022	.839	i m1 o
10.920	2.688	.432	12.680	.0769	13.011	.839	i m1 o
10.920	2.622	.454	12.999	.0757	13.207	.827	i m1 o
10.920	2.982	.637	20.743	.0720	13.886	.786	i m1 o
10.920	3.022	.638	21.054	.0722	13.842	.789	i m1 o
10.920	2.906	.646	20.500	.0712	14.041	.778	i m1 o
10.920	2.925	.664	21.209	.0708	14.127	.773	i m1 o
10.920	3.119	.682	23.229	.0716	13.976	.781	i m1 o
10.920	2.914	.687	21.861	.0700	14.289	.784	i m1 o
10.920	3.002	.704	23.078	.0701	14.265	.785	i m1 o
10.920	3.164	.715	24.704	.0709	14.108	.774	i m1 o
10.920	3.124	.741	25.279	.0699	14.316	.763	i m1 o
10.920	3.268	.892	31.832	.0666	15.020	.727	i m1 o
10.920	3.301	.918	33.091	.0661	15.127	.722	i m1 o
10.920	3.237	.930	32.874	.0653	15.322	.713	i m1 o
10.920	3.338	.943	34.373	.0657	15.220	.717	i m1 o

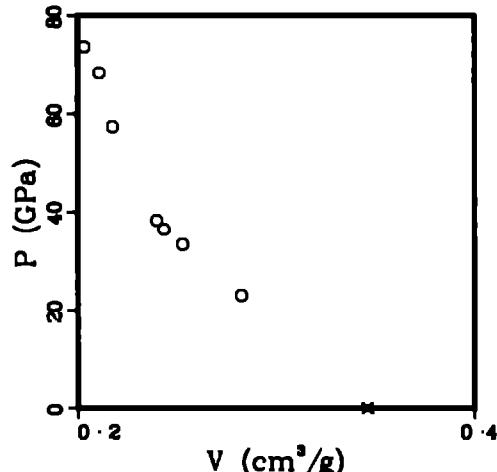
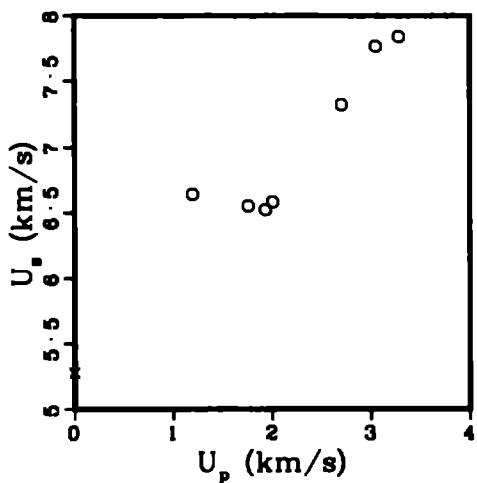


WOLLASTONITE . $\rho_0 = 2.89 \text{ g/cm}^3$.

Average $\rho_0 = 2.890 \text{ g/cm}^3$.

Sound velocities longitudinal 7.07 km/s.
shear 4.07 km/s.

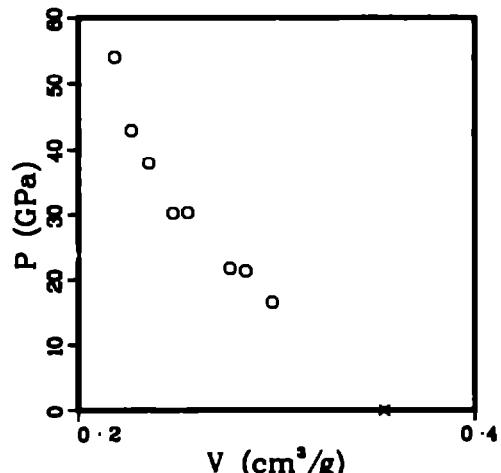
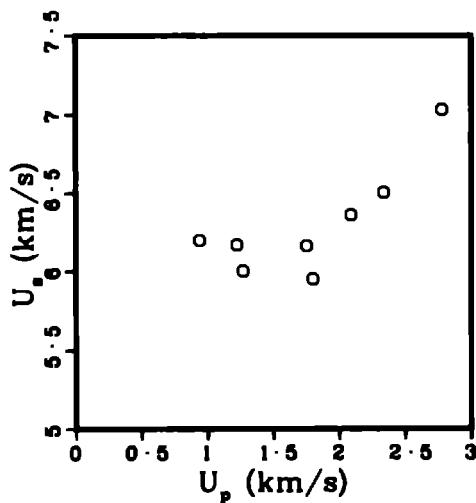
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.890	5.282	0.000	0.000	.3460	2.890	1.000	ssp x
2.902	6.639	1.195	23.023	.2826	3.539	.820	im1 o
2.892	6.552	1.780	33.349	.2529	3.954	.731	im1 o
2.891	6.523	1.933	36.453	.2434	4.108	.704	im1 o
2.899	6.581	2.006	36.271	.2398	4.170	.695	im1 o
2.899	7.322	2.704	57.396	.2176	4.598	.631	im1 o
2.884	7.769	3.047	68.270	.2107	4.745	.608	im1 o
2.862	7.842	3.282	73.661	.2032	4.922	.581	im1 o



WOLLASTONITE . $\rho_0 = 2.82 \text{ g/cm}^3$.

Average $\rho_0 = 2.822 \text{ g/cm}^3$.

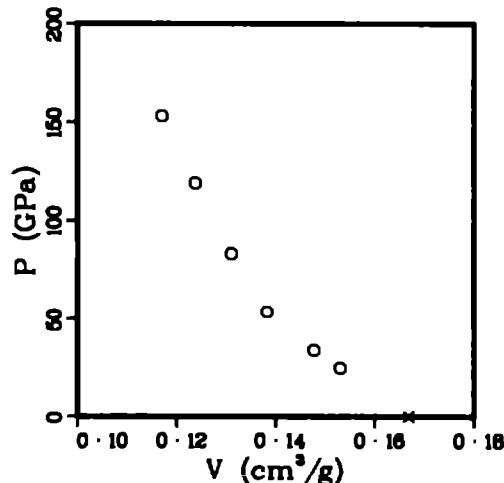
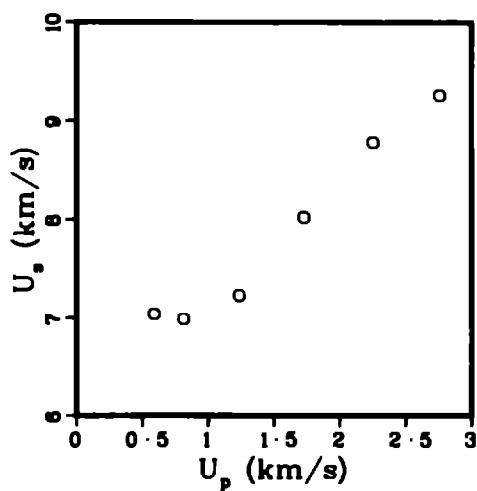
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.849	6.199	1.940	16.601	.2978	3.358	.848	im1 o
2.818	6.173	1.225	21.310	.2844	3.516	.802	im1 o
2.852	6.001	1.269	21.719	.2765	3.617	.789	im1 o
2.803	6.164	1.752	30.271	.2554	3.916	.716	im1 o
2.814	5.951	1.799	30.128	.2479	4.033	.698	im1 o
2.850	6.363	2.080	37.901	.2356	4.244	.672	im1 o
2.824	6.506	2.337	42.938	.2269	4.407	.641	im1 o
2.769	7.032	2.778	54.092	.2185	4.577	.605	im1 o



ZIRCONIUM DIBORIDE

Average $\rho_0 = 5.992 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
5.984	7.041	.590	24.859	.1531	6.531	.916	i m1 o
5.981	6.989	.813	33.984	.1477	6.768	.884	i m1 o
5.994	7.230	1.237	53.607	.1383	7.231	.829	i m1 o
5.987	8.022	1.726	82.896	.1311	7.628	.785	i m1 o
6.007	8.784	2.251	116.775	.1238	8.077	.744	i m1 o
5.999	9.256	2.758	153.143	.1170	8.545	.702	i m1 o

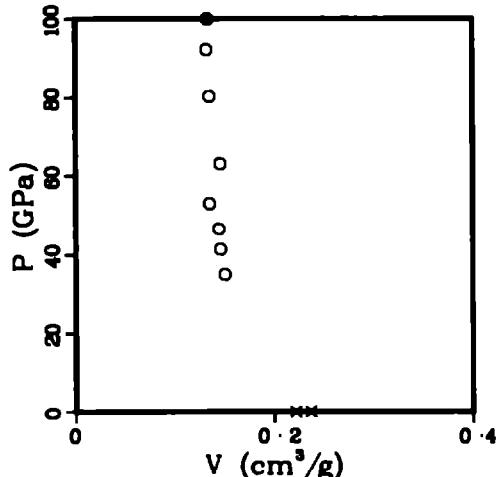
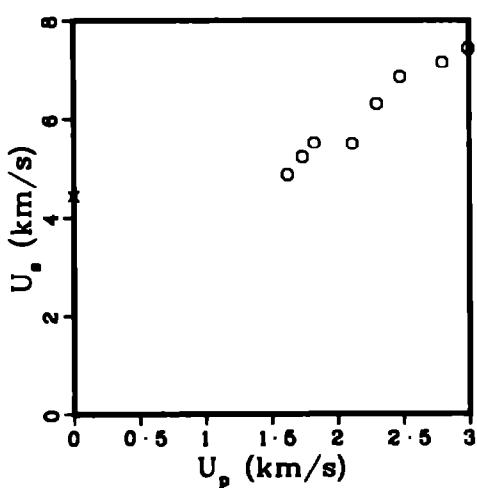


ZIRCONIUM DIOXIDE

Average $\rho_0 = 4.512 \text{ g/cm}^3$.

Sound velocities longitudinal 5.88 km/s.
shear 3.35 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.224	4.428	0.000	0.000	2367	4.224	1.000	ssp x
4.440	4.864	1.622	35.029	1501	6.661	.667	im1 o
4.570	5.219	1.736	41.405	1460	6.848	.667	im1 o
4.630	5.511	1.825	46.567	1445	6.922	.669	im1 o
4.560	5.493	2.113	52.927	1349	7.411	.615	im1 o
4.350	6.305	2.299	63.054	1461	6.846	.635	im1 o
4.730	6.854	2.477	80.303	1350	7.407	.639	im1 o
4.610	7.156	2.797	92.271	1321	7.568	.609	im1 o
4.490	7.436	2.994	99.963	1330	7.516	.597	im1 o



ROCKS AND MIXTURES OF MINERALS

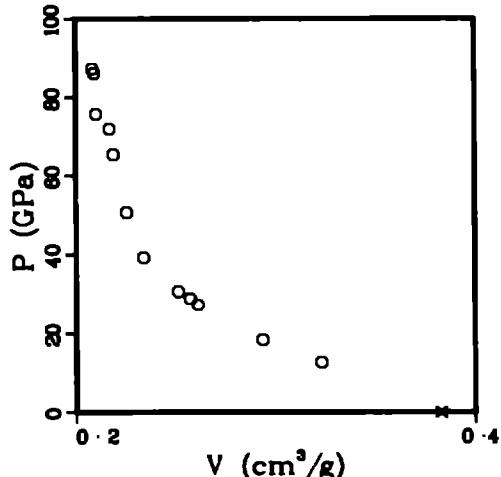
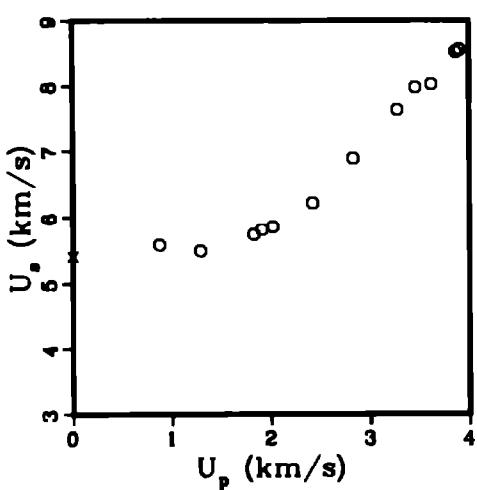
ALBITITE, Sylmar, Pennsylvania

Average $\rho_0 = 2.610 \text{ g/cm}^3$.

Sound velocities longitudinal 6.46 km/s.
shear 3.07 km/s.

References 6, 32, 42

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.611	5.400	0.000	0.000	3830	2.611	1.000	ssp x
2.611	5.578	.874	12.729	.3230	3.096	.843	im1 o
2.607	5.485	1.287	18.403	.2936	3.406	.765	im1 o
2.611	5.738	1.826	27.357	.2611	3.830	.682	im1 o
2.611	5.811	1.908	28.949	.2572	3.887	.672	im1 o
2.608	5.854	2.017	30.794	.2513	3.979	.655	im1 o
2.611	6.216	2.420	39.277	.2339	4.276	.611	im1 o
2.611	6.881	2.828	50.809	.2256	4.433	.589	im1 o
2.611	7.637	3.272	65.244	.2189	4.568	.572	im1 o
2.611	7.977	3.459	72.044	.2169	4.610	.566	im1 o
2.611	8.026	3.620	75.860	.2103	4.758	.549	im1 o
2.611	8.528	3.867	86.105	.2093	4.777	.547	im1 o
2.611	8.565	3.903	87.284	.2085	4.797	.544	im1 o

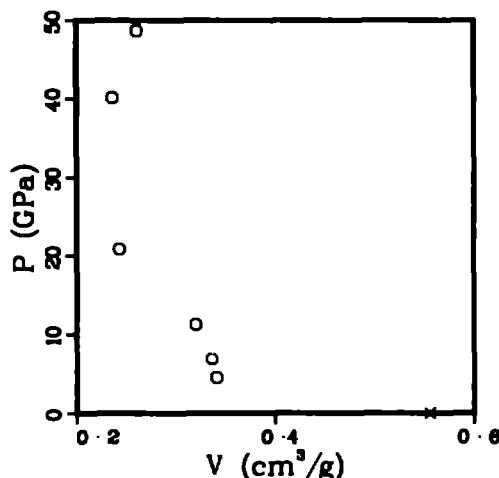
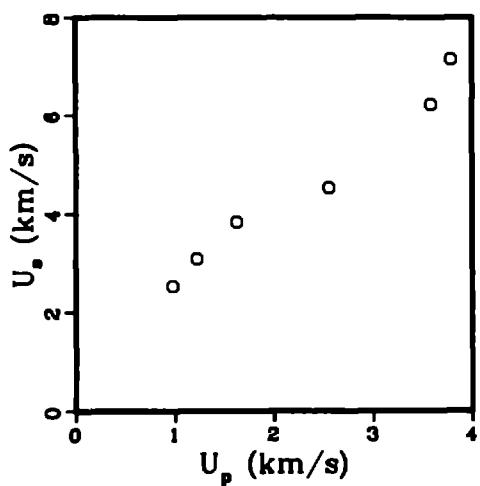


ALLUVIUM , Nevada Test Site . $\rho_0 = 1.80 \text{ g/cm}^3$.

Average $\rho_0 = 1.800 \text{ g/cm}^3$.

Reference 43

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.800	2.522	.976	4.431	.3406	2.936	.613	im1 o
1.800	3.094	1.224	6.817	.3358	2.978	.604	im1 o
1.800	3.836	1.826	11.227	.3201	3.124	.578	im1 o
1.800	4.542	2.553	20.872	.2433	4.110	.438	im1 o
1.800	6.225	3.583	40.148	.2358	4.241	.424	im1 o
1.800	7.140	3.789	48.696	.2607	3.835	.469	im1 o

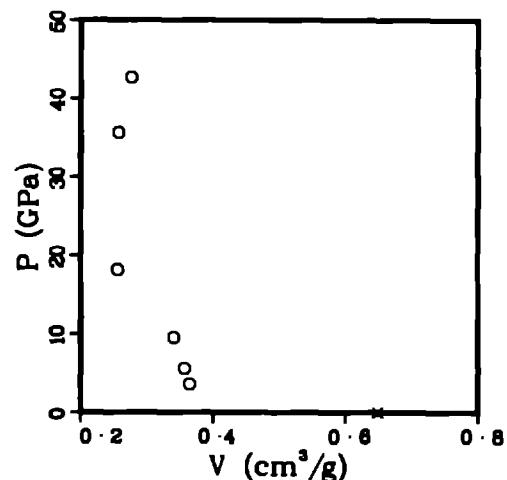
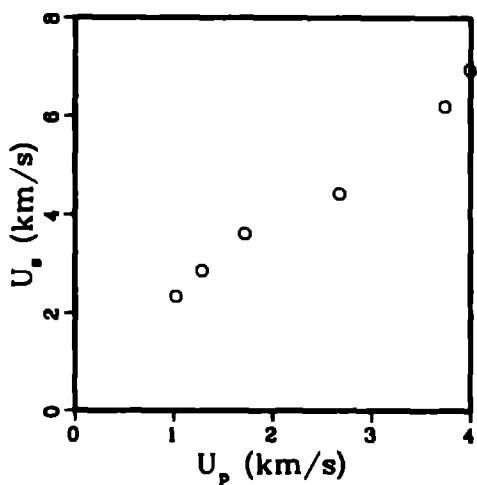


ALLUVIUM , Nevada Test Site , $\rho_0 = 1.54 \text{ g/cm}^3$.

Average $\rho_0 = 1.540 \text{ g/cm}^3$.

Reference 43

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.540	2.335	1.022	3.675	.3651	2.739	.562	im1 o
1.540	2.857	1.288	5.687	.3566	2.804	.549	im1 o
1.540	3.612	1.715	9.540	.3410	2.932	.525	im1 o
1.540	4.416	2.674	18.185	.2562	3.904	.394	im1 o
1.540	6.199	3.742	35.723	.2574	3.885	.398	im1 o
1.540	6.958	3.993	42.786	.2767	3.614	.426	im1 o



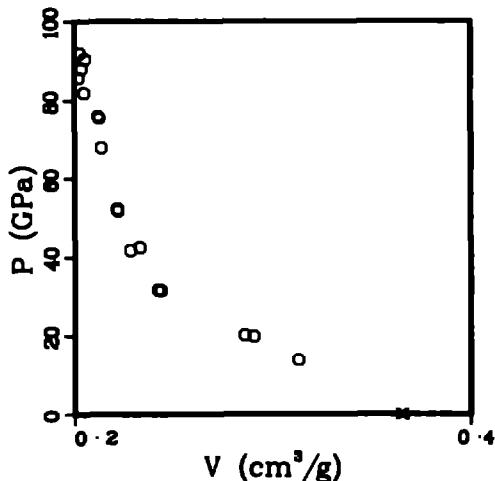
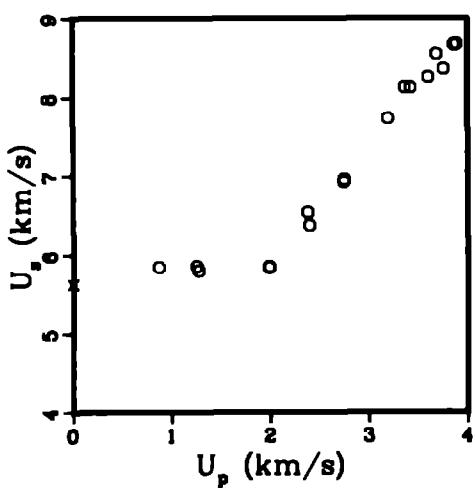
ANORTHOSITE, Tahawus, New York

Average $\rho_0 = 2.732 \text{ g/cm}^3$.

Sound velocities longitudinal 7.05 km/s.
shear 3.68 km/s.

References 6, 32, 42

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.740	5.625	0.000	0.000	.3650	2.740	1.000	ssp x
2.720	5.844	.869	13.813	.3130	3.195	.851	im1 o
2.706	5.855	1.253	19.852	.2905	3.443	.786	im1 o
2.730	5.799	1.272	20.137	.2860	3.497	.781	im1 o
2.727	5.839	1.985	31.607	.2420	4.132	.660	im1 o
2.709	5.849	1.990	31.531	.2435	4.106	.660	im1 o
2.730	6.531	2.381	42.452	.2328	4.296	.635	im1 o
2.733	6.366	2.400	41.756	.2280	4.387	.623	im1 o
2.719	6.924	2.746	51.697	.2219	4.506	.603	im1 o
2.728	6.955	2.749	52.157	.2217	4.511	.605	im1 o
2.748	7.730	3.196	67.890	.2134	4.685	.587	im1 o
2.758	8.132	3.365	75.470	.2125	4.705	.586	im1 o
2.730	8.130	3.424	75.995	.2120	4.716	.579	im1 o
2.752	8.266	3.603	81.961	.2050	4.878	.584	im1 o
2.785	8.553	3.686	88.116	.2036	4.912	.589	im1 o
2.728	8.369	3.759	85.757	.2021	4.949	.551	im1 o
2.701	8.672	3.863	90.483	.2053	4.871	.555	im1 o
2.725	8.684	3.888	92.005	.2027	4.934	.552	im1 o

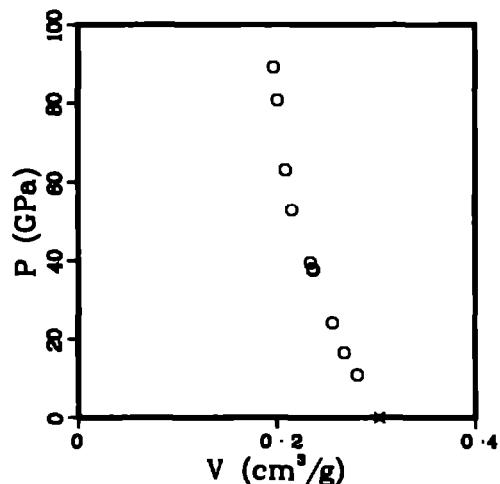
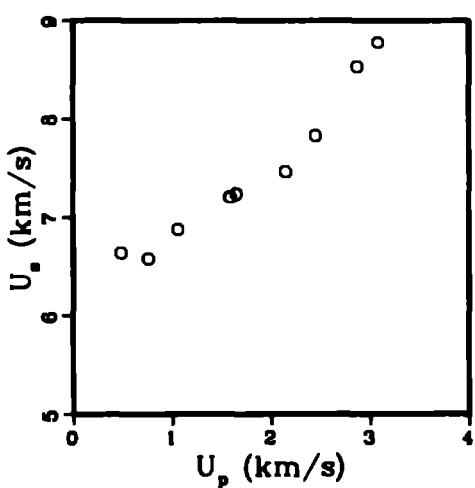


BRONZITITE . Bushveld Complex . Transvaal

Average $\rho_0 = 3.296 \text{ g/cm}^3$.

References 6, 32, 42

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.296	6.645	.485	10.622	.2813	3.556	.927	im1 o
3.298	6.582	.759	16.476	.2682	3.728	.885	im1 o
3.296	6.880	1.081	24.080	.2588	3.897	.846	im1 o
3.292	7.210	1.587	37.668	.2369	4.221	.780	im1 o
3.296	7.210	1.595	37.904	.2363	4.232	.779	im1 o
3.296	7.246	1.652	39.454	.2342	4.269	.772	im1 o
3.302	7.466	2.147	52.929	.2158	4.635	.712	im1 o
3.287	7.824	2.451	63.034	.2089	4.786	.687	im1 o
3.298	8.529	2.869	80.701	.2012	4.970	.684	im1 o
3.296	8.776	3.080	89.091	.1969	5.078	.649	im1 o



BRONZITITE . Stillwater Complex , Montana

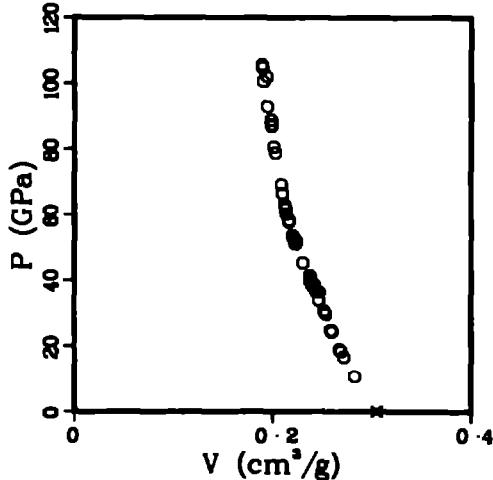
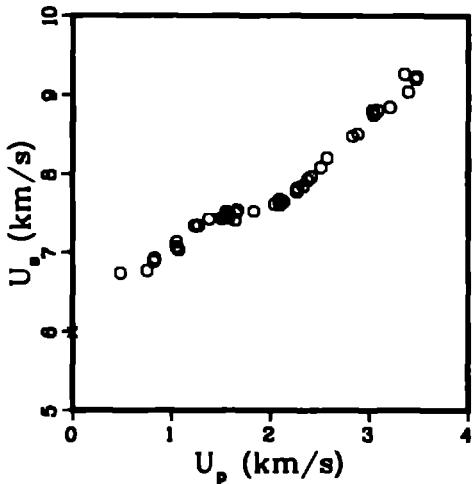
Average $\rho_0 = 3.276 \text{ g/cm}^3$.

Sound velocities longitudinal 7.86 km/s.
shear 4.41 km/s.

References 6, 32, 42

ρ_0 (g/cm ³)	U_p (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.280	5.987	0.000	0.000	3049	3.280	1.000	ssp x
3.278	6.739	.483	10.670	2832	3.531	.928	im1 o
3.270	6.768	.752	16.643	2718	3.679	.889	im1 o
3.273	6.886	.822	18.528	2691	3.717	.881	im1 o
3.290	6.923	.832	18.950	2674	3.739	.880	im1 o
3.279	7.134	1.049	24.539	2601	3.844	.853	im1 o
3.277	7.071	1.050	24.330	2598	3.848	.852	im1 o
3.271	7.035	1.075	24.737	2590	3.861	.847	im1 o
3.276	7.334	1.233	29.624	2539	3.938	.832	im1 o
3.280	7.339	1.270	30.571	2521	3.966	.827	im1 o
3.298	7.422	1.378	33.730	2469	4.050	.814	im1 o
3.280	7.430	1.508	36.702	2431	4.114	.797	im1 o
3.225	7.437	1.511	36.240	2471	4.047	.797	im1 o
3.274	7.450	1.542	37.811	2422	4.129	.793	im1 o
3.280	7.524	1.555	38.375	2419	4.134	.793	im1 o
3.274	7.480	1.585	38.326	2415	4.140	.791	im1 o
3.282	7.433	1.575	38.422	2401	4.164	.788	im1 o
3.276	7.505	1.579	38.822	2410	4.149	.790	im1 o
3.275	7.407	1.640	39.783	2377	4.206	.779	im1 o

(Continued)



BRONZITITE, Stillwater Complex, Montana
 (Continued)

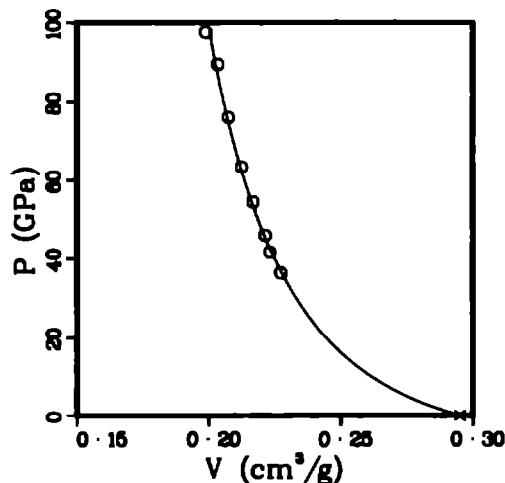
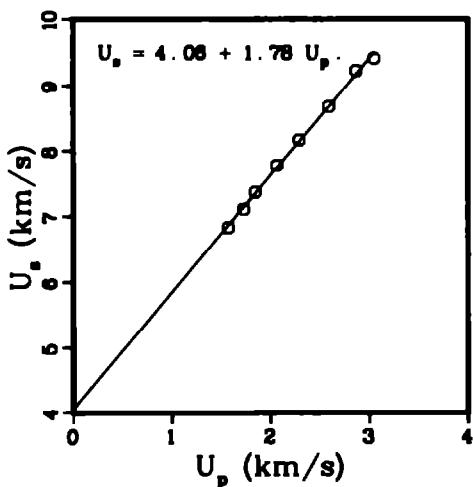
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.278	7.514	1.653	40.715	.2380	4.203	.780	im1 o
3.276	7.545	1.670	41.278	.2377	4.207	.779	im1 o
3.279	7.526	1.833	45.234	.2307	4.335	.756	im1 o
3.278	7.618	2.043	51.017	.2233	4.479	.732	im1 o
3.281	7.675	2.094	52.730	.2216	4.512	.727	im1 o
3.232	7.612	2.098	51.586	.2242	4.460	.725	im1 o
3.280	7.851	2.131	53.478	.2200	4.548	.721	im1 o
3.276	7.778	2.266	57.739	.2163	4.623	.709	im1 o
3.271	7.818	2.277	58.229	.2167	4.615	.709	im1 o
3.288	7.847	2.334	60.219	.2137	4.680	.703	im1 o
3.281	7.928	2.380	61.908	.2133	4.688	.700	im1 o
3.278	7.967	2.415	63.070	.2126	4.704	.697	im1 o
3.285	8.083	2.509	66.621	.2099	4.764	.690	im1 o
3.281	8.203	2.572	69.223	.2092	4.780	.686	im1 o
3.283	8.479	2.832	78.833	.2029	4.929	.666	im1 o
3.282	8.510	2.887	80.633	.2013	4.967	.661	im1 o
3.283	8.807	3.033	87.694	.1997	5.008	.656	im1 o
3.276	8.755	3.042	87.249	.1992	5.020	.653	im1 o
3.276	8.810	3.083	88.980	.1984	5.040	.650	im1 o
3.276	8.850	3.208	93.008	.1946	5.139	.638	im1 o
3.279	9.262	3.358	101.983	.1944	5.144	.637	im1 o
3.276	9.040	3.393	100.484	.1907	5.244	.625	im1 o
3.275	9.187	3.472	104.577	.1901	5.261	.622	im1 o
3.281	9.228	3.481	105.394	.1898	5.268	.623	im1 o

CORUNDUM MIXTURE .

85 . 2/9 . 7/2 . 7/2 . 4 wt% $\text{Al}_2\text{O}_3/\text{SiO}_2/\text{MgO}/\text{CaO}-\text{BaO}$

Average $\rho_0 = 3.389 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.387	6.828	1.573	36.378	.2272	4.401	.770	i m1 o
3.392	7.107	1.728	41.657	.2231	4.482	.757	i m1 o
3.387	7.367	1.844	46.012	.2213	4.518	.750	i m1 o
3.388	7.777	2.066	54.436	.2167	4.614	.734	i m1 o
3.387	8.167	2.290	63.345	.2125	4.707	.720	i m1 o
3.382	8.680	2.590	76.031	.2075	4.820	.702	i m1 o
3.388	9.223	2.866	89.555	.2034	4.915	.689	i m1 o
3.399	9.412	3.050	97.574	.1989	5.029	.676	i m1 o

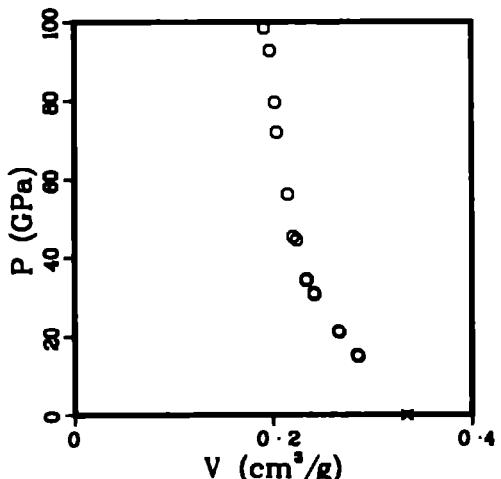
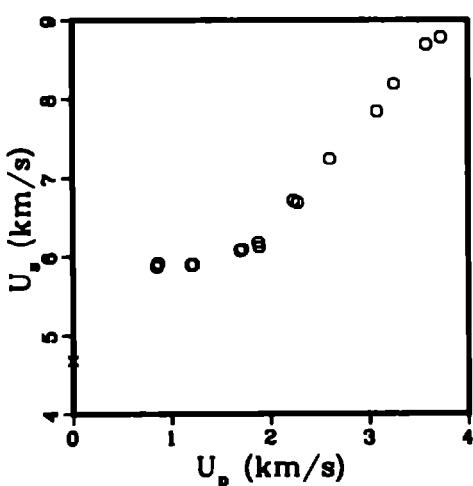


DIABASE, Centreville, Virginia

Average $\rho_0 = 2.987 \text{ g/cm}^3$.

References

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.990	4.683	0.000	0.000	.3344	2.990	1.000	ssp x
2.993	5.872	.849	14.921	.2858	3.499	.855	im1 o
3.001	5.915	.863	15.319	.2846	3.514	.854	im1 o
2.988	5.893	1.198	21.095	.2666	3.750	.797	im1 o
2.987	5.900	1.216	21.430	.2658	3.762	.794	im1 o
2.987	6.075	1.693	30.721	.2415	4.141	.721	im1 o
2.980	6.094	1.713	31.108	.2412	4.145	.719	im1 o
2.975	6.181	1.878	34.534	.2340	4.273	.696	im1 o
2.970	6.122	1.884	34.256	.2331	4.290	.692	im1 o
2.981	6.713	2.233	44.686	.2239	4.467	.667	im1 o
2.995	6.688	2.275	45.570	.2203	4.539	.660	im1 o
2.982	7.249	2.602	56.246	.2150	4.652	.641	im1 o
2.982	7.846	3.079	72.039	.2037	4.908	.608	im1 o
2.987	8.195	3.252	79.804	.2019	4.952	.603	im1 o
2.981	8.693	3.581	92.797	.1973	5.069	.588	im1 o
3.008	8.784	3.727	98.476	.1914	5.225	.576	im1 o



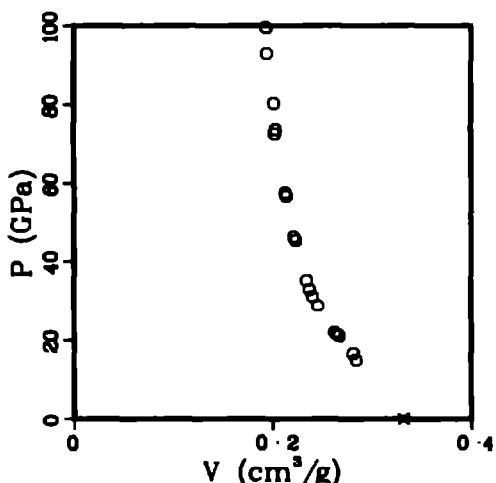
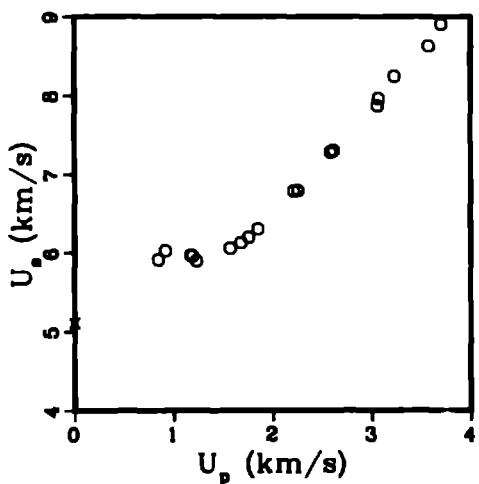
DIABASE , Frederick , Maryland

$$\text{Average } \rho_0 = 3.015 \text{ g/cm}^3.$$

Sound velocities longitudinal 6.74 km/s .
 shear 3.81 km/s .

References

ρ_0 (g/cm ³)	U ₀ (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.015	5.106	0.000	0.000	3317	3.015	1.000	ssp x
3.014	5.912	.843	15.021	2845	3.515	.857	im1 o
3.015	6.026	.915	16.624	2813	3.555	.848	im1 o
3.012	5.968	1.171	21.049	2669	3.747	.804	im1 o
3.012	5.960	1.188	21.326	2658	3.762	.801	im1 o
3.015	5.897	1.229	21.851	2626	3.809	.792	im1 o
3.015	6.059	1.571	28.699	2457	4.070	.741	im1 o
3.017	6.129	1.680	31.065	2408	4.156	.726	im1 o
3.015	6.196	1.758	32.841	2376	4.209	.716	im1 o
3.008	6.302	1.854	35.145	2348	4.282	.706	im1 o
3.015	6.792	2.212	45.297	2237	4.471	.674	im1 o
3.015	6.798	2.254	46.198	2217	4.511	.668	im1 o
3.015	7.277	2.587	56.759	2138	4.678	.644	im1 o
3.015	7.302	2.616	57.593	2128	4.698	.642	im1 o
3.017	7.873	3.060	72.684	2028	4.935	.611	im1 o
3.016	7.964	3.071	73.764	2037	4.909	.614	im1 o
3.015	8.239	3.233	80.310	2015	4.962	.608	im1 o
3.016	8.629	3.575	93.040	1942	5.149	.586	im1 o
3.015	8.907	3.704	99.469	1937	5.161	.584	im1 o



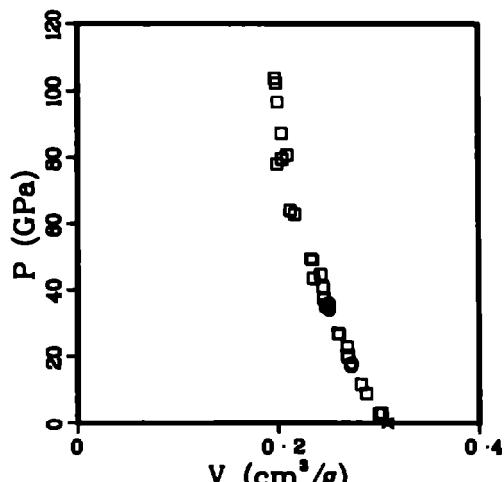
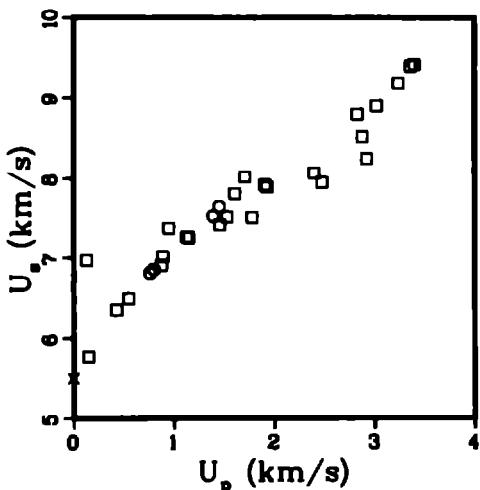
DUNITE . Jackson County , North Carolina

Average $\rho_0 = 3.240 \text{ g/cm}^3$.

Sound velocities longitudinal 7.49 km/s.
shear 4.40 km/s.
References 44, 45

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.240	5.503	0.000	0.000	.3086	3.240	1.000	ssp x
3.240	6.970	.130	2.936	.3029	3.302	.981	im2 □
3.240	5.770	.150	2.804	.3006	3.326	.974	im2 □
3.240	6.360	.430	8.861	.2878	3.475	.932	im2 □
3.240	6.500	.550	11.583	.2825	3.539	.915	im2 □
3.280	6.811	.763	16.942	.2724	3.671	.888	im1 o
3.231	6.857	.802	17.768	.2733	3.659	.883	im1 o
3.240	6.910	.880	19.702	.2693	3.713	.873	im2 □
3.240	7.020	.890	20.243	.2695	3.710	.873	im2 □
3.240	7.380	.950	22.716	.2689	3.719	.871	im2 □
3.240	7.270	1.130	26.617	.2607	3.836	.845	im2 □
3.240	7.260	1.150	27.051	.2598	3.850	.842	im2 □
3.248	7.529	1.395	34.114	.2508	3.987	.815	im1 o
3.230	7.647	1.454	35.914	.2507	3.988	.810	im1 o
3.240	7.420	1.460	35.100	.2479	4.034	.803	im2 □
3.240	7.520	1.530	37.278	.2458	4.068	.797	im2 □
3.240	7.810	1.610	40.740	.2450	4.081	.794	im2 □
3.240	8.020	1.710	44.434	.2428	4.118	.787	im2 □
3.240	7.510	1.780	43.312	.2355	4.246	.763	im2 □

(Continued)



DUNITE, Jackson County, North Carolina
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.240	7.920	1.910	49.012	.2342	4.270	.759	i m2 □
3.240	7.890	1.930	49.338	.2331	4.289	.755	i m2 □
3.240	8.070	2.400	62.752	.2169	4.611	.703	i m2 □
3.240	7.950	2.480	63.880	.2124	4.709	.688	i m2 □
3.240	8.800	2.830	80.689	.2094	4.776	.678	i m2 □
3.240	8.520	2.880	79.502	.2043	4.894	.662	i m2 □
3.240	8.250	2.920	78.052	.1994	5.015	.648	i m2 □
3.240	8.900	3.020	87.085	.2039	4.904	.661	i m2 □
3.240	9.190	3.240	96.473	.1998	5.004	.647	i m2 □
3.240	9.400	3.360	102.332	.1983	5.042	.643	i m2 □
3.240	9.420	3.400	103.771	.1972	5.070	.639	i m2 □

DUNITE, Mooihoek Mine, Transvaal

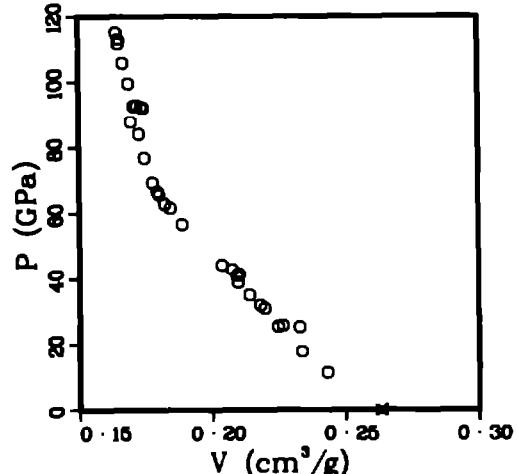
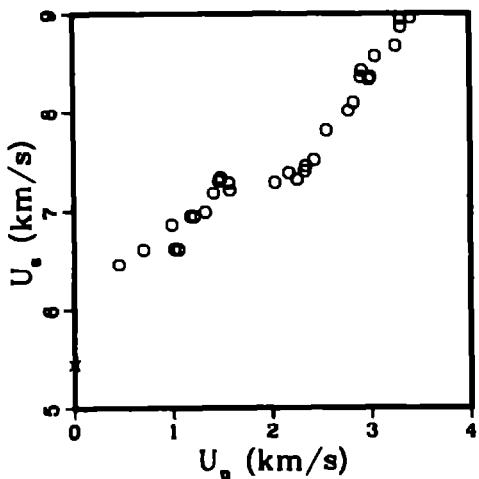
Average $\rho_0 = 3.791 \text{ g/cm}^3$.

Sound velocities longitudinal 7.17 km/s.
shear 4.05 km/s.

References 6, 30, 32, 42

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.800	5.435	0.000	0.000	.2632	3.800	1.000	ssp x
3.826	6.461	.454	11.223	.2430	4.115	.930	im1 o
3.826	6.613	.701	17.736	.2337	4.280	.894	im1 o
3.777	6.862	.993	25.736	.2264	4.416	.855	im1 o
3.768	6.617	1.016	25.332	.2246	4.452	.846	im1 o
3.611	6.616	1.056	25.228	.2327	4.297	.840	im1 o
3.777	6.950	1.180	30.975	.2198	4.549	.830	im1 o
3.782	6.950	1.216	31.962	.2181	4.584	.825	im1 o
3.785	6.988	1.327	35.099	.2140	4.672	.810	im1 o
3.831	7.182	1.414	38.905	.2096	4.770	.803	im1 o
3.818	7.309	1.470	41.000	.2093	4.777	.799	im1 o
3.797	7.341	1.487	41.448	.2100	4.761	.797	im1 o
3.852	7.290	1.572	44.143	.2036	4.911	.784	im1 o
3.764	7.211	1.580	42.885	.2075	4.820	.781	im1 o
3.820	7.280	2.033	56.615	.1888	5.297	.721	im1 o
3.827	7.388	2.177	61.552	.1843	5.426	.705	im1 o
3.796	7.326	2.258	62.794	.1822	5.487	.692	im1 o
3.800	7.410	2.336	65.777	.1802	5.549	.685	im1 o
3.816	7.459	2.345	66.747	.1797	5.566	.686	im1 o

(Continued)



DUNITE, Mooihoeck Mine, Transvaal
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.806	7.515	2.429	69.474	.1778	5.624	.677	im1 o
3.850	7.812	2.557	76.905	.1747	5.723	.673	im1 o
3.782	8.013	2.778	84.188	.1727	5.789	.653	im1 o
3.838	8.101	2.828	87.927	.1698	5.896	.651	im1 o
3.822	8.353	2.904	92.711	.1707	5.859	.652	im1 o
3.769	8.418	2.914	92.454	.1735	5.764	.654	im1 o
3.735	8.331	2.986	92.913	.1718	5.822	.642	im1 o
3.678	8.358	3.001	92.231	.1742	5.739	.641	im1 o
3.816	8.566	3.048	99.633	.1688	5.924	.644	im1 o
3.749	8.668	3.255	105.776	.1688	6.003	.624	im1 o
3.820	8.951	3.306	113.041	.1651	6.057	.631	im1 o
3.803	8.868	3.309	111.596	.1648	6.087	.627	im1 o
3.772	8.962	3.407	115.172	.1643	6.085	.620	im1 o

DUNITE, Twin Sisters Peaks, Washington

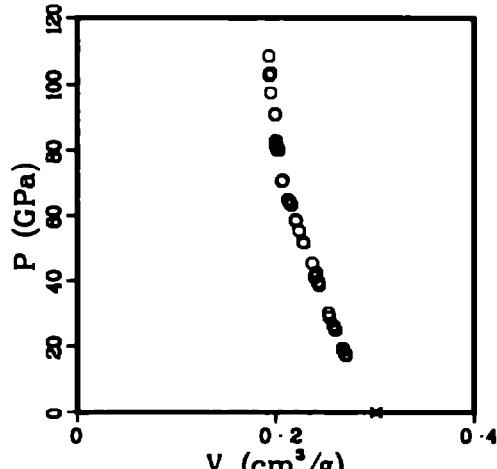
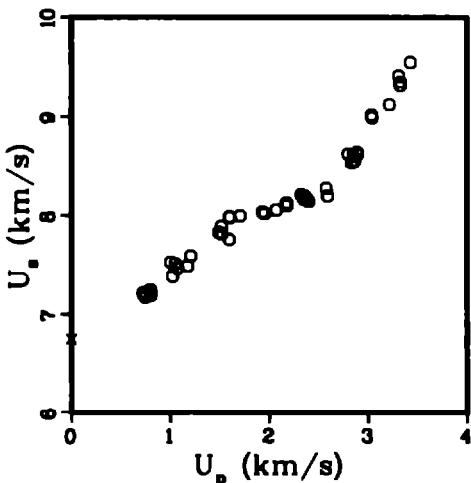
Average $\rho_0 = 3.319 \text{ g/cm}^3$.

Sound velocities longitudinal 8.77 km/s.
shear 4.86 km/s.

References 6, 30, 32, 42

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.320	6.739	0.000	0.000	.3012	3.320	1.000	ssp x
3.322	7.208	.722	17.288	.2709	3.692	.900	im1 o
3.317	7.215	.741	17.734	.2705	3.697	.897	im1 o
3.317	7.171	.744	17.697	.2702	3.701	.896	im1 o
3.321	7.243	.798	19.195	.2679	3.732	.890	im1 o
3.319	7.220	.800	19.171	.2679	3.733	.889	im1 o
3.321	7.187	.801	19.118	.2678	3.738	.889	im1 o
3.321	7.515	1.003	25.032	.2609	3.833	.867	im1 o
3.319	7.378	1.022	25.026	.2596	3.853	.861	im1 o
3.318	7.500	1.050	26.129	.2592	3.858	.860	im1 o
3.316	7.458	1.071	26.487	.2583	3.872	.856	im1 o
3.318	7.478	1.175	29.154	.2540	3.937	.843	im1 o
3.318	7.579	1.206	30.327	.2534	3.946	.841	im1 o
3.318	7.827	1.489	38.669	.2441	4.098	.810	im1 o
3.319	7.888	1.518	39.689	.2434	4.109	.808	im1 o
3.317	7.813	1.519	39.366	.2429	4.118	.806	im1 o
3.320	7.756	1.595	41.071	.2393	4.180	.794	im1 o
3.317	7.982	1.598	42.309	.2411	4.147	.800	im1 o
3.317	7.980	1.599	42.325	.2411	4.148	.800	im1 o

(Continued)



DUNITE, Twin Sisters Peaks, Washington
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.317	7.995	1.706	45.242	.2371	4.217	.787	i m1 o
3.321	8.031	1.930	51.475	.2288	4.372	.760	i m1 o
3.321	8.017	1.954	52.024	.2277	4.391	.756	i m1 o
3.320	8.053	2.071	55.370	.2237	4.489	.743	i m1 o
3.321	8.099	2.170	58.366	.2204	4.536	.732	i m1 o
3.317	8.124	2.176	58.637	.2207	4.530	.732	i m1 o
3.317	8.100	2.178	58.518	.2204	4.537	.731	i m1 o
3.320	8.207	2.322	63.268	.2160	4.630	.717	i m1 o
3.321	8.161	2.352	63.746	.2143	4.666	.712	i m1 o
3.321	8.194	2.362	64.275	.2143	4.666	.712	i m1 o
3.320	8.157	2.377	64.372	.2134	4.685	.709	i m1 o
3.320	8.141	2.399	64.840	.2124	4.707	.705	i m1 o
3.319	8.273	2.577	70.759	.2074	4.821	.689	i m1 o
3.318	8.194	2.588	70.362	.2062	4.850	.684	i m1 o
3.320	8.626	2.799	80.159	.2035	4.915	.676	i m1 o
3.317	8.533	2.835	80.242	.2013	4.967	.668	i m1 o
3.322	8.607	2.849	81.460	.2014	4.966	.669	i m1 o
3.321	8.562	2.864	81.436	.2004	4.990	.665	i m1 o
3.317	8.644	2.889	82.834	.2007	4.982	.668	i m1 o
3.317	8.626	2.892	82.747	.2004	4.990	.665	i m1 o
3.320	9.017	3.035	90.857	.1998	5.004	.663	i m1 o
3.321	8.990	3.039	90.732	.1993	5.017	.662	i m1 o
3.317	9.120	3.218	97.287	.1952	5.124	.647	i m1 o
3.320	9.417	3.310	103.485	.1953	5.119	.649	i m1 o
3.320	9.314	3.324	102.786	.1937	5.162	.643	i m1 o
3.319	9.354	3.327	103.290	.1941	5.151	.644	i m1 o
3.317	9.554	3.426	108.572	.1934	5.171	.641	i m1 o

ECLOGITE, Healdsburg, California

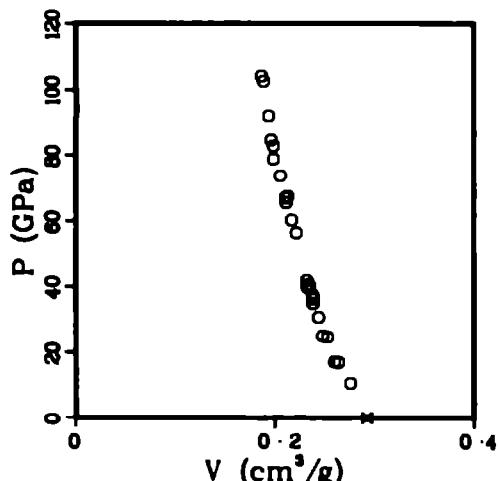
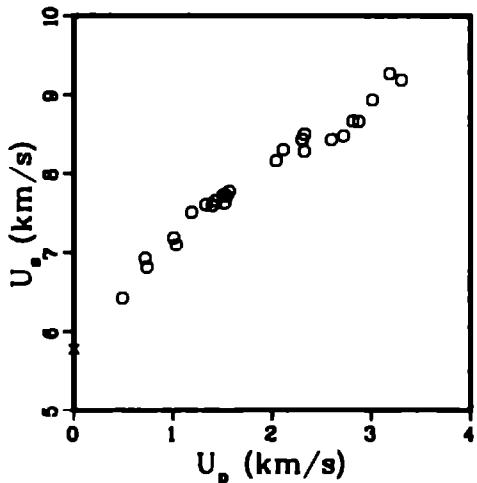
Average $\rho_0 = 3.418 \text{ g/cm}^3$.

Sound velocities longitudinal 7.71 km/s.
shear 4.42 km/s.

References 6, 32, 42

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
3.420	5.779	0.000	0.000	.2924	3.420	1.000	ssp x
3.346	6.430	.490	10.542	.2761	3.622	.924	im1 o
3.448	6.927	.717	17.125	.2600	3.846	.896	im1 o
3.379	6.817	.736	16.953	.2640	3.788	.892	im1 o
3.469	7.191	1.006	25.095	.2479	4.033	.860	im1 o
3.376	7.099	1.033	24.757	.2531	3.951	.854	im1 o
3.452	7.511	1.187	30.777	.2439	4.100	.842	im1 o
3.461	7.608	1.330	35.021	.2384	4.194	.825	im1 o
3.420	7.598	1.398	36.327	.2386	4.191	.816	im1 o
3.420	7.656	1.429	37.416	.2378	4.205	.813	im1 o
3.427	7.728	1.508	39.938	.2349	4.258	.805	im1 o
3.438	7.630	1.522	39.925	.2328	4.295	.801	im1 o
3.426	7.714	1.538	40.594	.2338	4.278	.801	im1 o
3.442	7.771	1.566	41.887	.2320	4.311	.798	im1 o
3.384	8.168	2.040	56.387	.2217	4.511	.750	im1 o
3.435	8.307	2.112	60.265	.2171	4.606	.746	im1 o
3.446	8.436	2.303	66.949	.2110	4.740	.727	im1 o
3.400	8.287	2.325	65.509	.2116	4.726	.719	im1 o
3.405	8.502	2.327	67.365	.2133	4.688	.728	im1 o

(Continued)



ECLOGITE . Healdsburg . California
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.360	8.434	2.599	73.651	.2059	4.857	.692	im1 o
3.413	8.481	2.721	78.761	.1990	5.025	.679	im1 o
3.394	8.668	2.814	82.786	.1990	5.025	.675	im1 o
3.398	8.683	2.875	84.631	.1986	5.086	.668	im1 o
3.412	8.934	3.012	91.814	.1943	5.147	.663	im1 o
3.471	9.278	3.187	102.634	.1891	5.287	.656	im1 o
3.427	9.198	3.305	104.179	.1870	5.349	.641	im1 o

ECLOGITE . Sunnmøre , Norway

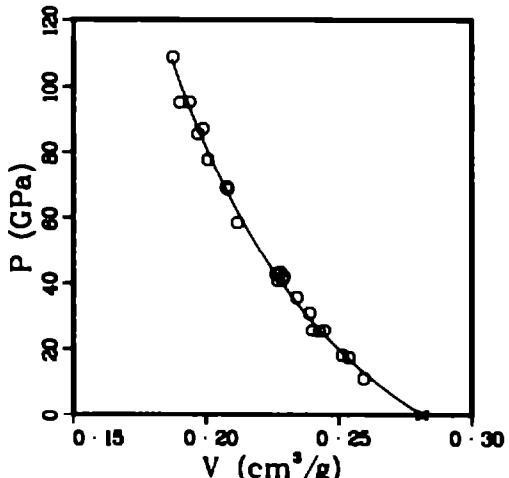
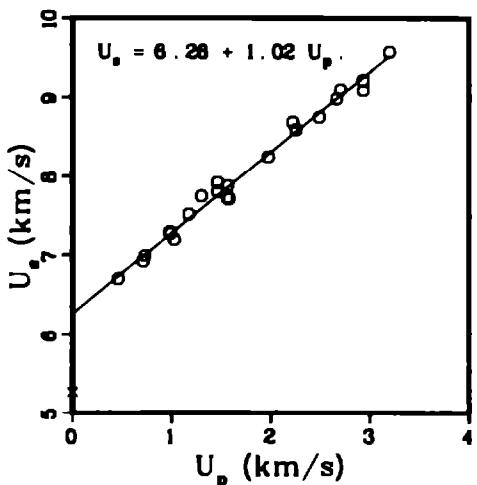
Average $\rho_0 = 3.551 \text{ g/cm}^3$.

Sound velocities longitudinal 7.35 km/s .
 shear 4.44 km/s .

References

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.560	5.267	0.000	0.000	2809	3.560	1.000	ssp x
3.590	6.701	.461	11.090	2594	3.855	.931	iml o
3.533	6.922	.714	17.461	2538	3.939	.897	iml o
3.584	6.996	.730	18.202	2513	3.979	.896	iml o
3.566	7.298	.981	25.530	2427	4.120	.866	iml o
3.601	7.282	.987	25.882	2401	4.166	.864	iml o
3.507	7.205	1.027	25.950	2445	4.090	.857	iml o
3.531	7.523	1.173	31.159	2390	4.183	.844	iml o
3.553	7.751	1.301	35.829	2342	4.270	.832	iml o
3.564	7.923	1.461	41.255	2288	4.370	.816	iml o
3.580	7.810	1.464	40.933	2270	4.406	.813	iml o
3.480	7.731	1.562	42.024	2293	4.361	.798	iml o
3.517	7.880	1.564	43.345	2279	4.388	.802	iml o
3.511	7.718	1.580	42.815	2265	4.415	.795	iml o
3.589	8.247	1.976	58.487	2119	4.720	.760	iml o
3.583	8.687	2.222	69.161	2077	4.814	.744	iml o
3.541	8.593	2.256	68.645	2083	4.802	.737	iml o
3.564	8.750	2.491	77.682	2007	4.982	.715	iml o
3.571	8.983	2.665	85.489	1970	5.077	.703	iml o

(Continued)



ECLOGITE, Sunnmore, Norway
 (Continued)

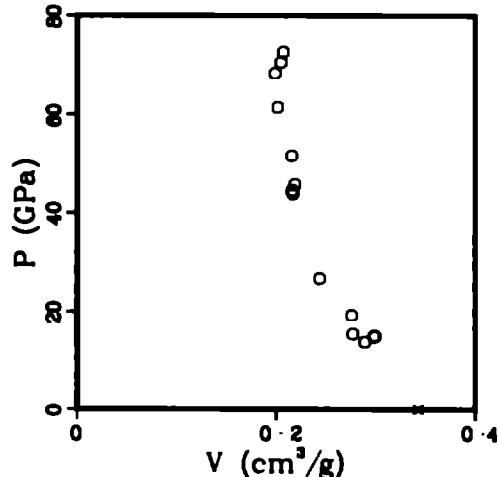
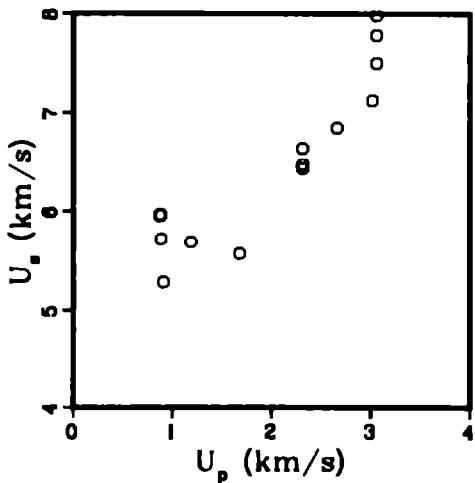
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
3.535	9.106	2.704	87.041	.1989	5.028	.703	im1 o
3.519	9.222	2.930	95.085	.1939	5.158	.682	im1 o
3.581	9.092	2.934	94.993	.1902	5.258	.677	im1 o
3.553	9.578	3.198	108.830	.1875	5.334	.666	im1 o

GABRO, Bytownite, Duluth, Minnesota

Average $\rho_0 = 2.919 \text{ g/cm}^3$.

Reference 44

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.855	5.965	.877	14.935	.2988	3.347	.853	im1 o
2.855	5.954	.878	14.925	.2986	3.349	.853	im1 o
3.050	5.717	.886	15.449	.2771	3.809	.845	im1 o
2.863	5.286	.910	13.772	.2892	3.458	.828	im1 o
2.868	5.688	1.187	19.364	.2759	3.624	.791	im1 o
2.868	5.569	1.677	26.766	.2438	4.101	.699	im1 o
2.977	6.640	2.314	45.741	.2188	4.569	.652	im1 o
2.972	6.472	2.314	44.509	.2162	4.626	.642	im1 o
2.950	6.432	2.314	43.907	.2170	4.608	.640	im1 o
2.833	6.847	2.660	51.597	.2159	4.633	.612	im1 o
2.859	7.124	3.017	61.449	.2016	4.959	.577	im1 o
2.981	7.509	3.058	68.451	.1988	5.029	.593	im1 o
2.977	7.983	3.059	72.698	.2072	4.826	.617	im1 o
2.966	7.786	3.059	70.642	.2047	4.885	.607	im1 o

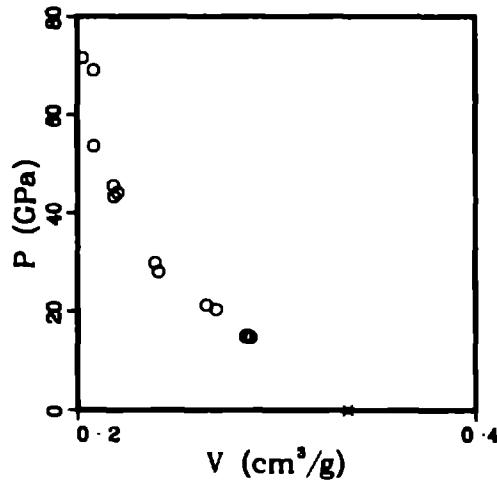
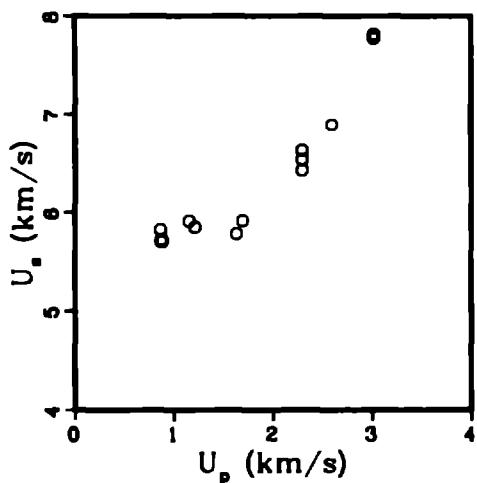


GABRO, San Marcos, Escondido, California

Average $\rho_0 = 2.978 \text{ g/cm}^3$.

Reference 44

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.982	5.825	.864	15.008	.2856	3.501	.852	im1 o
2.954	5.706	.870	14.664	.2869	3.485	.848	im1 o
2.976	5.721	.875	14.897	.2846	3.513	.847	im1 o
2.976	5.711	.877	14.905	.2844	3.518	.846	im1 o
2.984	5.912	1.153	20.341	.2698	3.707	.805	im1 o
2.994	5.849	1.212	21.224	.2648	3.777	.793	im1 o
2.982	5.783	1.629	28.092	.2409	4.151	.718	im1 o
2.986	5.918	1.892	29.900	.2391	4.182	.714	im1 o
3.000	6.630	2.294	45.628	.2180	4.587	.654	im1 o
2.950	6.541	2.294	44.265	.2201	4.543	.649	im1 o
2.950	6.432	2.294	43.527	.2181	4.585	.643	im1 o
2.993	6.892	2.597	53.570	.2082	4.803	.623	im1 o
2.940	7.776	3.019	69.019	.2081	4.806	.612	im1 o
3.030	7.815	3.020	71.512	.2025	4.938	.614	im1 o



GAS SHALE, Devonian, Lincoln County,

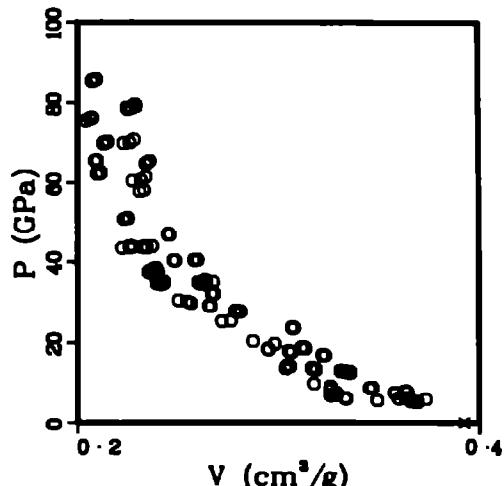
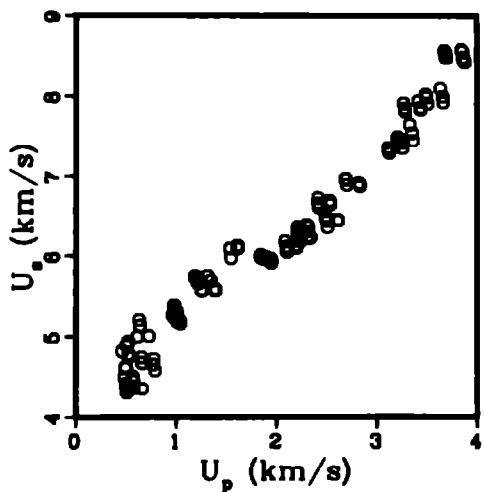
West Virginia

Average $\rho_0 = 2.548 \text{ g/cm}^3$.

References 46, 47

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.713	4.821	.460	6.017	.3334	2.999	.905	im1 o
2.555	4.496	.485	5.571	.3492	2.864	.892	im1 o
2.678	4.619	.498	6.131	.3336	2.998	.893	im1 o
2.679	4.620	.496	6.139	.3332	3.001	.893	im1 o
2.423	4.416	.499	5.339	.3661	2.732	.887	im1 o
2.406	4.388	.501	5.289	.3682	2.716	.886	im1 o
2.398	4.354	.503	5.252	.3688	2.711	.884	im1 o
2.391	4.306	.506	5.210	.3691	2.709	.882	im1 o
2.401	4.889	.506	5.940	.3734	2.678	.897	im1 o
2.726	4.935	.520	6.995	.3282	3.047	.895	im1 o
2.728	4.782	.527	6.875	.3282	3.066	.890	im1 o
2.405	4.391	.528	5.576	.3658	2.734	.880	im1 o
2.728	4.754	.528	6.848	.3259	3.069	.889	im1 o
2.400	4.508	.567	6.134	.3643	2.745	.874	im1 o
2.400	4.454	.570	6.093	.3633	2.752	.872	im1 o
2.414	4.380	.573	6.031	.3598	2.779	.869	im1 o
2.690	4.996	.614	8.252	.3261	3.067	.877	im1 o
2.420	5.202	.631	7.944	.3631	2.754	.879	im1 o
2.406	5.130	.636	7.850	.3641	2.747	.876	im1 o
2.408	4.747	.656	7.499	.3579	2.794	.862	im1 o

(Continued)



GAS SHALE, Devonian, Lincoln County.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.579	4.355	.660	7.413	.3290	3.040	.848	im1 o
2.398	4.676	.661	7.412	.3581	2.793	.859	im1 o
2.690	5.004	.728	9.799	.3177	3.148	.855	im1 o
2.565	4.658	.764	9.128	.3259	3.068	.838	im1 o
2.409	4.725	.778	8.856	.3468	2.884	.835	im1 o
2.398	4.585	.788	8.664	.3453	2.896	.828	im1 o
2.690	5.254	.964	13.624	.3035	3.294	.817	im1 o
2.565	5.342	.976	13.373	.3186	3.138	.817	im1 o
2.690	5.388	.979	14.189	.3042	3.287	.818	im1 o
2.675	5.386	.981	14.134	.3057	3.271	.818	im1 o
2.554	5.304	1.008	13.628	.3173	3.152	.810	im1 o
2.556	5.275	1.008	13.591	.3165	3.160	.809	im1 o
2.408	5.213	1.011	12.680	.3350	2.985	.806	im1 o
2.398	5.204	1.013	12.641	.3358	2.978	.805	im1 o
2.404	5.178	1.014	12.622	.3345	2.989	.804	im1 o
2.398	5.192	1.014	12.625	.3356	2.980	.805	im1 o
2.420	5.189	1.036	13.009	.3307	3.024	.800	im1 o
2.398	5.160	1.042	12.893	.3328	3.005	.798	im1 o
2.690	5.743	1.187	18.338	.2949	3.391	.793	im1 o
2.690	5.739	1.187	18.325	.2949	3.391	.793	im1 o
2.579	5.691	1.212	17.789	.3052	3.277	.787	im1 o
2.560	5.663	1.218	17.658	.3066	3.261	.785	im1 o
2.409	5.579	1.254	16.854	.3218	3.107	.775	im1 o
2.398	5.580	1.258	16.808	.3231	3.095	.775	im1 o
2.685	5.752	1.315	20.309	.2873	3.481	.771	im1 o
2.562	5.695	1.345	19.624	.2981	3.354	.764	im1 o
2.414	5.582	1.388	18.710	.3116	3.209	.752	im1 o
2.408	5.585	1.388	18.651	.3123	3.202	.751	im1 o
2.398	5.582	1.390	18.608	.3132	3.193	.751	im1 o
2.398	5.582	1.390	18.608	.3132	3.193	.751	im1 o
2.705	6.091	1.539	25.357	.2763	3.820	.747	im1 o
2.726	5.971	1.547	25.180	.2718	3.879	.741	im1 o
2.394	6.124	1.612	23.633	.3078	3.249	.737	im1 o
2.398	6.110	1.612	23.619	.3070	3.257	.736	im1 o
2.398	6.097	1.613	23.583	.3067	3.261	.735	im1 o
2.393	6.104	1.614	23.575	.3074	3.253	.736	im1 o
2.767	5.984	1.841	30.483	.2502	3.997	.692	im1 o
2.722	6.007	1.846	30.184	.2545	3.930	.693	im1 o
2.679	5.986	1.866	29.824	.2585	3.898	.687	im1 o
2.579	5.980	1.888	29.118	.2653	3.769	.684	im1 o
2.584	5.976	1.897	29.067	.2662	3.756	.683	im1 o
2.409	5.939	1.941	27.770	.2794	3.579	.673	im1 o
2.398	5.980	1.942	27.755	.2811	3.557	.674	im1 o

(Continued)

GAS SHALE . Devonian . Lincoln County .
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.409	5.928	1.942	27.733	.2791	3.583	.672	im1 o
2.408	5.937	1.948	27.821	.2792	3.582	.672	im1 o
2.404	5.949	1.948	27.831	.2799	3.573	.673	im1 o
2.398	5.929	1.948	27.668	.2801	3.570	.672	im1 o
2.409	5.917	1.948	27.767	.2784	3.591	.671	im1 o
2.728	6.182	2.087	35.170	.2430	4.115	.682	im1 o
2.705	6.113	2.102	34.758	.2428	4.123	.658	im1 o
2.726	6.052	2.104	34.711	.2393	4.179	.652	im1 o
2.705	6.064	2.108	34.578	.2412	4.146	.652	im1 o
2.393	6.126	2.197	32.207	.2680	3.731	.641	im1 o
2.398	6.100	2.199	32.167	.2667	3.750	.640	im1 o
2.705	6.294	2.210	37.626	.2399	4.169	.649	im1 o
2.726	6.364	2.214	38.409	.2392	4.180	.652	im1 o
2.726	6.189	2.218	37.420	.2354	4.249	.642	im1 o
2.726	6.320	2.220	38.247	.2380	4.202	.649	im1 o
2.705	6.247	2.236	37.784	.2374	4.213	.642	im1 o
2.705	6.192	2.244	37.586	.2357	4.242	.638	im1 o
2.393	6.389	2.300	35.164	.2874	3.739	.640	im1 o
2.400	6.309	2.308	34.947	.2842	3.784	.634	im1 o
2.414	6.239	2.313	34.836	.2807	3.836	.629	im1 o
2.414	6.369	2.318	35.608	.2836	3.793	.636	im1 o
2.393	6.225	2.322	34.589	.2820	3.817	.627	im1 o
2.400	6.228	2.340	34.976	.2801	3.844	.624	im1 o
2.705	6.731	2.414	43.953	.2371	4.218	.641	im1 o
2.726	6.862	2.416	43.876	.2338	4.277	.637	im1 o
2.726	6.808	2.424	43.665	.2323	4.305	.633	im1 o
2.705	6.632	2.427	43.539	.2344	4.266	.634	im1 o
2.726	6.483	2.489	43.987	.2260	4.425	.616	im1 o
2.705	6.489	2.495	43.794	.2275	4.395	.616	im1 o
2.705	6.436	2.503	43.578	.2259	4.428	.611	im1 o
2.726	6.355	2.508	43.448	.2221	4.503	.605	im1 o
2.393	6.693	2.532	40.553	.2598	3.849	.622	im1 o
2.398	6.649	2.536	40.435	.2580	3.877	.619	im1 o
2.393	6.453	2.614	40.365	.2486	4.022	.595	im1 o
2.398	6.440	2.614	40.368	.2477	4.036	.594	im1 o
2.726	6.962	2.690	51.089	.2249	4.446	.614	im1 o
2.726	6.963	2.691	51.078	.2251	4.443	.614	im1 o
2.726	6.894	2.700	50.778	.2230	4.484	.608	im1 o
2.414	6.916	2.821	47.097	.2453	4.077	.592	im1 o
2.400	6.901	2.829	46.855	.2459	4.067	.590	im1 o
2.400	6.878	2.832	46.748	.2451	4.080	.588	im1 o
2.726	7.363	3.114	62.503	.2117	4.724	.577	im1 o
2.726	7.324	3.120	62.291	.2106	4.749	.574	im1 o

(Continued)

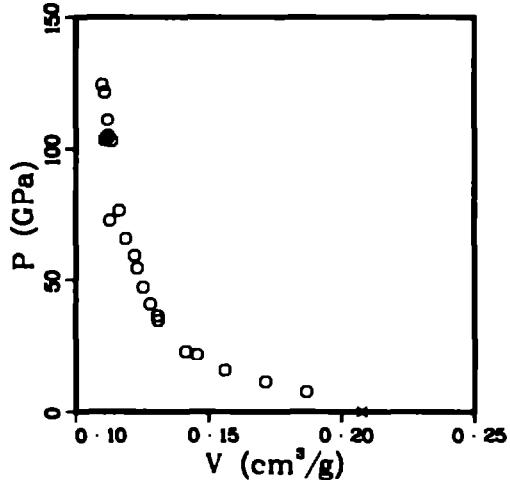
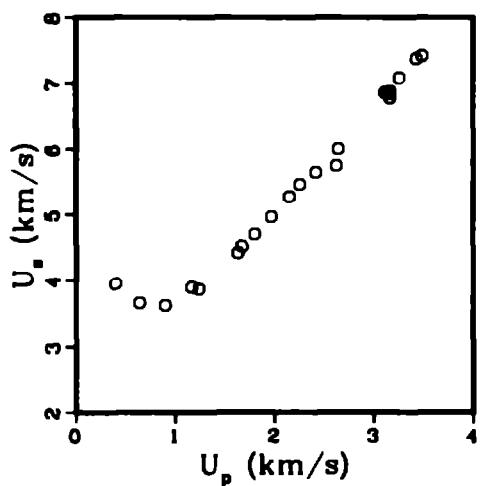
GAS SHALE . Devonian . Lincoln County .
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.728	7.296	3.124	62.178	.2096	4.771	.572	im1 o
2.728	7.494	3.210	65.576	.2097	4.769	.572	im1 o
2.728	7.469	3.213	65.466	.2089	4.787	.570	im1 o
2.728	7.461	3.215	65.389	.2088	4.790	.569	im1 o
2.414	7.422	3.245	58.140	.2331	4.289	.563	im1 o
2.414	7.355	3.258	57.810	.2309	4.332	.557	im1 o
2.728	7.912	3.288	70.536	.2152	4.648	.587	im1 o
2.728	7.849	3.279	70.159	.2136	4.682	.582	im1 o
2.728	7.812	3.284	69.986	.2125	4.707	.580	im1 o
2.414	7.852	3.330	61.512	.2340	4.274	.565	im1 o
2.400	7.546	3.353	60.724	.2315	4.319	.556	im1 o
2.414	7.450	3.382	60.463	.2273	4.399	.549	im1 o
2.414	7.938	3.415	65.439	.2360	4.237	.570	im1 o
2.400	7.858	3.435	64.781	.2345	4.264	.563	im1 o
2.400	7.838	3.438	64.673	.2339	4.275	.561	im1 o
2.728	8.022	3.488	76.275	.2073	4.823	.565	im1 o
2.728	7.989	3.493	76.128	.2063	4.847	.563	im1 o
2.728	7.910	3.508	75.599	.2042	4.896	.557	im1 o
2.414	8.093	3.635	71.015	.2282	4.382	.551	im1 o
2.400	7.996	3.658	70.198	.2261	4.424	.543	im1 o
2.414	7.926	3.662	70.066	.2229	4.487	.538	im1 o
2.728	8.587	3.675	85.888	.2093	4.777	.571	im1 o
2.728	8.553	3.678	85.754	.2091	4.783	.570	im1 o
2.728	8.524	3.682	85.619	.2082	4.802	.568	im1 o
2.728	8.505	3.687	85.544	.2077	4.816	.566	im1 o
2.728	8.511	3.687	85.542	.2079	4.809	.567	im1 o
2.728	8.477	3.692	85.316	.2071	4.829	.564	im1 o
2.414	8.581	3.844	79.627	.2287	4.373	.552	im1 o
2.400	8.564	3.853	79.193	.2292	4.363	.550	im1 o
2.400	8.485	3.865	78.707	.2269	4.408	.544	im1 o
2.414	8.441	3.866	78.776	.2245	4.454	.542	im1 o
2.400	8.424	3.877	78.384	.2249	4.446	.540	im1 o

GLASS, high-density, Nuclear Pacific x-ray plate

Average $\rho_0 = 4.817 \text{ g/cm}^3$.

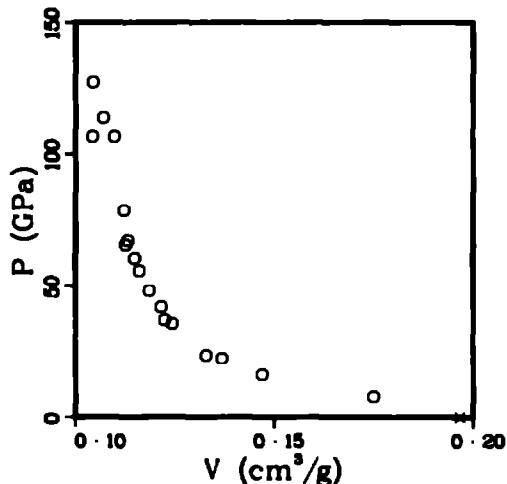
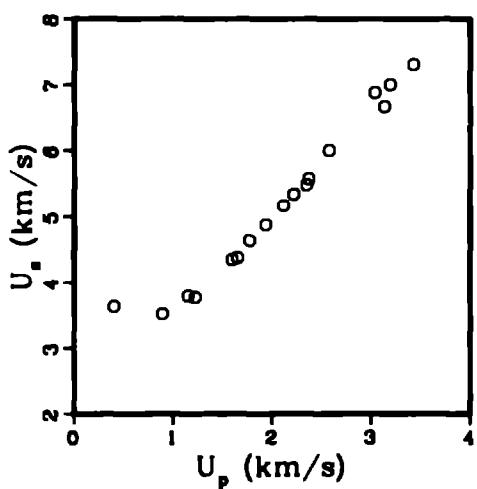
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.817	3.951	.397	7.556	.1867	5.355	.900	im1 o
4.815	3.658	.640	11.272	.1713	5.836	.825	im1 o
4.817	3.616	.899	15.659	.1560	6.411	.751	im1 o
4.817	3.894	1.165	21.852	.1455	6.873	.701	im1 o
4.815	3.866	1.238	23.045	.1412	7.083	.680	im1 o
4.817	4.415	1.628	34.623	.1310	7.631	.631	im1 o
4.816	4.517	1.671	36.351	.1308	7.644	.630	im1 o
4.817	4.703	1.803	40.846	.1280	7.812	.617	im1 o
4.817	4.968	1.969	47.101	.1253	7.982	.604	im1 o
4.817	5.276	2.150	54.641	.1230	8.130	.592	im1 o
4.817	5.465	2.253	59.310	.1220	8.196	.588	im1 o
4.817	5.643	2.414	65.618	.1188	8.418	.572	im1 o
4.817	5.748	2.623	72.626	.1129	8.860	.544	im1 o
4.817	6.005	2.639	76.336	.1164	8.594	.561	im1 o
4.817	6.889	3.115	103.069	.1135	8.814	.547	im1 o
4.817	6.855	3.155	104.180	.1121	8.924	.540	im1 o
4.817	6.788	3.165	103.489	.1108	9.025	.534	im1 o
4.817	6.883	3.167	105.003	.1121	8.922	.540	im1 o
4.817	7.080	3.258	111.112	.1121	8.923	.540	im1 o
4.817	7.361	3.428	121.550	.1109	9.015	.534	im1 o
4.817	7.410	3.486	124.429	.1099	9.096	.530	im1 o



GLASS, high-density, Schott Optical Company

Average $\rho_0 = 5.085 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
5.085	3.638	.402	7.437	.1749	5.717	.889	im1 o
5.085	3.517	.889	15.899	.1469	6.805	.747	im1 o
5.085	3.791	1.151	22.188	.1369	7.302	.696	im1 o
5.085	3.768	1.222	23.414	.1329	7.526	.676	im1 o
5.087	4.350	1.599	35.383	.1243	8.044	.632	im1 o
5.085	4.379	1.654	36.830	.1224	8.171	.622	im1 o
5.085	4.639	1.771	41.777	.1216	8.225	.618	im1 o
5.085	4.878	1.937	48.047	.1186	8.434	.603	im1 o
5.085	5.171	2.118	55.692	.1161	8.613	.590	im1 o
5.085	5.346	2.221	60.377	.1150	8.699	.585	im1 o
5.085	5.487	2.347	65.485	.1125	8.886	.572	im1 o
5.085	5.577	2.369	67.183	.1131	8.840	.575	im1 o
5.085	6.003	2.577	78.664	.1122	8.910	.571	im1 o
5.085	6.880	3.039	106.319	.1098	9.108	.558	im1 o
5.085	6.677	3.135	106.441	.1043	9.586	.530	im1 o
5.085	7.003	3.196	113.810	.1069	9.354	.544	im1 o
5.085	7.306	3.425	127.242	.1045	9.573	.531	im1 o



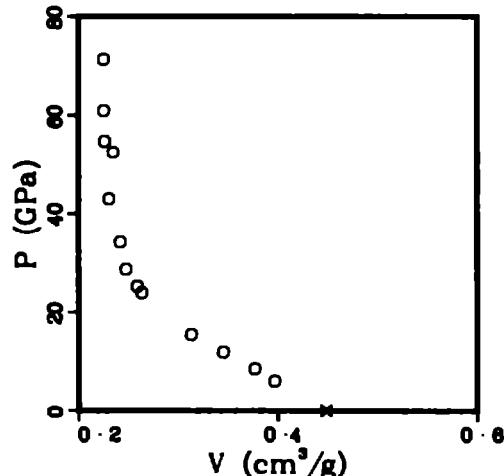
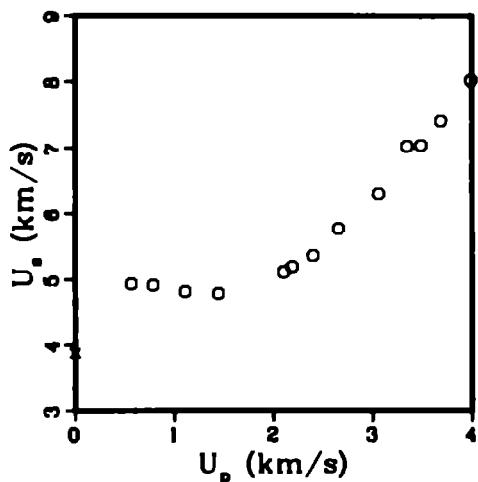
GLASS . Pyrex

Average $\rho_0 = 2.230 \text{ g/cm}^3$.

Sound velocities longitudinal 5.56 km/s.
 shear 3.45 km/s.

Reference 13

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.230	3.879	0.000	0.000	.4484	2.230	1.000	s s p x
2.230	4.931	.565	6.213	.3970	2.519	.885	im1 o
2.230	4.913	.784	8.589	.3769	2.653	.840	im1 o
2.230	4.817	1.110	11.924	.3451	2.898	.770	im1 o
2.230	4.790	1.444	15.424	.3132	3.192	.699	im1 o
2.230	5.110	2.104	23.976	.2638	3.791	.588	im1 o
2.230	5.181	2.189	25.291	.2590	3.862	.577	im1 o
2.230	5.353	2.397	28.613	.2476	4.038	.552	im1 o
2.230	5.767	2.655	34.144	.2420	4.133	.540	im1 o
2.230	6.299	3.060	42.983	.2306	4.337	.514	im1 o
2.230	7.032	3.348	52.501	.2349	4.257	.524	im1 o
2.230	7.044	3.489	54.806	.2283	4.419	.505	im1 o
2.230	7.412	3.686	60.925	.2254	4.436	.503	im1 o
2.230	8.022	3.991	71.395	.2253	4.438	.502	im1 o



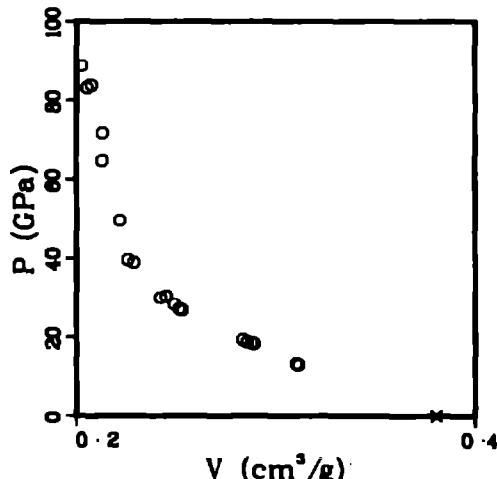
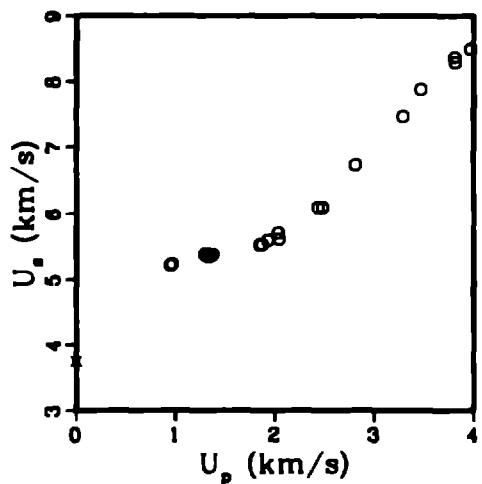
GRANITE, Westerly, Rhode Island

Average $\rho_0 = 2.627 \text{ g/cm}^3$.

Sound velocities longitudinal 5.33 km/s.
shear 3.28 km/s.

References 6, 30, 32, 42

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.628	3.750	0.000	0.000	.3805	2.628	1.000	s s p x
2.628	5.214	.945	12.949	.3116	3.210	.819	i m l o
2.627	5.231	.964	13.247	.3105	3.220	.816	i m l o
2.627	5.377	1.294	18.278	.2891	3.460	.759	i m l o
2.628	5.386	1.311	18.556	.2879	3.473	.757	i m l o
2.627	5.342	1.335	18.735	.2855	3.502	.750	i m l o
2.628	5.375	1.373	19.394	.2833	3.530	.745	i m l o
2.628	5.522	1.848	28.818	.2532	3.950	.665	i m l o
2.628	5.527	1.870	27.162	.2518	3.972	.662	i m l o
2.628	5.593	1.931	28.383	.2491	4.014	.655	i m l o
2.624	5.702	2.034	30.433	.2452	4.079	.643	i m l o
2.623	5.807	2.044	30.061	.2423	4.128	.635	i m l o
2.628	6.097	2.431	38.952	.2288	4.371	.601	i m l o
2.628	6.095	2.478	39.692	.2258	4.428	.593	i m l o
2.628	6.729	2.810	49.692	.2216	4.512	.582	i m l o
2.628	7.475	3.290	64.630	.2130	4.694	.560	i m l o
2.628	7.880	3.467	71.797	.2131	4.693	.560	i m l o
2.625	8.372	3.812	83.774	.2075	4.819	.545	i m l o
2.628	8.286	3.816	83.096	.2053	4.872	.539	i m l o
2.628	8.499	3.972	88.716	.2027	4.934	.533	i m l o



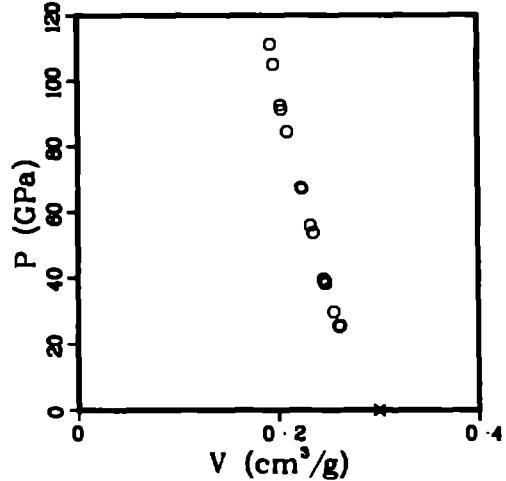
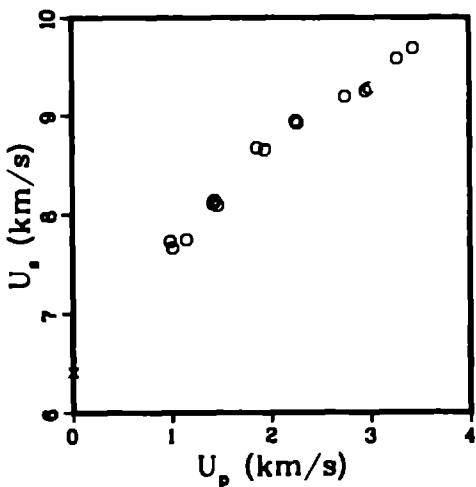
JADEITE, Burma

Average $\rho_0 = 3.335 \text{ g/cm}^3$.

Sound velocities longitudinal 8.67 km/s.
shear 5.06 km/s.

References 6, 32, 42

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.330	6.406	0.000	0.000	.3003	3.330	1.000	ss p x
3.332	7.731	.986	25.399	.2618	3.819	.872	im1 o
3.334	7.684	1.005	25.680	.2806	3.837	.869	im1 o
3.335	7.749	1.151	29.745	.2553	3.917	.851	im1 o
3.335	8.107	1.414	38.230	.2476	4.040	.826	im1 o
3.334	8.135	1.430	38.785	.2472	4.045	.824	im1 o
3.335	8.087	1.462	39.430	.2456	4.071	.819	im1 o
3.335	8.676	1.858	53.760	.2356	4.244	.786	im1 o
3.333	8.655	1.940	55.963	.2328	4.296	.776	im1 o
3.334	8.944	2.253	67.183	.2244	4.457	.748	im1 o
3.335	8.921	2.269	67.508	.2236	4.473	.746	im1 o
3.336	9.199	2.748	84.330	.2102	4.757	.701	im1 o
3.333	9.254	2.955	91.143	.2042	4.897	.681	im1 o
3.335	9.284	2.991	92.608	.2032	4.920	.678	im1 o
3.347	9.579	3.275	104.999	.1966	5.086	.658	im1 o
3.337	9.685	3.434	110.983	.1934	5.170	.645	im1 o



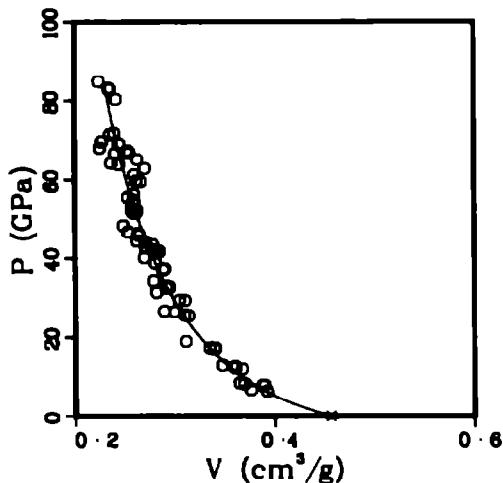
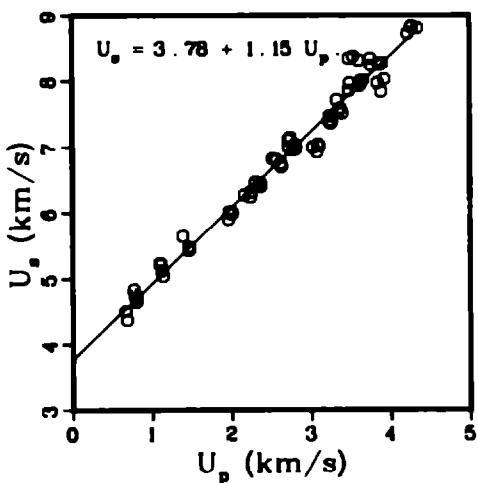
OIL SHALE, Green River, Rifle, Colorado

Average $\rho_0 = 2.192 \text{ g/cm}^3$.

References 48, 49

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.268	4.509	.663	6.780	.3761	2.659	.853	im1 o
2.150	4.368	.684	6.424	.3923	2.549	.843	im1 o
2.307	4.838	.769	8.583	.3646	2.743	.841	im1 o
2.264	4.763	.779	8.400	.3695	2.707	.836	im1 o
2.132	4.714	.799	8.030	.3895	2.587	.831	im1 o
2.134	4.656	.802	7.969	.3879	2.578	.828	im1 o
2.275	5.227	1.094	13.009	.3476	2.877	.791	im1 o
2.188	5.213	1.110	12.661	.3597	2.780	.787	im1 o
2.166	5.122	1.122	12.448	.3605	2.774	.781	im1 o
2.107	5.039	1.139	12.093	.3673	2.722	.774	im1 o
2.425	5.643	1.387	18.980	.3110	3.215	.754	im1 o
2.182	5.433	1.462	17.332	.3350	2.985	.731	im1 o
2.151	5.475	1.465	17.253	.3405	2.937	.732	im1 o
2.153	5.444	1.468	17.206	.3392	2.948	.730	im1 o
2.304	5.899	1.963	26.680	.2896	3.453	.667	im1 o
2.241	6.013	1.969	26.533	.3001	3.332	.673	im1 o
2.149	5.986	2.002	25.754	.3097	3.229	.666	im1 o
2.118	6.002	2.010	25.552	.3140	3.184	.665	im1 o
2.324	6.269	2.162	31.499	.2819	3.547	.655	im1 o
2.105	6.239	2.242	29.444	.3043	3.286	.641	im1 o
2.079	6.316	2.242	29.440	.3103	3.223	.645	im1 o

(Continued)



OIL SHALE, Green River, Rifle, Colorado
 (Continued)

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.309	6.465	2.301	34.349	.2789	3.585	.644	im1 o
2.176	6.439	2.353	32.969	.2916	3.429	.635	im1 o
2.150	6.447	2.362	32.740	.2947	3.393	.634	im1 o
2.154	6.396	2.367	32.610	.2924	3.419	.630	im1 o
2.339	6.822	2.518	40.179	.2697	3.707	.631	im1 o
2.222	6.806	2.567	38.821	.2803	3.568	.623	im1 o
2.111	6.748	2.621	37.325	.2897	3.452	.611	im1 o
2.108	6.698	2.629	37.120	.2882	3.470	.607	im1 o
2.282	7.112	2.718	44.112	.2707	3.694	.618	im1 o
2.331	6.999	2.720	44.376	.2623	3.813	.611	im1 o
2.220	7.149	2.740	43.486	.2778	3.600	.617	im1 o
2.219	6.961	2.773	42.833	.2711	3.688	.602	im1 o
2.157	6.979	2.798	42.120	.2777	3.601	.599	im1 o
2.126	7.019	2.799	41.768	.2828	3.536	.601	im1 o
2.114	7.037	2.802	41.683	.2847	3.513	.602	im1 o
2.126	6.976	2.812	41.705	.2808	3.562	.597	im1 o
2.285	7.000	3.024	48.369	.2486	4.023	.568	im1 o
2.192	6.923	3.079	46.724	.2533	3.948	.555	im1 o
2.130	7.043	3.091	46.370	.2634	3.796	.561	im1 o
2.105	7.012	3.108	45.875	.2645	3.781	.557	im1 o
2.191	7.394	3.232	52.359	.2569	3.892	.563	im1 o
2.161	7.469	3.236	52.231	.2623	3.813	.567	im1 o
2.158	7.368	3.253	51.723	.2588	3.864	.558	im1 o
2.142	7.389	3.258	51.565	.2810	3.831	.559	im1 o
2.195	7.713	3.325	56.292	.2592	3.858	.569	im1 o
2.199	7.548	3.347	55.554	.2531	3.951	.557	im1 o
2.145	7.581	3.371	54.817	.2589	3.863	.555	im1 o
2.113	7.514	3.398	53.950	.2592	3.857	.548	im1 o
2.312	8.349	3.479	67.155	.2523	3.964	.583	im1 o
2.353	7.853	3.479	64.285	.2367	4.225	.557	im1 o
2.301	7.964	3.489	63.936	.2442	4.095	.562	im1 o
2.201	8.380	3.536	65.219	.2626	3.808	.578	im1 o
2.096	8.315	3.606	62.846	.2702	3.701	.566	im1 o
2.079	7.932	3.618	59.663	.2816	3.823	.544	im1 o
2.054	7.992	3.624	59.490	.2861	3.758	.547	im1 o
2.094	8.006	3.654	61.258	.2596	3.852	.544	im1 o
2.298	8.347	3.748	71.892	.2398	4.171	.551	im1 o
2.311	8.240	3.758	71.562	.2354	4.249	.544	im1 o
2.279	7.969	3.842	69.776	.2272	4.401	.516	im1 o
2.173	8.244	3.860	69.149	.2447	4.086	.532	im1 o
2.103	8.274	3.876	67.443	.2528	3.956	.532	im1 o
2.238	7.839	3.887	66.192	.2253	4.439	.504	im1 o
2.077	8.265	3.894	66.846	.2546	3.927	.529	im1 o

(Continued)

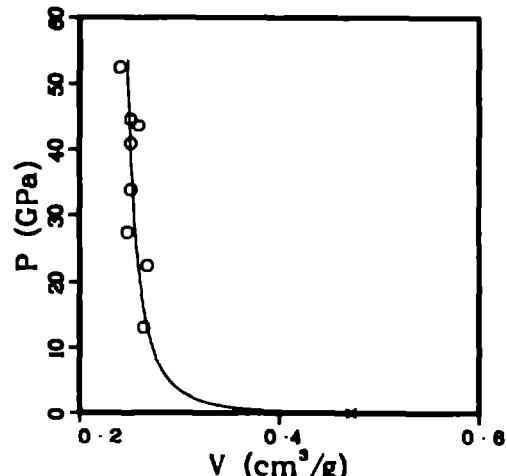
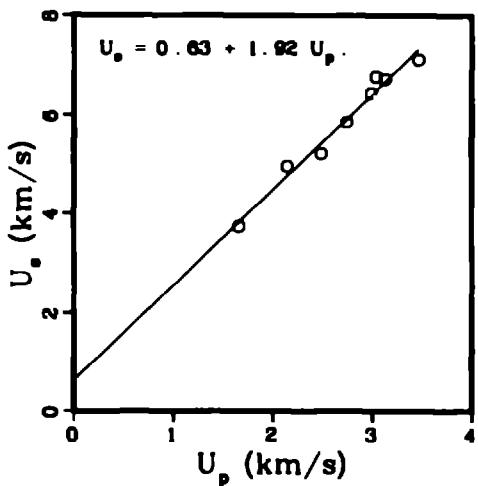
OIL SHALE, Green River, Rifle, Colorado
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp.
2.121	8.024	3.927	66.833	.2407	4.154	.511	im1 o
2.304	8.729	4.221	84.891	.2241	4.461	.516	im1 o
2.208	8.830	4.267	83.192	.2340	4.273	.517	im1 o
2.194	8.829	4.276	82.830	.2350	4.255	.516	im1 o
2.100	8.810	4.343	80.350	.2414	4.142	.507	im1 o

PERICLASE MIXTURE
 50/50 mol% MgO/Al₂O₃
 Average $\rho_0 = 2.118 \text{ g/cm}^3$.

Reference 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp.
2.103	3.740	1.661	13.064	.2643	3.783	.556	im1 o
2.116	4.953	2.145	22.481	.2679	3.732	.567	im1 o
2.110	5.219	2.489	27.409	.2479	4.034	.523	im1 o
2.116	5.851	2.741	33.936	.2512	3.981	.532	im1 o
2.126	6.432	2.992	40.914	.2516	3.975	.535	im1 o
2.124	6.764	3.040	43.675	.2592	3.858	.551	im1 o
2.124	6.711	3.133	44.658	.2510	3.984	.533	im1 o
2.129	7.098	3.465	52.362	.2404	4.160	.512	im1 o

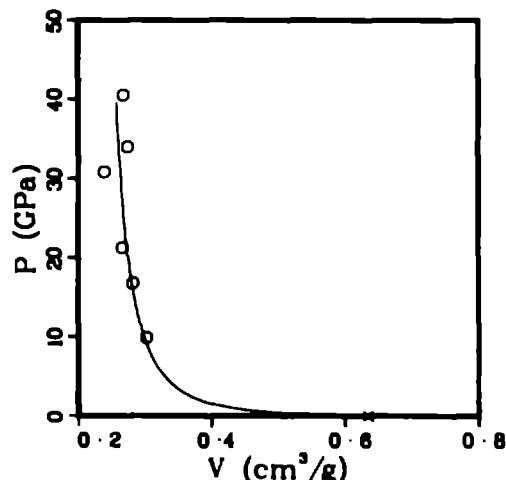
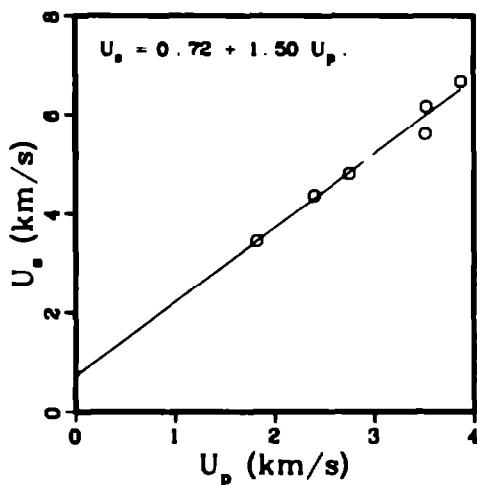


PERICLASE MIXTURE

50/50 mol% MgO/fused SiO₂

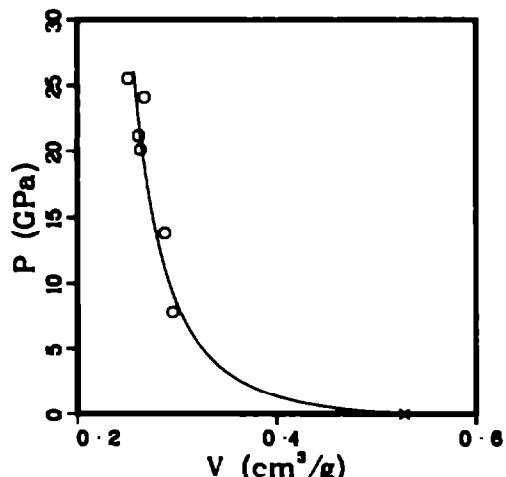
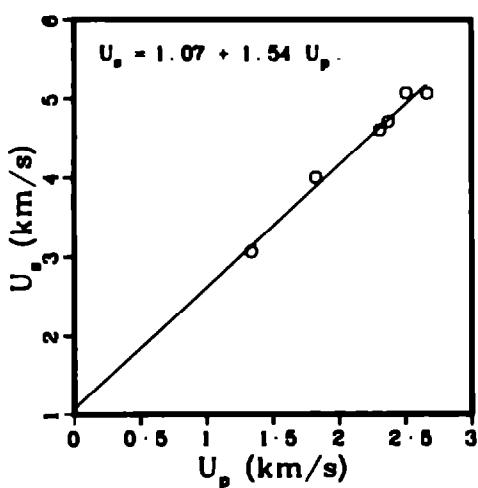
Average $\rho_0 = 1.577 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.561	3.455	1.825	9.843	.3022	3.309	.472	im1 o
1.602	4.375	2.399	16.814	.2819	3.547	.452	im1 o
1.608	4.811	2.748	21.259	.2667	3.750	.429	im1 o
1.562	5.608	3.515	30.780	.2389	4.185	.373	im1 o
1.560	6.164	3.523	33.877	.2747	3.641	.428	im1 o
1.570	6.675	3.868	40.536	.2678	3.733	.421	im1 o



PERICLASE MIXTURE . $\rho_0 = 1.89 \text{ g/cm}^3$
 67/33 mol% MgO/fused SiO₂
 Average $\rho_0 = 1.894 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp.
1.904	3.067	1.339	7.819	.2959	3.379	.563	im1 o
1.890	4.003	1.825	13.807	.2879	3.474	.544	im1 o
1.891	4.604	2.309	20.103	.2636	3.794	.498	im1 o
1.897	4.711	2.372	21.198	.2617	3.821	.496	im1 o
1.893	5.078	2.508	24.109	.2674	3.740	.506	im1 o
1.889	5.071	2.666	25.538	.2511	3.983	.474	im1 o

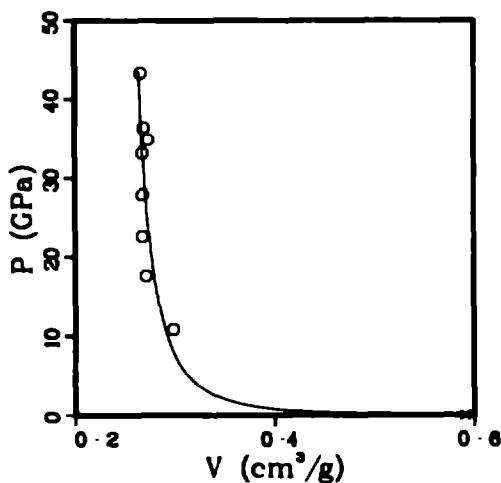
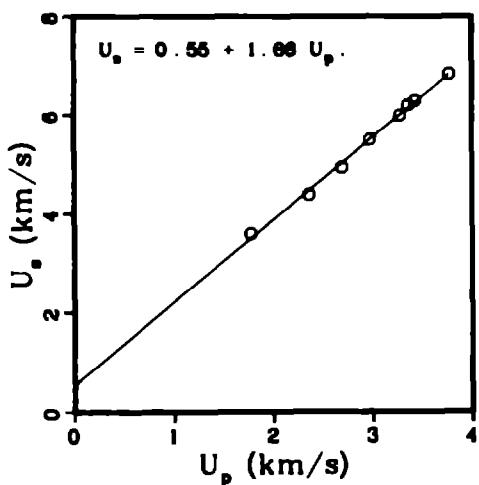


PERICLASE MIXTURE . $\rho_0 = 1.69 \text{ g/cm}^3$.

67/33 mol% MgO/fused SiO_2

Average $\rho_0 = 1.693 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp.
1.699	3.596	1.773	10.832	.2984	3.351	.507	im1 o
1.702	4.389	2.361	17.637	.2715	3.683	.462	im1 o
1.700	4.937	2.691	22.585	.2676	3.737	.455	im1 o
1.710	5.493	2.976	27.954	.2680	3.732	.458	im1 o
1.689	5.988	3.278	33.153	.2680	3.732	.453	im1 o
1.674	6.198	3.358	34.841	.2737	3.653	.458	im1 o
1.688	6.288	3.429	36.396	.2694	3.713	.455	im1 o
1.682	6.821	3.771	43.264	.2658	3.762	.447	im1 o

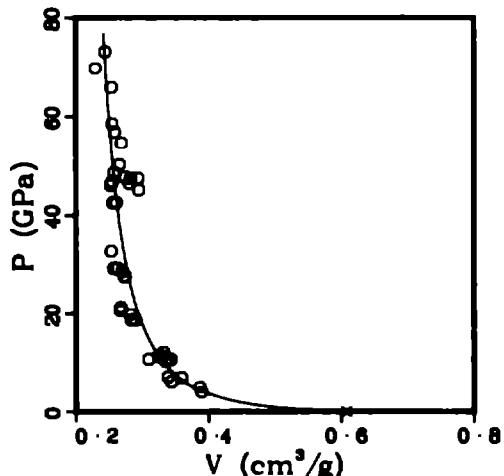
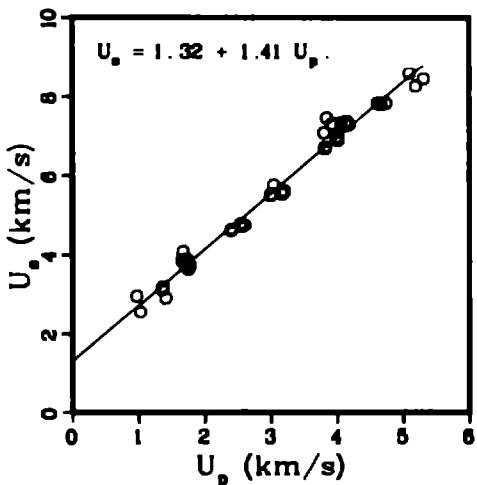


TUFF, Nevada Test Site, $\rho_0 = 1.7 \text{ g/cm}^3$.

Average $\rho_0 = 1.646 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.743	2.974	.969	5.023	3868	2.585	.674	iml o
1.540	2.563	1.026	4.050	3894	2.568	.600	iml o
1.679	3.147	1.356	7.165	3390	2.950	.569	iml o
1.600	3.209	1.365	7.008	3591	2.784	.575	iml o
1.506	2.926	1.410	6.213	3440	2.907	.518	iml o
1.683	3.855	1.661	10.777	3382	2.957	.569	iml o
1.659	3.868	1.666	10.691	3432	2.914	.569	iml o
1.781	4.085	1.669	12.143	3321	3.011	.591	iml o
1.687	3.888	1.724	11.308	3299	3.031	.557	iml o
1.698	3.841	1.726	11.257	3243	3.084	.551	iml o
1.599	3.795	1.748	10.607	3373	2.984	.539	iml o
1.680	3.650	1.752	10.743	3095	3.231	.520	iml o
1.566	3.735	1.772	10.364	3356	2.980	.526	iml o
1.692	4.614	2.400	18.737	2836	3.526	.480	iml o
1.673	4.655	2.401	18.699	2894	3.455	.484	iml o
1.758	4.795	2.538	21.394	2677	3.735	.471	iml o
1.722	4.738	2.580	20.887	2669	3.746	.460	iml o
1.707	4.729	2.587	20.722	2678	3.734	.457	iml o
1.605	4.759	2.604	19.890	2821	3.544	.453	iml o
1.672	5.525	3.000	27.713	2733	3.659	.457	iml o
1.665	5.527	3.003	27.635	2743	3.646	.457	iml o
1.866	5.766	3.041	32.719	2533	3.948	.473	iml o

(Continued)



TUFF, Nevada Test Site, $\rho_0 = 1.7 \text{ g/cm}^3$.
 (Continued)

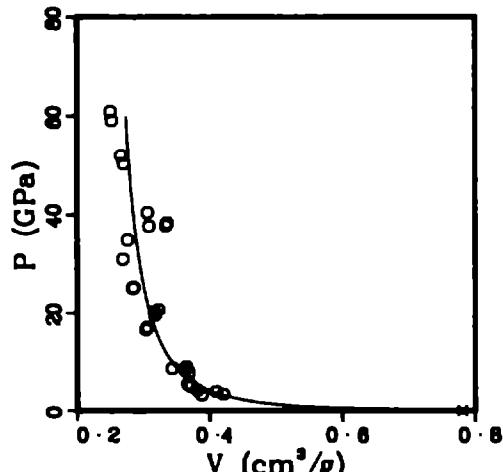
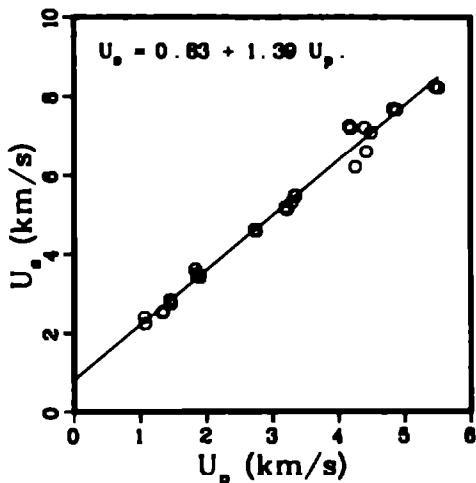
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp.
1.663	5.545	3.175	29.278	.2570	3.891	.427	im1 o
1.647	5.599	3.175	29.278	.2629	3.804	.433	im1 o
1.594	5.616	3.201	28.855	.2698	3.707	.430	im1 o
1.800	7.098	3.806	48.827	.2577	3.881	.464	im1 o
1.657	6.730	3.820	42.599	.2609	3.832	.432	im1 o
1.670	6.674	3.821	42.587	.2560	3.907	.427	im1 o
1.654	7.472	3.843	47.494	.2936	3.406	.486	im1 o
1.572	7.316	3.924	45.129	.2949	3.391	.464	im1 o
1.681	6.981	3.989	46.811	.2550	3.922	.429	im1 o
1.662	6.909	4.013	46.080	.2522	3.965	.419	im1 o
1.685	7.343	4.057	50.197	.2656	3.765	.448	im1 o
1.579	7.297	4.140	47.701	.2740	3.650	.433	im1 o
1.550	7.384	4.148	47.475	.2827	3.537	.438	im1 o
1.522	7.300	4.182	46.465	.2806	3.563	.427	im1 o
1.617	7.845	4.614	58.530	.2547	3.926	.412	im1 o
1.559	7.814	4.867	56.854	.2583	3.871	.403	im1 o
1.471	7.838	4.739	54.639	.2688	3.720	.395	im1 o
1.671	8.605	5.093	73.232	.2442	4.094	.408	im1 o
1.626	8.279	5.190	69.866	.2295	4.358	.373	im1 o
1.468	8.459	5.308	65.914	.2537	3.941	.373	im1 o

TUFF, Nevada Test Site. $\rho_0 = 1.3 \text{ g/cm}^3$.

Average $\rho_0 = 1.281 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.332	2.417	1.064	3.425	.4203	2.379	.560	i m1 o
1.340	2.240	1.076	3.230	.3878	2.579	.520	i m1 o
1.238	2.530	1.336	4.185	.3812	2.623	.472	i m1 o
1.154	2.556	1.349	3.979	.4092	2.444	.472	i m1 o
1.345	2.857	1.447	5.580	.3669	2.725	.494	i m1 o
1.263	2.770	1.471	5.146	.3713	2.693	.469	i m1 o
1.356	3.623	1.832	9.000	.3646	2.743	.494	i m1 o
1.354	3.473	1.858	8.737	.3434	2.912	.465	i m1 o
1.290	3.504	1.864	8.426	.3628	2.756	.468	i m1 o
1.207	3.429	1.905	7.884	.3682	2.716	.444	i m1 o
1.346	4.845	2.733	17.087	.3058	3.270	.412	i m1 o
1.312	4.584	2.757	16.581	.3038	3.292	.399	i m1 o
1.213	5.197	3.199	20.186	.3169	3.155	.384	i m1 o
1.178	5.151	3.227	19.548	.3176	3.148	.374	i m1 o
1.179	5.328	3.298	20.709	.3230	3.096	.381	i m1 o
1.370	5.492	3.344	25.180	.2855	3.503	.391	i m1 o
1.371	5.476	3.346	25.120	.2837	3.525	.389	i m1 o
1.269	7.258	4.165	38.381	.3358	2.978	.426	i m1 o
1.253	7.200	4.187	37.773	.3340	2.994	.418	i m1 o
1.170	8.213	4.257	30.945	.2691	3.716	.315	i m1 o
1.276	7.215	4.395	40.462	.3063	3.285	.391	i m1 o
1.193	6.597	4.423	34.810	.2762	3.620	.330	i m1 o

(Continued)



TUFF, Nevada Test Site, $\rho_0 = 1.3 \text{ g/cm}^3$.
(Continued)

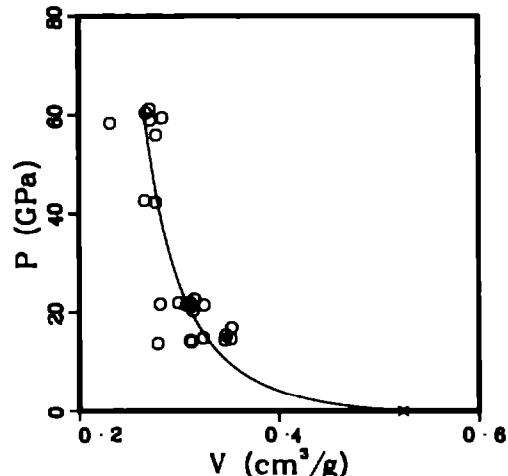
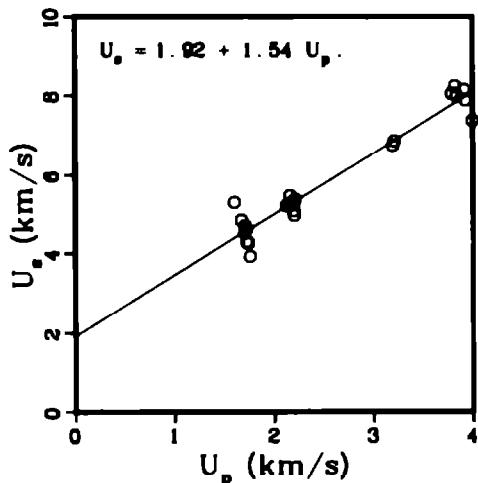
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.184	7.084	4.496	37.710	.3086	3.241	.365	im1 o
1.398	7.691	4.828	51.911	.2663	3.756	.372	im1 o
1.344	7.664	4.882	50.287	.2701	3.703	.363	im1 o
1.352	8.250	5.461	60.912	.2500	3.999	.338	im1 o
1.302	8.217	5.520	59.056	.2521	3.967	.328	im1 o

TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.9 \text{ g/cm}^3$.

$$\text{Average } \rho_0 = 1.908 \text{ g/cm}^3.$$

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.980	5.307	1.602	16.834	.3526	2.836	.698	im1 o
1.890	4.854	1.672	15.339	.3468	2.883	.656	im1 o
1.920	4.515	1.704	14.772	.3243	3.084	.623	im1 o
1.810	4.708	1.709	14.563	.3519	2.841	.637	im1 o
1.810	4.607	1.723	14.368	.3459	2.891	.626	im1 o
1.920	4.289	1.726	14.213	.3112	3.213	.598	im1 o
1.890	4.253	1.741	13.994	.3125	3.200	.591	im1 o
1.980	3.923	1.758	13.655	.2787	3.588	.552	im1 o
1.980	5.224	2.126	21.990	.2995	3.339	.593	im1 o
1.920	5.238	2.145	21.564	.3075	3.252	.590	im1 o
1.890	5.265	2.151	21.404	.3129	3.196	.591	im1 o
1.920	5.480	2.160	22.727	.3155	3.169	.606	im1 o
1.890	5.308	2.191	21.980	.3107	3.219	.587	im1 o
1.810	5.095	2.200	20.288	.3139	3.185	.568	im1 o
1.980	4.974	2.204	21.706	.2813	3.555	.557	im1 o
1.810	5.377	2.212	21.528	.3252	3.075	.589	im1 o
1.980	6.744	3.197	42.690	.2656	3.765	.526	im1 o
1.920	6.861	3.210	42.286	.2772	3.608	.532	im1 o
1.980	8.049	3.791	60.417	.2672	3.743	.529	im1 o
1.890	8.233	3.821	59.456	.2835	3.527	.536	im1 o
1.920	8.007	3.836	58.973	.2713	3.686	.521	im1 o
1.920	8.149	3.911	61.192	.2709	3.692	.520	im1 o

(Continued)



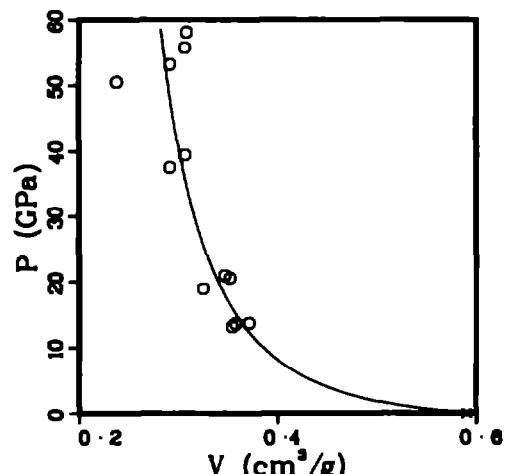
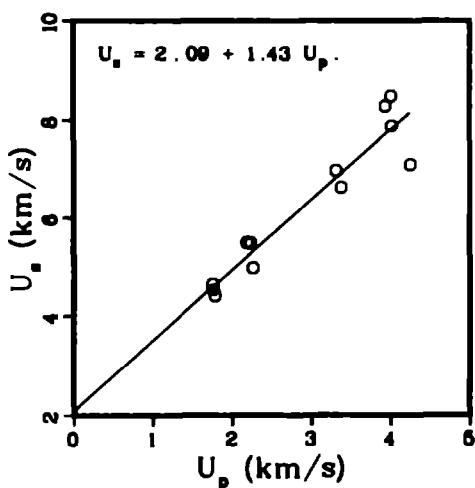
TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.9 \text{ g/cm}^3$.
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.810	7.883	3.927	56.031	.2773	3.607	.502	im1 o
1.980	7.376	3.998	58.389	.2313	4.323	.458	im1 o

TUFF, Nevada Test Site. water-saturated. $\rho_0 = 1.7 \text{ g/cm}^3$.

Average $\rho_0 = 1.695 \text{ g/cm}^3$.

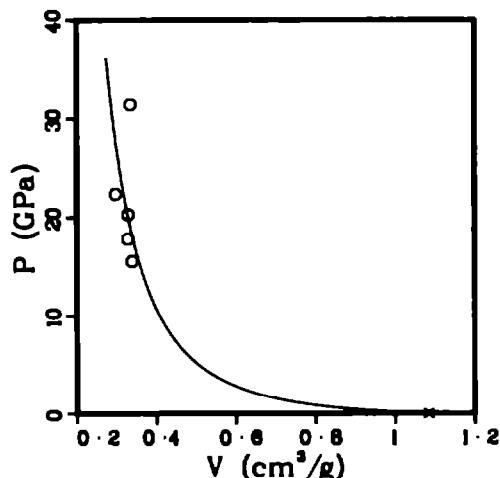
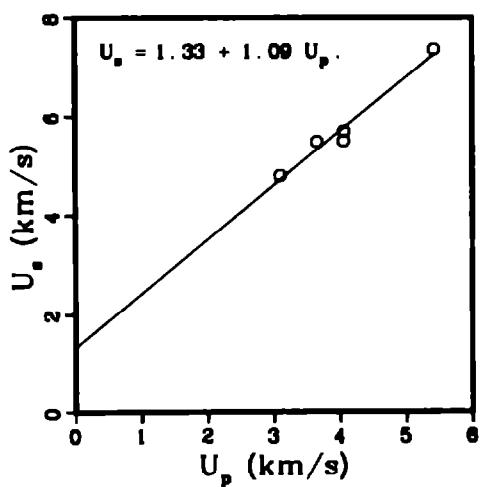
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.680	4.655	1.751	13.694	.3713	2.693	.624	im1 o
1.710	4.534	1.759	13.638	.3579	2.794	.612	im1 o
1.680	4.402	1.782	13.179	.3543	2.823	.595	im1 o
1.710	5.496	2.188	20.563	.3520	2.841	.602	im1 o
1.710	5.490	2.235	20.982	.3467	2.884	.593	im1 o
1.680	4.983	2.261	18.928	.3252	3.075	.546	im1 o
1.710	6.965	3.312	39.446	.3067	3.260	.524	im1 o
1.680	6.619	3.379	37.574	.2914	3.432	.489	im1 o
1.710	8.277	3.937	55.723	.3066	3.261	.524	im1 o
1.710	8.477	4.007	58.084	.3084	3.243	.527	im1 o
1.680	7.880	4.018	53.192	.2917	3.428	.490	im1 o
1.680	7.081	4.249	50.546	.2381	4.201	.400	im1 o



TUFF, unpressed powder

Average $\rho_0 = 0.922 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.046	4.799	3.098	15.551	.3389	2.951	.354	im1 o
1.014	5.484	3.653	20.314	.3293	3.037	.334	im1 o
.799	5.499	4.057	17.825	.3282	3.047	.262	im1 o
.966	5.697	4.061	22.349	.2973	3.364	.287	im1 o
.787	7.368	5.424	31.452	.3353	2.983	.264	im1 o



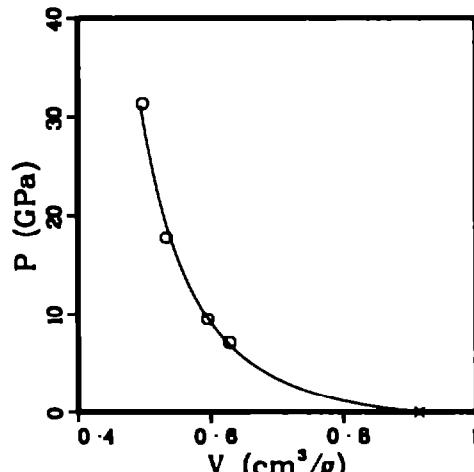
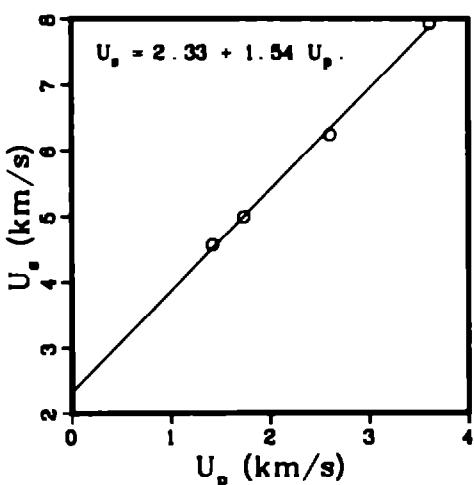
PLASTICS

ADIPRENE

Average $\rho_0 = 1.094 \text{ g/cm}^3$.

References 6, 13, 50

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.096	4.564	1.420	7.103	.6285	1.591	.689	i m1 o
1.095	4.990	1.736	9.486	.5955	1.679	.652	i m1 o
1.091	6.237	2.607	17.740	.5335	1.875	.582	i m1 o
1.094	7.933	3.612	31.347	.4979	2.008	.545	i m1 o



CELLULOSE ACETATE

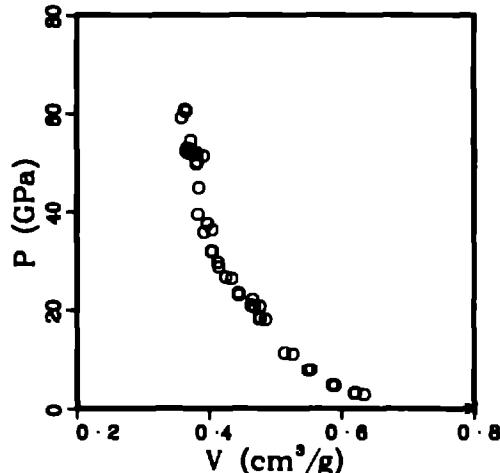
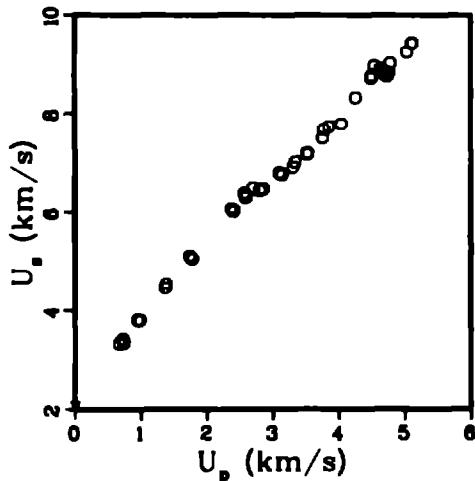
Average $\rho_0 = 1.261 \text{ g/cm}^3$.

Sound velocities longitudinal 2.45 km/s.
shear 1.15 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.255	2.059	0.000	0.000	.7968	1.255	1.000	s s p x
1.260	3.339	.671	2.823	.6342	1.577	.799	iml o
1.270	3.427	.727	3.164	.6204	1.612	.788	iml o
1.255	3.347	.740	3.108	.6206	1.611	.779	iml o
1.271	3.813	.954	4.623	.5899	1.695	.750	iml o
1.260	3.799	.994	4.758	.5860	1.707	.738	iml o
1.260	4.458	1.375	7.723	.5489	1.822	.692	iml o
1.255	4.541	1.385	7.893	.5538	1.806	.695	iml o
1.255	5.108	1.736	11.129	.5260	1.901	.660	iml o
1.260	5.050	1.781	11.333	.5138	1.946	.647	iml o
1.255	6.071	2.372	18.073	.4855	2.060	.609	iml o
1.260	6.013	2.406	18.229	.4761	2.100	.600	iml o
1.260	6.050	2.412	18.387	.4772	2.095	.601	iml o
1.255	6.396	2.569	20.621	.4768	2.097	.598	iml o
1.260	6.322	2.593	20.655	.4681	2.136	.590	iml o
1.272	6.328	2.596	20.896	.4636	2.157	.590	iml o
1.255	6.498	2.699	22.010	.4658	2.147	.585	iml o
1.272	6.454	2.800	22.987	.4451	2.247	.566	iml o
1.260	6.484	2.856	23.333	.4441	2.252	.560	iml o

(Continued)



CELLULOSE ACETATE
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.255	6.802	3.096	26.429	.4341	2.303	.545	im1 o
1.260	6.767	3.141	26.781	.4253	2.351	.536	im1 o
1.260	6.918	3.306	28.817	.4144	2.413	.522	im1 o
1.270	7.020	3.337	29.751	.4131	2.421	.525	im1 o
1.268	7.178	3.512	31.965	.4028	2.483	.511	im1 o
1.260	7.198	3.531	32.024	.4043	2.473	.509	im1 o
1.270	7.505	3.761	35.847	.3928	2.546	.499	im1 o
1.255	7.669	3.774	36.323	.4047	2.471	.508	im1 o
1.260	7.730	3.855	37.547	.3979	2.513	.501	im1 o
1.255	7.784	4.040	39.466	.3833	2.609	.481	im1 o
1.271	8.317	4.254	44.969	.3844	2.802	.489	im1 o
1.271	8.704	4.496	49.738	.3804	2.629	.483	im1 o
1.271	8.750	4.506	50.112	.3816	2.620	.485	im1 o
1.260	8.956	4.546	51.300	.3908	2.559	.492	im1 o
1.260	8.833	4.638	51.619	.3769	2.653	.475	im1 o
1.255	8.904	4.644	51.894	.3812	2.623	.478	im1 o
1.270	8.841	4.683	52.581	.3703	2.700	.470	im1 o
1.255	8.792	4.701	51.871	.3708	2.697	.465	im1 o
1.255	8.757	4.741	52.104	.3654	2.737	.459	im1 o
1.255	8.827	4.764	52.775	.3668	2.727	.460	im1 o
1.260	9.016	4.784	54.347	.3725	2.684	.469	im1 o
1.270	9.245	5.037	59.140	.3584	2.790	.455	im1 o
1.255	9.429	5.109	60.457	.3651	2.739	.458	im1 o
1.260	9.425	5.117	60.767	.3628	2.757	.457	im1 o

EPOXY . Epon 828

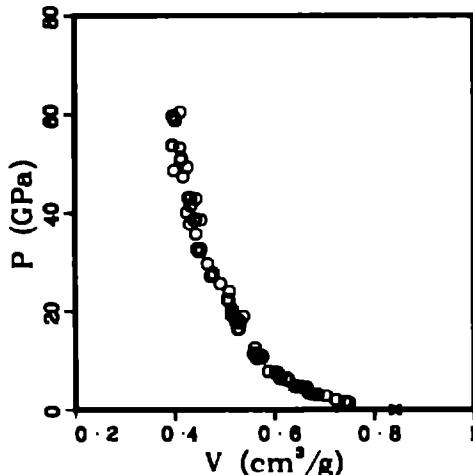
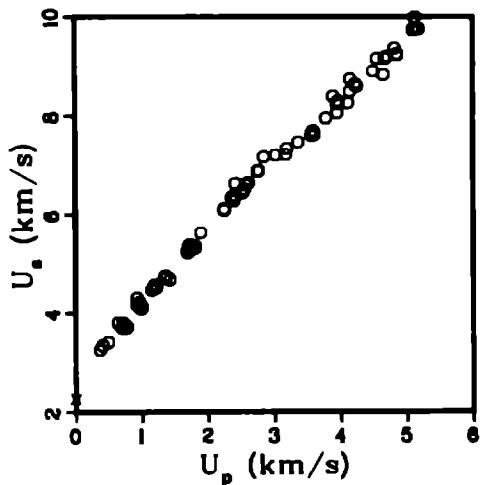
Average $\rho_0 = 1.185 \text{ g/cm}^3$.

Sound velocities longitudinal 2.63 km/s.
shear 1.16 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.192	2.263	0.000	0.000	.8389	1.192	1.000	ss p x
1.184	3.265	.370	1.430	.7489	1.335	.887	iml o
1.184	3.355	.411	1.633	.7411	1.349	.877	iml o
1.184	3.421	.494	2.001	.7226	1.384	.856	iml o
1.184	3.805	.639	2.879	.7028	1.423	.832	iml o
1.184	3.709	.699	3.070	.6854	1.459	.812	iml o
1.184	3.798	.716	3.220	.6854	1.459	.811	iml o
1.184	3.703	.742	3.253	.6754	1.481	.800	iml o
1.184	3.717	.779	3.428	.6676	1.498	.790	iml o
1.184	4.312	.923	4.712	.6638	1.506	.786	iml o
1.184	4.168	.926	4.570	.6570	1.522	.778	iml o
1.184	4.225	.960	4.802	.6527	1.532	.773	iml o
1.184	4.190	.961	4.767	.6509	1.536	.771	iml o
1.184	4.086	.989	4.785	.6402	1.562	.758	iml o
1.180	4.129	.998	4.862	.6426	1.556	.758	iml o
1.184	4.480	1.151	6.105	.6276	1.593	.743	iml o
1.184	4.558	1.195	6.449	.6232	1.605	.738	iml o
1.184	4.575	1.195	6.473	.6240	1.603	.739	iml o
1.198	4.543	1.215	6.613	.6115	1.635	.733	iml o

(Continued)



EPOXY, Epon 828
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.198	4.530	1.216	6.599	6107	1.638	.732	im1 o
1.184	4.742	1.345	7.552	6050	1.653	.716	im1 o
1.180	4.718	1.349	7.510	6051	1.652	.714	im1 o
1.184	4.742	1.365	7.664	6015	1.663	.712	im1 o
1.184	4.681	1.425	7.898	5875	1.702	.696	im1 o
1.198	5.237	1.696	10.641	5644	1.772	.676	im1 o
1.198	5.241	1.696	10.649	5846	1.771	.676	im1 o
1.198	5.245	1.696	10.657	5648	1.771	.677	im1 o
1.184	5.305	1.701	10.684	5738	1.743	.679	im1 o
1.184	5.370	1.717	10.917	5745	1.741	.680	im1 o
1.184	5.365	1.734	11.015	5718	1.749	.677	im1 o
1.184	5.327	1.746	11.012	5678	1.761	.672	im1 o
1.180	5.311	1.787	11.199	5623	1.778	.664	im1 o
1.184	5.349	1.798	11.387	5607	1.784	.664	im1 o
1.184	5.330	1.811	11.429	5576	1.793	.660	im1 o
1.184	5.626	1.893	12.610	5604	1.784	.664	im1 o
1.198	6.118	2.246	16.462	5283	1.893	.633	im1 o
1.198	6.089	2.249	16.406	5264	1.900	.631	im1 o
1.184	6.343	2.358	17.709	5306	1.885	.628	im1 o
1.184	6.281	2.393	17.796	5228	1.913	.619	im1 o
1.184	6.380	2.400	18.129	5269	1.898	.624	im1 o
1.184	6.628	2.410	18.913	5375	1.860	.636	im1 o
1.184	6.433	2.520	19.194	5137	1.947	.608	im1 o
1.180	6.509	2.552	19.601	5152	1.941	.608	im1 o
1.184	6.603	2.576	20.139	5151	1.941	.610	im1 o
1.180	6.641	2.610	20.453	5144	1.944	.607	im1 o
1.180	6.881	2.753	22.353	5084	1.967	.600	im1 o
1.184	6.880	2.761	22.491	5057	1.978	.599	im1 o
1.184	7.166	2.843	24.122	5095	1.963	.603	im1 o
1.180	7.201	3.023	25.687	4917	2.034	.580	im1 o
1.184	7.214	3.178	27.144	4725	2.116	.559	im1 o
1.184	7.343	3.190	27.734	4777	2.093	.566	im1 o
1.180	7.471	3.361	29.630	4862	2.145	.550	im1 o
1.184	7.612	3.559	32.076	4497	2.224	.532	im1 o
1.184	7.652	3.577	32.408	4498	2.223	.533	im1 o
1.180	7.697	3.590	32.806	4522	2.211	.534	im1 o
1.184	7.624	3.608	32.569	4449	2.248	.527	im1 o
1.184	7.954	3.784	35.636	4428	2.258	.524	im1 o
1.184	8.388	3.891	38.643	4528	2.208	.536	im1 o
1.184	8.244	3.950	38.556	4399	2.273	.521	im1 o
1.184	8.063	3.954	37.747	4304	2.323	.510	im1 o
1.180	8.286	3.968	38.797	4416	2.284	.521	im1 o
1.181	8.257	4.117	40.147	4245	2.355	.501	im1 o

(Continued)

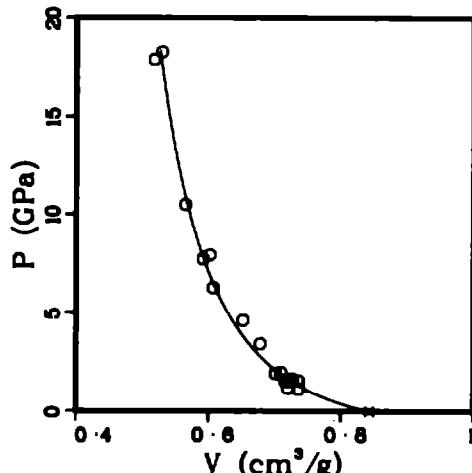
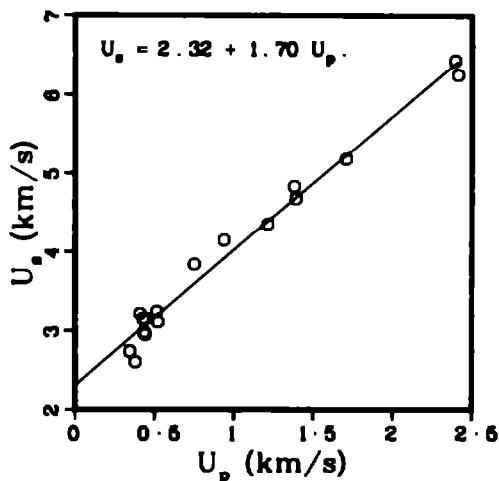
EPOXY . Epon 828
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.181	8.483	4.144	41.516	.4331	2.309	.511	im1 o
1.184	8.732	4.149	42.895	.4433	2.256	.525	im1 o
1.180	8.627	4.220	42.959	.4329	2.310	.511	im1 o
1.180	8.592	4.254	43.129	.4279	2.337	.505	im1 o
1.184	8.896	4.495	47.345	.4178	2.393	.495	im1 o
1.180	9.159	4.556	49.240	.4259	2.348	.503	im1 o
1.184	8.821	4.652	48.586	.3992	2.505	.473	im1 o
1.184	9.158	4.678	50.724	.4132	2.420	.489	im1 o
1.180	9.201	4.703	51.061	.4143	2.414	.489	im1 o
1.180	9.369	4.823	53.320	.4112	2.432	.485	im1 o
1.198	9.252	4.856	53.823	.3966	2.521	.475	im1 o
1.198	9.230	4.859	53.729	.3953	2.530	.474	im1 o
1.184	9.739	5.098	58.785	.4025	2.485	.477	im1 o
1.184	9.756	5.128	59.234	.4007	2.496	.474	im1 o
1.180	9.989	5.131	60.479	.4121	2.426	.486	im1 o
1.180	9.757	5.189	59.742	.3968	2.520	.468	im1 o

ESTANE

Average $\rho_0 = 1.186 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.186	2.742	.346	1.125	.7368	1.357	.874	im1 o
1.186	2.609	.380	1.176	.7204	1.388	.854	im1 o
1.186	3.221	.410	1.566	.7358	1.359	.873	im1 o
1.186	3.147	.432	1.612	.7274	1.375	.863	im1 o
1.186	2.979	.438	1.540	.7198	1.389	.854	im1 o
1.186	3.151	.438	1.637	.7260	1.377	.861	im1 o
1.186	2.952	.443	1.551	.7166	1.395	.850	im1 o
1.186	3.250	.515	1.985	.7096	1.409	.842	im1 o
1.186	3.110	.522	1.925	.7016	1.425	.832	im1 o
1.186	3.841	.752	3.426	.6781	1.475	.804	im1 o
1.186	4.146	.939	4.617	.6522	1.533	.774	im1 o
1.186	4.348	1.215	6.265	.6076	1.646	.721	im1 o
1.186	4.833	1.381	7.916	.6022	1.660	.714	im1 o
1.186	4.673	1.392	7.715	.5920	1.689	.702	im1 o
1.186	5.182	1.708	10.497	.5653	1.769	.670	im1 o
1.186	6.438	2.395	18.287	.5295	1.889	.628	im1 o
1.186	6.256	2.413	17.904	.5180	1.931	.614	im1 o

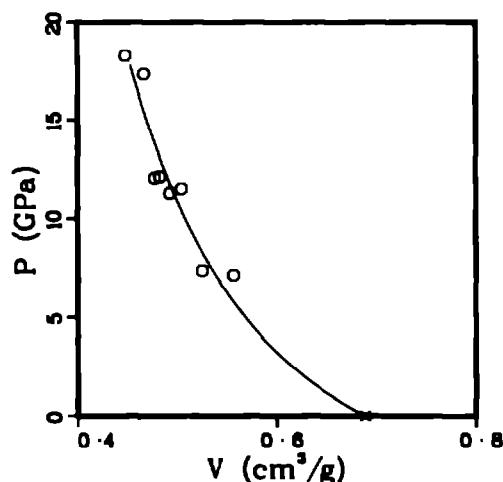
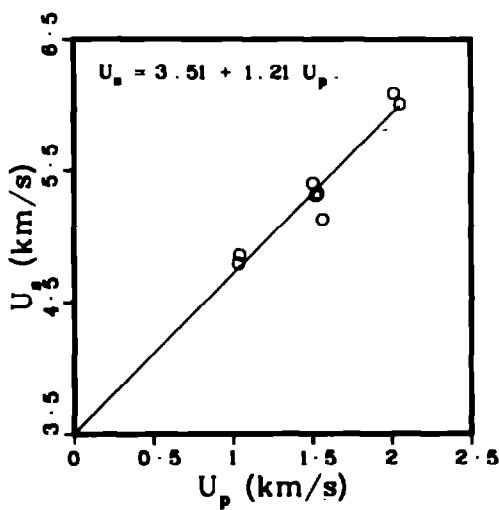


MELMAC

Average $\rho_0 = 1.453 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.494	4.797	1.034	7.410	.5251	1.905	.784	im1 o
1.411	4.862	1.044	7.162	.5565	1.797	.785	im1 o
1.494	5.404	1.505	12.151	.4829	2.071	.722	im1 o
1.494	5.313	1.523	12.089	.4775	2.094	.713	im1 o
1.411	5.328	1.536	11.547	.5044	1.983	.712	im1 o
1.411	5.133	1.564	11.328	.4928	2.029	.695	im1 o
1.494	6.087	2.012	18.297	.4481	2.232	.669	im1 o
1.411	6.004	2.051	17.375	.4666	2.143	.658	im1 o

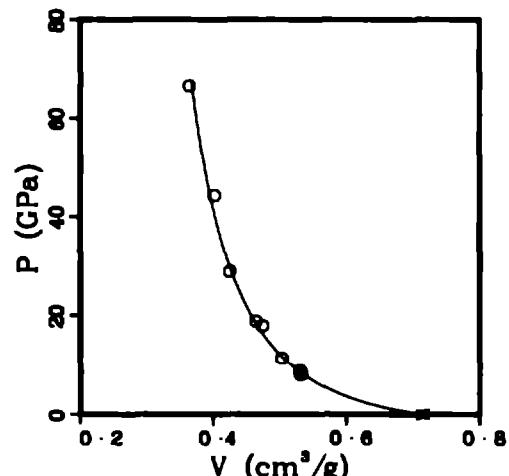
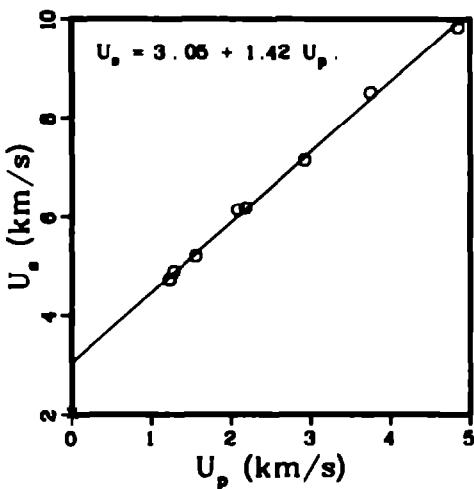


MICARTA

Average $\rho_0 = 1.395 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U _u (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp.
1.404	2.032	0.000	0.000	.7123	1.404	1.000	ss p x
1.394	4.732	1.225	8.081	.5317	1.881	.741	iml o
1.394	4.721	1.226	8.068	.5311	1.883	.740	iml o
1.394	4.897	1.276	8.711	.5304	1.885	.739	iml o
1.394	5.204	1.550	11.244	.5037	1.985	.702	iml o
1.394	6.147	2.083	17.849	.4743	2.108	.661	iml o
1.394	6.184	2.183	18.819	.4641	2.155	.647	iml o
1.394	7.146	2.919	29.078	.4243	2.357	.592	iml o
1.394	8.514	3.746	44.459	.4017	2.489	.560	iml o
1.394	9.840	4.850	66.527	.3638	2.749	.507	iml o

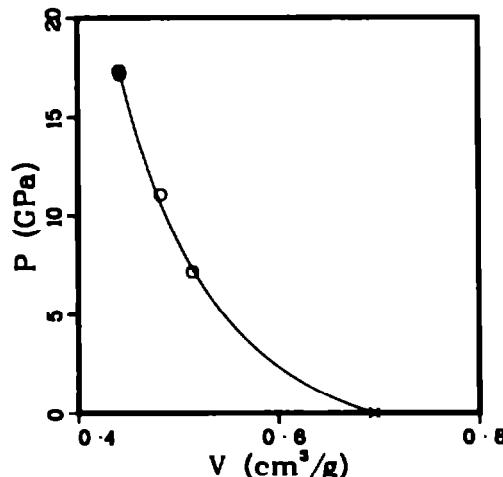
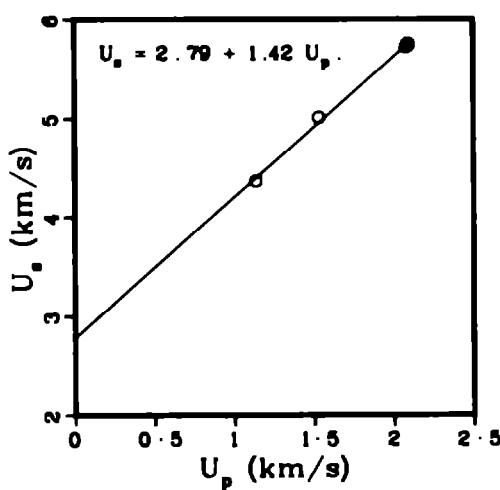


NEOPRENE

Average $\rho_0 = 1.439 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.439	4.366	1.136	7.137	.5141	1.945	.740	im1 o
1.438	5.013	1.532	11.044	.4829	2.071	.694	im1 o
1.439	5.725	2.079	17.127	.4426	2.260	.637	im1 o
1.440	5.758	2.091	17.338	.4423	2.261	.637	im1 o
1.439	5.744	2.097	17.333	.4412	2.266	.635	im1 o



PARAFFIN

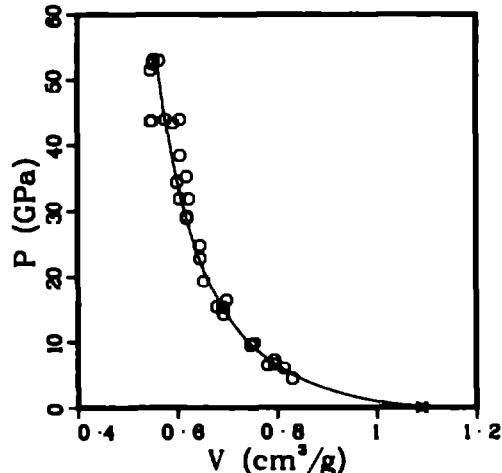
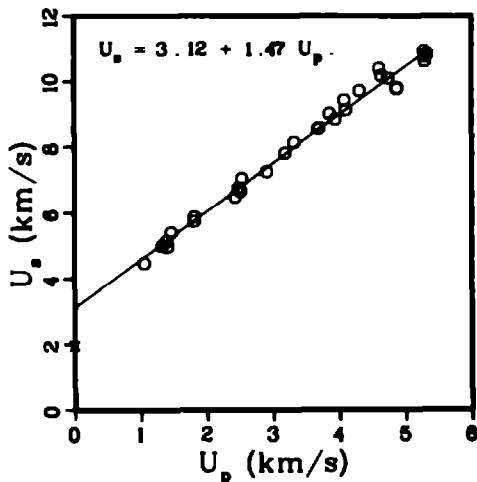
Average $\rho_0 = 0.917 \text{ g/cm}^3$.

Sound velocities longitudinal 2.18 km/s.
shear .83 km/s.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.919	1.958	0.000	0.000	1.0881	.919	1.000	s s p x
.919	4.471	1.058	4.347	.8306	1.204	.763	iml o
.904	5.004	1.324	5.989	.8135	1.229	.735	iml o
.918	5.149	1.393	6.584	.7946	1.258	.729	iml o
.918	4.970	1.408	6.424	.7807	1.281	.717	iml o
.919	5.411	1.460	7.260	.7945	1.259	.730	iml o
.919	5.883	1.810	9.786	.7534	1.327	.692	iml o
.918	5.752	1.810	9.557	.7465	1.340	.685	iml o
.904	6.489	2.428	14.243	.6923	1.444	.626	iml o
.918	6.748	2.471	15.307	.6904	1.448	.634	iml o
.919	6.669	2.508	15.371	.6789	1.473	.624	iml o
.919	7.048	2.527	16.368	.6980	1.433	.641	iml o
.918	7.254	2.902	19.325	.6535	1.530	.600	iml o
.918	7.813	3.180	22.808	.6480	1.548	.593	iml o
.918	8.135	3.314	24.749	.6456	1.549	.593	iml o
.919	8.547	3.684	28.937	.6191	1.615	.569	iml o
.918	8.582	3.704	29.181	.6192	1.615	.568	iml o
.919	9.018	3.856	31.957	.6229	1.605	.572	iml o
.916	8.847	3.947	31.986	.6047	1.654	.554	iml o

(Continued)



PARAFFIN
(Continued)

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.918	9.431	4.078	35.306	.6183	1.617	.568	i m1 o
.919	9.131	4.104	34.438	.5991	1.669	.551	i m1 o
.919	9.712	4.309	38.459	.6054	1.652	.556	i m1 o
.919	10.394	4.605	43.987	.6060	1.650	.557	i m1 o
.919	10.174	4.635	43.337	.5924	1.688	.544	i m1 o
.919	10.092	4.742	43.980	.5768	1.734	.530	i m1 o
.916	9.780	4.872	43.646	.5479	1.825	.502	i m1 o
.916	9.805	4.873	43.766	.5491	1.821	.503	i m1 o
.918	10.935	5.276	52.982	.5637	1.774	.518	i m1 o
.916	10.612	5.295	51.471	.5470	1.828	.501	i m1 o
.919	10.756	5.304	52.429	.5516	1.813	.507	i m1 o
.919	10.832	5.329	53.048	.5528	1.809	.508	i m1 o

PHENOLIC . Durite HR 300

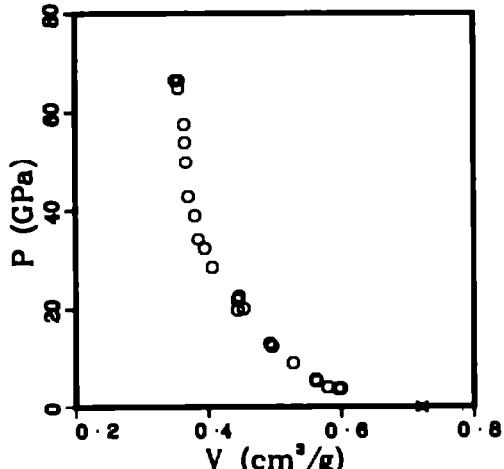
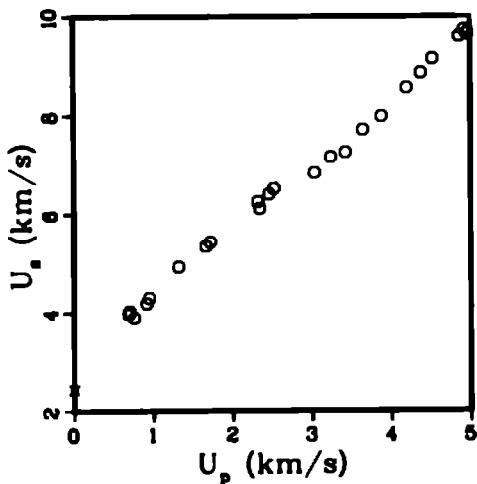
Average $\rho_0 = 1.385 \text{ g/cm}^3$.

Sound velocities longitudinal 3.06 km/s.
 shear 1.59 km/s.

Reference 51

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.388	2.448	0.000	0.000	.7205	1.388	1.000	ssp x
1.388	3.973	.689	3.800	.5955	1.679	.827	im1 o
1.379	4.032	.699	3.887	.5994	1.668	.827	im1 o
1.388	3.895	.760	4.109	.5799	1.724	.805	im1 o
1.389	4.188	.916	5.328	.5625	1.778	.781	im1 o
1.388	4.299	.950	5.669	.5613	1.782	.779	im1 o
1.388	4.923	1.319	9.013	.5274	1.896	.732	im1 o
1.388	5.339	1.664	12.331	.4959	2.016	.688	im1 o
1.388	5.424	1.719	12.942	.4921	2.032	.683	im1 o
1.388	6.252	2.321	20.141	.4530	2.208	.629	im1 o
1.388	6.109	2.344	19.875	.4440	2.252	.616	im1 o
1.388	6.406	2.460	21.873	.4438	2.253	.616	im1 o
1.374	6.518	2.522	22.586	.4462	2.241	.613	im1 o
1.369	6.835	3.035	28.399	.4061	2.462	.556	im1 o
1.387	7.160	3.241	32.186	.3946	2.534	.547	im1 o
1.370	7.261	3.430	34.120	.3851	2.597	.528	im1 o
1.388	7.713	3.644	39.011	.3801	2.631	.528	im1 o
1.388	7.979	3.876	42.926	.3705	2.699	.514	im1 o
1.388	8.555	4.199	49.860	.3668	2.726	.509	im1 o

(Continued)



PHENOLIC, Durite HR 300
(Continued)

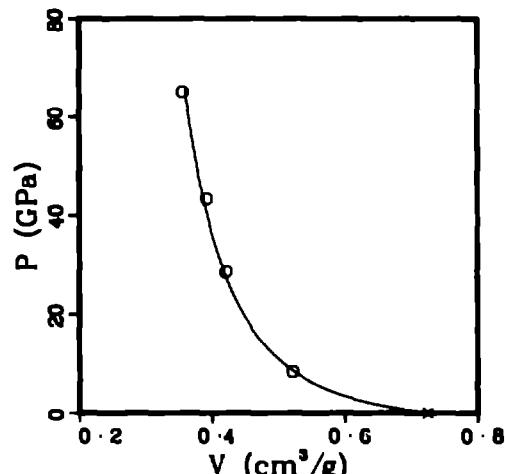
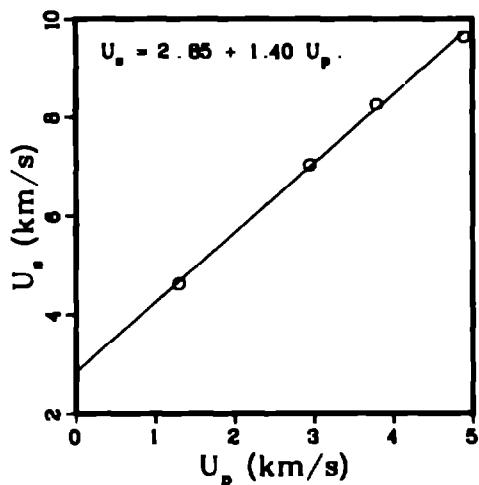
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.388	8.880	4.378	53.961	.3853	2.738	.507	im1 o
1.388	9.162	4.523	57.518	.3848	2.741	.506	im1 o
1.388	9.607	4.862	64.832	.3558	2.810	.494	im1 o
1.388	9.740	4.922	66.541	.3564	2.806	.495	im1 o
1.388	9.666	4.960	66.545	.3508	2.851	.487	im1 o

PHENOLIC, furfural-filled

Average $\rho_0 = 1.380 \text{ g/cm}^3$.

Reference 13

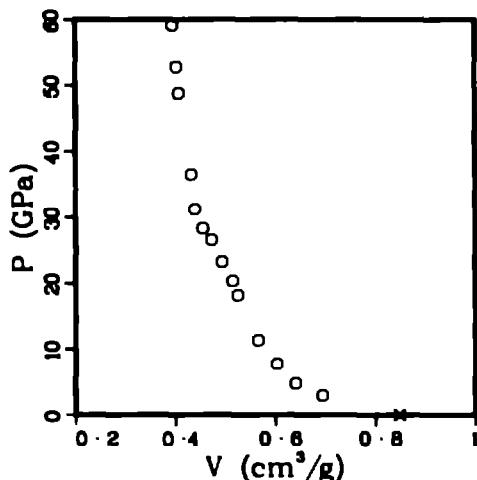
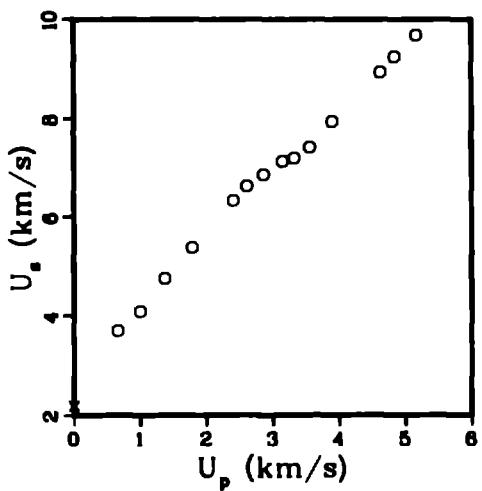
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.379	4.619	1.299	8.274	.5212	1.919	.719	im1 o
1.378	7.019	2.944	28.475	.4213	2.374	.581	im1 o
1.382	8.268	3.787	43.272	.3922	2.550	.542	im1 o
1.382	9.629	4.892	65.099	.3560	2.809	.492	im1 o



PHENOXY PRDA 8060

$$\text{Average } \rho_0 = 1.181 \text{ g/cm}^3.$$

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.178	2.185	0.000	0.000	.8489	1.178	1.000	ss p x
1.181	3.699	.666	2.909	.8943	1.440	.820	im1 o
1.181	4.088	.993	4.794	.6411	1.560	.757	im1 o
1.181	4.769	1.374	7.739	.6028	1.659	.712	im1 o
1.181	5.385	1.781	11.327	.5667	1.765	.669	im1 o
1.181	6.344	2.413	18.079	.5247	1.906	.620	im1 o
1.181	6.642	2.603	20.418	.5149	1.942	.608	im1 o
1.181	6.870	2.861	23.213	.4941	2.024	.584	im1 o
1.181	7.133	3.151	26.544	.4727	2.116	.558	im1 o
1.181	7.199	3.328	28.295	.4553	2.196	.538	im1 o
1.181	7.415	3.563	31.202	.4399	2.273	.519	im1 o
1.181	7.946	3.893	36.533	.4319	2.315	.510	im1 o
1.181	8.920	4.631	48.785	.4071	2.456	.481	im1 o
1.181	9.236	4.836	52.750	.4034	2.479	.476	im1 o
1.181	9.684	5.169	59.117	.3946	2.533	.466	im1 o



POLYAMIDE . Nylon

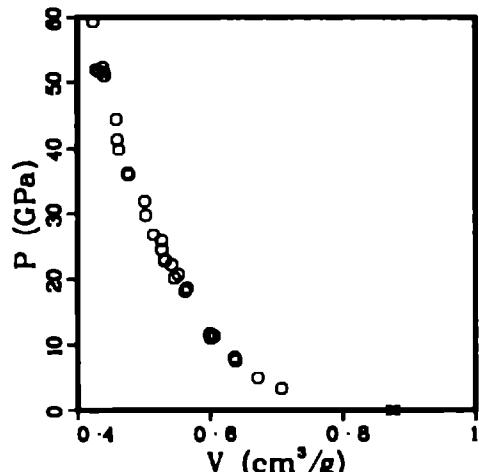
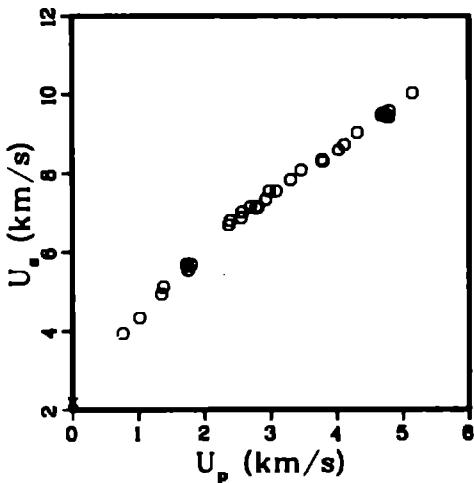
Average $\rho_0 = 1.146 \text{ g/cm}^3$.

Sound velocities longitudinal 2.53 km/s.
shear 1.08 km/s.

Reference 51

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.140	2.201	0.000	0.000	.8772	1.140	1.000	ssp x
1.140	3.938	.763	3.425	.7072	1.414	.806	iml o
1.139	4.334	1.018	5.025	.6717	1.489	.765	iml o
1.140	4.944	1.348	7.598	.6380	1.567	.727	iml o
1.150	5.124	1.374	8.096	.6364	1.571	.732	iml o
1.150	5.689	1.727	11.299	.6056	1.651	.696	iml o
1.150	5.842	1.738	11.277	.6017	1.662	.692	iml o
1.140	5.540	1.749	11.046	.6003	1.666	.684	iml o
1.140	5.878	1.799	11.645	.5993	1.669	.683	iml o
1.150	6.891	2.368	18.206	.5621	1.779	.646	iml o
1.150	6.805	2.385	18.664	.5648	1.771	.650	iml o
1.150	6.870	2.555	20.186	.5462	1.831	.628	iml o
1.150	7.022	2.565	20.713	.5519	1.812	.635	iml o
1.150	7.147	2.694	22.142	.5418	1.846	.623	iml o
1.150	7.140	2.778	22.810	.5312	1.882	.611	iml o
1.140	7.134	2.808	22.837	.5319	1.880	.606	iml o
1.140	7.331	2.926	24.454	.5271	1.897	.601	iml o
1.150	7.548	2.976	25.832	.5267	1.899	.606	iml o
1.150	7.545	3.083	26.750	.5142	1.945	.591	iml o

(Continued)



POLYAMIDE, Nylon
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.150	7.831	3.302	29.737	.5029	1.988	.578	im1 o
1.140	8.078	3.462	31.681	.5013	1.995	.571	im1 o
1.150	8.341	3.777	36.230	.4758	2.102	.547	im1 o
1.140	8.297	3.789	35.839	.4766	2.098	.543	im1 o
1.150	8.599	4.027	39.822	.4623	2.163	.532	im1 o
1.150	8.739	4.114	41.345	.4602	2.173	.529	im1 o
1.140	9.041	4.312	44.443	.4588	2.179	.523	im1 o
1.150	9.481	4.675	50.972	.4408	2.269	.507	im1 o
1.150	9.528	4.709	51.597	.4398	2.274	.506	im1 o
1.150	9.453	4.755	51.691	.4322	2.314	.497	im1 o
1.150	9.438	4.790	51.978	.4281	2.336	.492	im1 o
1.140	9.580	4.794	52.356	.4382	2.282	.500	im1 o
1.150	10.032	5.144	59.345	.4237	2.360	.487	im1 o

POLYCARBONATE, Lexan and Merlin

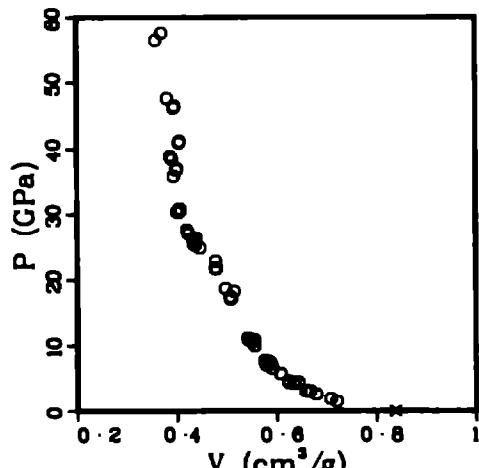
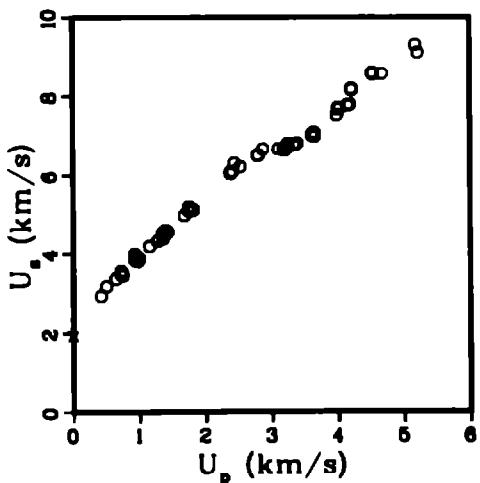
Average $\rho_0 = 1.193 \text{ g/cm}^3$.

Sound velocities longitudinal 2.18 km/s.
shear .88 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.194	1.929	0.000	0.000	.8375	1.194	1.000	ssp x
1.191	2.949	.421	1.479	.7198	1.389	.857	im1 o
1.191	3.189	.501	1.903	.7077	1.413	.843	im1 o
1.191	3.380	.647	2.805	.6789	1.473	.809	im1 o
1.196	3.586	.724	3.088	.6664	1.501	.797	im1 o
1.191	3.506	.727	3.036	.6655	1.503	.793	im1 o
1.191	3.465	.751	3.099	.6577	1.521	.783	im1 o
1.191	3.987	.931	4.421	.6436	1.554	.766	im1 o
1.196	3.891	.938	4.365	.6346	1.576	.759	im1 o
1.191	3.861	.940	4.323	.6352	1.574	.757	im1 o
1.191	3.815	.976	4.435	.6248	1.600	.744	im1 o
1.191	3.880	.999	4.616	.6234	1.604	.743	im1 o
1.191	4.191	1.159	5.785	.6074	1.646	.723	im1 o
1.191	4.321	1.279	6.582	.5911	1.692	.704	im1 o
1.196	4.517	1.357	7.331	.5849	1.710	.700	im1 o
1.191	4.522	1.358	7.314	.5875	1.702	.700	im1 o
1.191	4.378	1.359	7.086	.5790	1.727	.690	im1 o
1.191	4.529	1.378	7.433	.5842	1.712	.696	im1 o
1.196	4.599	1.397	7.684	.5821	1.718	.696	im1 o

(Continued)



POLYCARBONATE . Lexan and Merlin
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.191	4.541	1.429	7.729	.5754	1.738	.685	im1 o
1.191	4.979	1.684	9.986	.5557	1.800	.662	im1 o
1.196	5.194	1.749	10.865	.5546	1.803	.663	im1 o
1.196	5.115	1.750	10.706	.5501	1.818	.658	im1 o
1.191	5.113	1.752	10.869	.5519	1.812	.657	im1 o
1.191	5.133	1.760	10.780	.5517	1.812	.657	im1 o
1.196	5.112	1.781	10.889	.5448	1.835	.652	im1 o
1.191	5.123	1.819	11.099	.5415	1.847	.645	im1 o
1.196	6.069	2.379	17.268	.5084	1.967	.608	im1 o
1.191	6.040	2.384	17.150	.5082	1.968	.605	im1 o
1.191	6.092	2.408	17.471	.5077	1.969	.605	im1 o
1.191	6.305	2.437	18.300	.5151	1.941	.613	im1 o
1.191	6.215	2.530	18.727	.4978	2.009	.593	im1 o
1.196	6.515	2.793	21.763	.4777	2.093	.571	im1 o
1.191	6.512	2.796	21.685	.4791	2.087	.571	im1 o
1.191	6.666	2.871	22.793	.4780	2.092	.569	im1 o
1.196	6.671	3.105	24.773	.4470	2.237	.535	im1 o
1.191	6.652	3.186	25.241	.4375	2.286	.521	im1 o
1.191	6.649	3.213	25.444	.4339	2.305	.517	im1 o
1.191	6.811	3.247	26.339	.4394	2.276	.523	im1 o
1.196	6.750	3.251	26.245	.4334	2.307	.518	im1 o
1.196	6.766	3.337	27.003	.4237	2.360	.507	im1 o
1.196	6.815	3.387	27.607	.4206	2.378	.503	im1 o
1.196	7.023	3.615	30.364	.4057	2.485	.485	im1 o
1.196	7.072	3.640	30.788	.4058	2.464	.485	im1 o
1.191	7.082	3.643	30.727	.4077	2.453	.486	im1 o
1.191	6.989	3.651	30.391	.4010	2.494	.478	im1 o
1.191	7.527	3.992	35.787	.3943	2.536	.470	im1 o
1.196	7.705	4.009	36.944	.4011	2.493	.480	im1 o
1.191	7.673	4.018	36.719	.4000	2.500	.476	im1 o
1.192	7.769	4.150	38.432	.3908	2.559	.466	im1 o
1.192	7.788	4.192	38.916	.3874	2.582	.462	im1 o
1.196	8.187	4.209	41.213	.4063	2.481	.486	im1 o
1.191	8.152	4.218	40.953	.4052	2.468	.483	im1 o
1.196	8.592	4.524	46.489	.3959	2.526	.473	im1 o
1.191	8.550	4.535	46.180	.3943	2.536	.470	im1 o
1.191	8.562	4.671	47.632	.3816	2.621	.454	im1 o
1.196	9.305	5.179	57.636	.3708	2.697	.443	im1 o
1.191	9.108	5.214	56.560	.3590	2.786	.428	im1 o

POLYCHLOROTRIFLUOROETHYLENE . Kel F

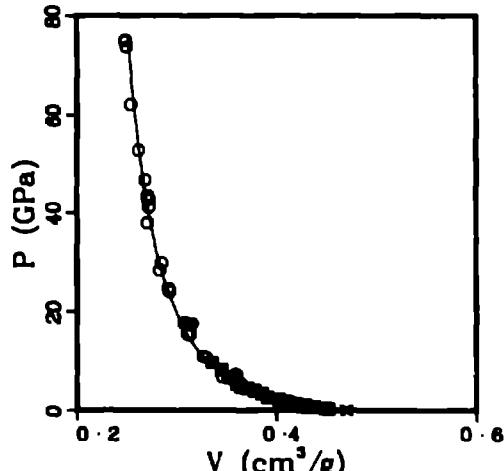
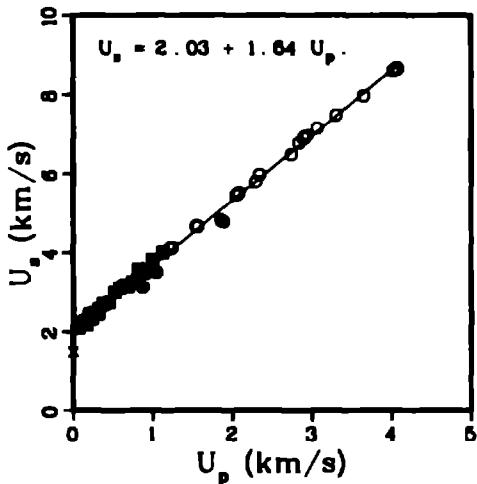
Average $\rho_0 = 2.122 \text{ g/cm}^3$.

Sound velocities longitudinal 1.74 km/s.
shear .77 km/s.

References 51, 52

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.133	1.496	0.000	0.000	4688	2.133	1.000	s p p x
2.140	2.087	.088	.304	4521	2.212	.967	s p 2 ■
2.140	2.206	.089	.420	4484	2.230	.960	s p 2 ■
2.140	2.260	.143	.692	4377	2.285	.937	s p 2 ■
2.140	2.170	.173	.803	4300	2.325	.920	s p 2 ■
2.140	2.348	.193	.970	4289	2.332	.918	s p 2 ■
2.140	2.430	.205	1.066	4279	2.337	.916	s p 2 ■
2.140	2.310	.233	1.152	4202	2.380	.899	s p 2 ■
2.140	2.462	.253	1.333	4193	2.385	.897	s p 2 ■
2.140	2.448	.294	1.540	4112	2.432	.880	s p 2 ■
2.140	2.460	.312	1.642	4080	2.451	.873	s p 2 ■
2.140	2.560	.321	1.759	4087	2.447	.875	s p 2 ■
2.140	2.690	.375	2.159	4021	2.487	.861	s p 2 ■
2.140	2.729	.446	2.605	3909	2.558	.837	s p 2 ■
2.140	2.990	.524	3.353	3854	2.595	.825	s p 2 ■
2.140	3.100	.591	3.921	3782	2.644	.809	s p 2 ■
2.131	3.132	.604	4.031	3788	2.640	.807	i m1 o
2.140	3.170	.653	4.430	3710	2.695	.794	s p 2 ■
2.131	3.152	.690	4.635	3665	2.728	.781	i m1 o

(Continued)



POLYCHLOROTRIFLUOROETHYLENE, Kel F
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.140	3.130	.690	4.622	.3643	2.745	.780	sp2 ■
2.140	3.260	.747	5.211	.3602	2.776	.771	sp2 ■
2.140	3.560	.822	6.262	.3594	2.782	.769	sp2 ■
2.140	3.580	.830	6.359	.3590	2.786	.768	sp2 ■
2.133	3.485	.869	6.460	.3519	2.842	.751	im1 ○
1.975	3.108	.875	5.371	.3638	2.749	.718	sf1 ●
2.133	3.465	.905	6.689	.3464	2.887	.739	im1 ○
2.140	3.816	1.000	8.166	.3448	2.900	.738	sp2 ■
1.948	3.500	1.050	7.159	.3593	2.783	.700	sf1 ●
2.140	4.000	1.130	9.673	.3353	2.983	.717	sp2 ■
2.134	4.113	1.221	10.717	.3295	3.035	.703	im1 ○
2.132	4.113	1.247	10.935	.3268	3.060	.697	im1 ○
2.134	4.669	1.546	15.404	.3134	3.190	.669	im1 ○
2.134	4.658	1.565	15.556	.3112	3.214	.664	im1 ○
1.948	4.814	1.860	17.442	.3150	3.175	.614	sf1 ●
1.965	4.779	1.890	17.748	.3076	3.251	.605	sf1 ●
2.131	5.462	2.052	23.884	.2930	3.413	.624	im1 ○
2.133	5.517	2.088	24.571	.2914	3.432	.622	im1 ○
2.134	5.796	2.295	28.386	.2831	3.533	.604	im1 ○
2.132	5.974	2.343	29.842	.2851	3.508	.608	im1 ○
2.132	6.483	2.745	37.941	.2704	3.698	.577	im1 ○
2.134	6.779	2.842	41.113	.2721	3.674	.581	im1 ○
2.133	6.913	2.900	42.762	.2722	3.674	.581	im1 ○
2.132	6.907	2.912	42.881	.2713	3.686	.578	im1 ○
2.134	6.959	2.934	43.571	.2710	3.690	.578	im1 ○
2.133	7.156	3.065	46.783	.2680	3.731	.572	im1 ○
2.134	7.484	3.304	52.768	.2617	3.821	.559	im1 ○
2.132	7.971	3.653	62.080	.2541	3.936	.542	im1 ○
2.132	8.590	4.017	73.567	.2497	4.005	.532	im1 ○
2.132	8.658	4.064	75.017	.2489	4.018	.531	im1 ○
2.132	8.631	4.068	74.856	.2480	4.033	.529	im1 ○

POLYESTER . Clear Cast . Selectron

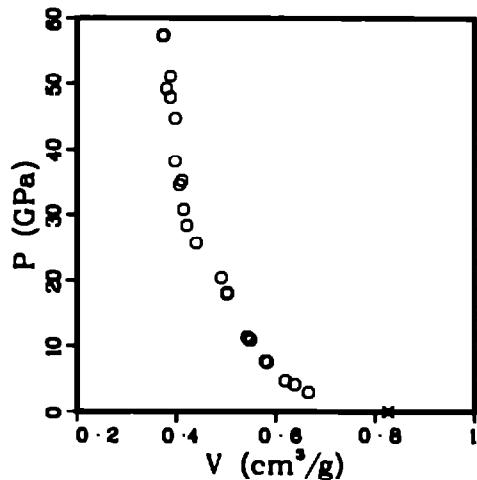
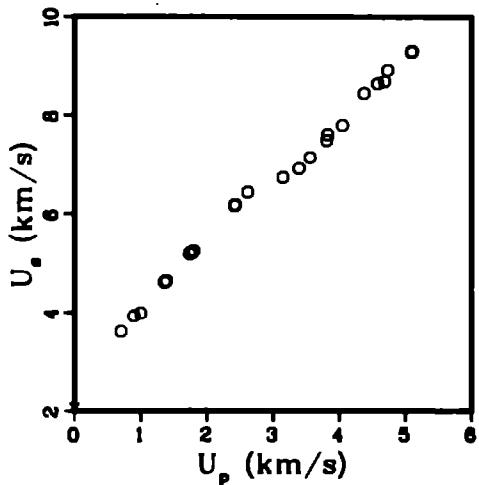
Average $\rho_0 = 1.210 \text{ g/cm}^3$.

Sound velocities longitudinal 2.53 km/s .
shear 1.26 km/s .

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.210	2.070	0.000	0.000	8264	1.210	1.000	ssp x
1.210	3.610	.701	3.062	8860	1.502	.806	im1 o
1.210	3.928	.895	4.254	6381	1.567	.772	im1 o
1.210	3.984	.999	4.816	6192	1.615	.749	im1 o
1.210	4.611	1.359	7.582	5829	1.716	.705	im1 o
1.210	4.638	1.386	7.778	5795	1.726	.701	im1 o
1.210	5.182	1.737	10.891	5494	1.820	.665	im1 o
1.210	5.200	1.768	11.124	5455	1.833	.660	im1 o
1.210	5.234	1.798	11.387	5425	1.843	.656	im1 o
1.210	6.159	2.417	18.012	5021	1.992	.608	im1 o
1.210	6.186	2.425	18.151	5025	1.990	.608	im1 o
1.210	6.443	2.617	20.402	4908	2.038	.594	im1 o
1.210	6.735	3.147	25.646	4403	2.271	.533	im1 o
1.210	6.920	3.391	28.394	4215	2.373	.510	im1 o
1.210	7.148	3.559	30.782	4150	2.410	.502	im1 o
1.210	7.497	3.810	34.562	4064	2.460	.492	im1 o
1.210	7.612	3.823	35.212	4114	2.431	.498	im1 o
1.210	7.800	4.046	38.188	3978	2.514	.481	im1 o
1.210	8.439	4.376	44.684	3979	2.513	.481	im1 o

(Continued)



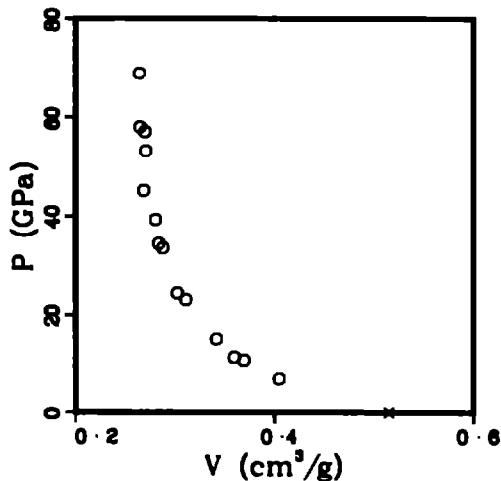
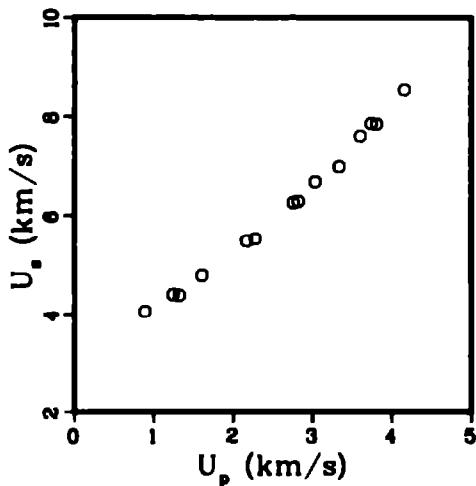
POLYESTER, Clear Cast, Selectron
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.210	8.636	4.580	47.859	.3882	2.576	.470	iml o
1.210	8.678	4.685	49.194	.3803	2.630	.460	iml o
1.210	8.925	4.732	51.102	.3883	2.576	.470	iml o
1.210	9.296	5.095	57.309	.3735	2.677	.452	iml o
1.210	9.311	5.099	57.447	.3739	2.675	.452	iml o

POLYESTER, fiber-glass reinforced, Doron

Average $\rho_0 = 1.942 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.934	4.058	.885	6.946	.4043	2.473	.782	im1 o
1.943	4.402	1.243	10.631	.3693	2.708	.718	im1 o
1.943	4.385	1.322	11.264	.3595	2.782	.699	im1 o
1.943	4.786	1.609	14.962	.3416	2.927	.664	im1 o
1.943	5.484	2.170	23.122	.3110	3.215	.604	im1 o
1.943	5.526	2.279	24.470	.3024	3.307	.588	im1 o
1.943	6.259	2.758	33.541	.2879	3.474	.559	im1 o
1.943	6.283	2.821	34.438	.2836	3.526	.551	im1 o
1.943	6.670	3.034	39.320	.2806	3.584	.545	im1 o
1.943	6.971	3.334	45.158	.2685	3.724	.522	im1 o
1.943	7.598	3.601	53.147	.2707	3.694	.526	im1 o
1.943	7.858	3.738	57.072	.2698	3.706	.524	im1 o
1.943	7.844	3.808	58.037	.2648	3.776	.515	im1 o
1.943	8.541	4.157	68.986	.2642	3.785	.513	im1 o



POLYETHYLENE

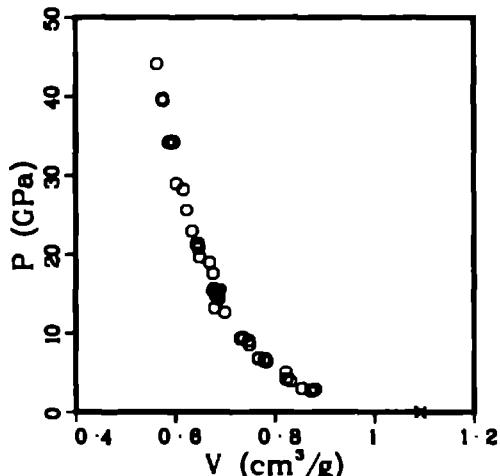
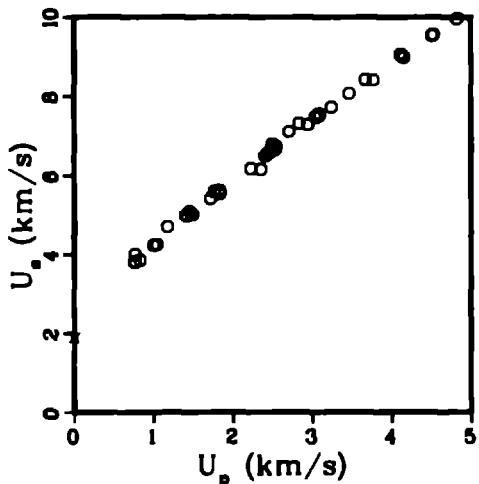
Average $\rho_0 = 0.916 \text{ g/cm}^3$.

Sound velocities longitudinal 2.04 km/s.
shear .66 km/s.

References 13, 51

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.916	1.892	0.000	0.000	1.0917	.916	1.000	s s p x
.916	3.817	.759	2.654	.8746	1.143	.801	im1 o
.918	4.001	.764	2.806	.8813	1.135	.809	im1 o
.916	3.813	.766	2.675	.8724	1.146	.799	im1 o
.918	3.853	.831	2.839	.8544	1.170	.784	im1 o
.918	4.229	1.001	3.886	.8315	1.203	.763	im1 o
.916	4.246	1.044	4.060	.8233	1.215	.754	im1 o
.913	4.699	1.170	5.020	.8226	1.216	.751	im1 o
.916	4.980	1.402	6.395	.7844	1.275	.718	im1 o
.918	4.986	1.419	6.495	.7793	1.283	.715	im1 o
.916	5.100	1.448	6.764	.7817	1.279	.716	im1 o
.916	5.014	1.485	6.820	.7684	1.301	.704	im1 o
.916	5.009	1.486	6.818	.7678	1.302	.703	im1 o
.913	5.430	1.718	8.517	.7488	1.336	.684	im1 o
.916	5.802	1.766	9.062	.7475	1.338	.685	im1 o
.916	5.627	1.830	9.432	.7367	1.357	.675	im1 o
.916	5.546	1.831	9.302	.7313	1.367	.670	im1 o
.916	5.568	1.834	9.354	.7321	1.366	.671	im1 o
.913	6.174	2.229	12.565	.6999	1.429	.639	im1 o

(Continued)



$1.15 - 0.7555$
+ 1.588 Up

POLYETHYLENE
(Continued)

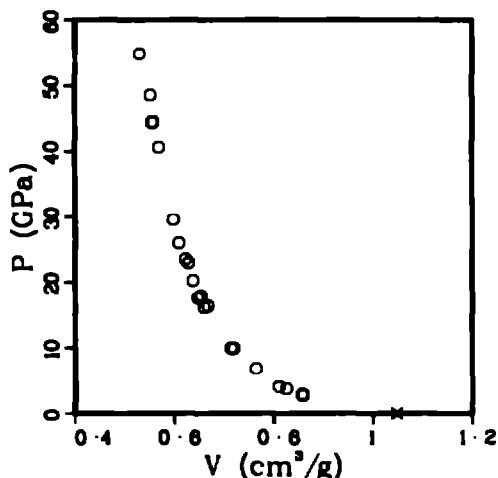
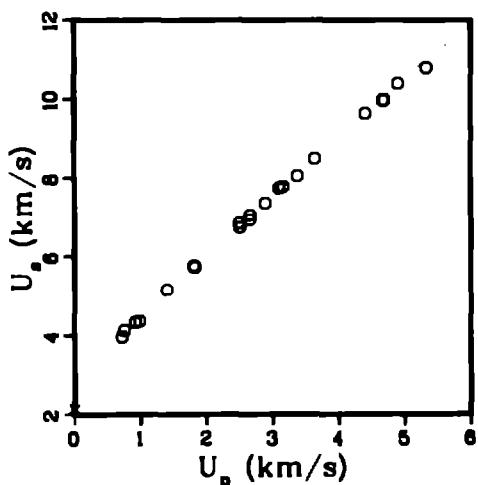
ρ_o (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V _o	Exp
.908	6.149	2.355	13.149	.6795	1.472	.617	im1 o
.913	6.492	2.410	14.285	.6887	1.452	.629	im1 o
.916	6.540	2.441	14.623	.6842	1.461	.627	im1 o
.916	6.579	2.465	14.855	.6827	1.465	.625	im1 o
.916	6.583	2.465	14.864	.6829	1.464	.626	im1 o
.916	6.777	2.493	15.476	.6901	1.449	.632	im1 o
.916	6.869	2.494	15.235	.6834	1.463	.626	im1 o
.916	6.639	2.496	15.179	.6813	1.468	.624	im1 o
.916	6.632	2.525	15.339	.6761	1.479	.619	im1 o
.918	6.713	2.541	15.659	.6770	1.477	.621	im1 o
.916	7.102	2.706	17.604	.6757	1.480	.619	im1 o
.916	7.321	2.833	18.998	.6692	1.494	.613	im1 o
.918	7.285	2.945	19.695	.6490	1.541	.596	im1 o
.916	7.473	3.042	20.823	.6473	1.545	.593	im1 o
.916	7.564	3.084	21.368	.6466	1.547	.592	im1 o
.916	7.512	3.089	21.255	.6428	1.558	.589	im1 o
.916	7.728	3.243	22.957	.6336	1.578	.580	im1 o
.916	8.077	3.468	25.658	.6230	1.605	.571	im1 o
.916	8.421	3.665	28.270	.6168	1.622	.565	im1 o
.916	8.406	3.766	28.998	.6026	1.659	.552	im1 o
.916	9.071	4.113	34.175	.5967	1.676	.547	im1 o
.916	9.045	4.116	34.102	.5949	1.681	.545	im1 o
.916	9.029	4.138	34.224	.5914	1.691	.542	im1 o
.916	8.978	4.153	34.154	.5867	1.704	.537	im1 o
.916	9.548	4.510	39.444	.5760	1.736	.528	im1 o
.916	9.574	4.528	39.710	.5754	1.738	.527	im1 o
.916	9.969	4.827	44.078	.5631	1.776	.516	im1 o

POLYETHYLENE, high-density, Marlex EMN 6065

Average $\rho_0 = 0.954 \text{ g/cm}^3$.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
0.954	2.130	0.000	0.000	1.0482	.954	1.000	ssp x
0.954	3.968	.721	2.729	.8578	1.166	.818	iml o
0.954	4.131	.754	2.971	.8569	1.167	.817	iml o
0.954	4.332	.922	3.810	.8251	1.212	.787	iml o
0.955	4.361	.987	4.111	.8101	1.234	.774	iml o
0.954	5.157	1.398	6.878	.7641	1.309	.729	iml o
0.954	5.764	1.807	9.936	.7196	1.390	.687	iml o
0.954	5.734	1.827	9.994	.7142	1.400	.681	iml o
0.954	6.862	2.494	16.327	.6672	1.499	.637	iml o
0.954	6.753	2.504	16.132	.6595	1.516	.629	iml o
0.954	6.939	2.653	17.562	.6475	1.545	.618	iml o
0.954	7.061	2.658	17.905	.6536	1.530	.624	iml o
0.954	7.371	2.888	20.308	.6375	1.589	.608	iml o
0.954	7.751	3.100	22.923	.6290	1.590	.600	iml o
0.954	7.788	3.160	23.478	.6229	1.605	.594	iml o
0.954	8.056	3.379	25.969	.6086	1.643	.581	iml o
0.954	8.493	3.648	29.557	.5980	1.672	.570	iml o
0.954	9.657	4.409	40.619	.5696	1.755	.543	iml o
0.954	9.978	4.675	44.501	.5571	1.795	.531	iml o
0.954	9.980	4.693	44.682	.5553	1.801	.530	iml o
0.954	10.390	4.905	48.619	.5534	1.807	.528	iml o
0.954	10.786	5.328	54.824	.5304	1.885	.506	iml o



Appx #
C 1.4439
S 3.218

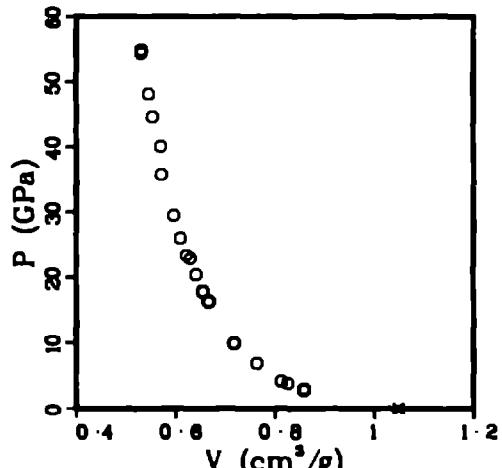
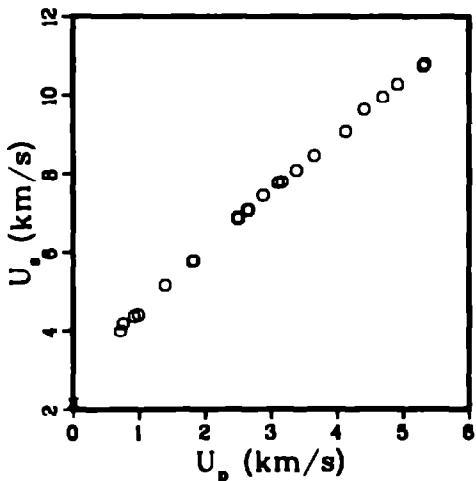
POLYETHYLENE . high-density . Marlex 50

Average $\rho_a = 0.954 \text{ g/cm}^3$.

Reference 51

ρ_0 (g/cm ³)	U ₀ (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.954	2.166	0.000	0.000	1.0482	.954	1.000	ss p x
.954	3.985	.721	2.741	.8586	1.185	.819	im1 o
.954	4.174	.753	2.998	.8591	1.164	.820	im1 o
.954	4.355	.921	3.826	.8265	1.210	.789	im1 o
.954	4.399	.986	4.138	.8133	1.230	.776	im1 o
.954	5.147	1.398	6.865	.7635	1.310	.728	im1 o
.954	5.755	1.808	9.926	.7189	1.391	.686	im1 o
.954	5.779	1.824	10.056	.7174	1.394	.684	im1 o
.954	6.873	2.493	16.346	.6680	1.497	.637	im1 o
.954	6.835	2.497	16.282	.6653	1.503	.635	im1 o
.954	7.056	2.643	17.791	.6556	1.525	.625	im1 o
.954	7.076	2.657	17.936	.6546	1.528	.625	im1 o
.954	7.434	2.882	20.439	.6418	1.558	.612	im1 o
.954	7.760	3.099	22.942	.6296	1.588	.601	im1 o
.954	7.774	3.162	23.451	.6219	1.608	.593	im1 o
.954	8.079	3.377	26.028	.6101	1.639	.582	im1 o
.954	8.464	3.651	29.481	.5981	1.678	.569	im1 o
.954	9.072	4.136	35.796	.5703	1.753	.544	im1 o
.954	9.631	4.412	40.537	.5680	1.760	.542	im1 o

(Continued)



POLYETHYLENE, high-density, Marlex 50
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.954	9.946	4.697	44.567	.5532	1.808	.528	i m l o
.954	10.265	4.921	48.190	.5457	1.832	.521	i m l o
.954	10.736	5.305	54.335	.5303	1.886	.506	i m l o
.954	10.797	5.326	54.860	.5311	1.883	.507	i m l o

POLYIMIDE

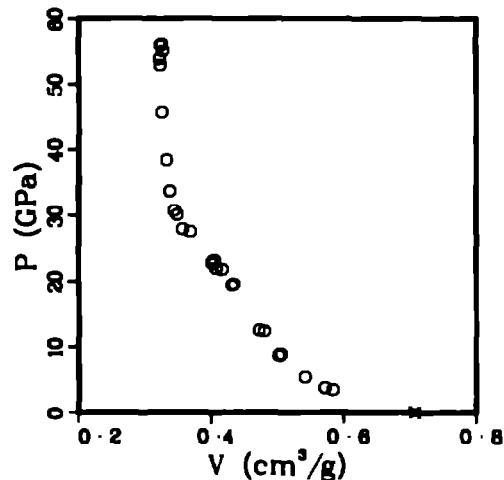
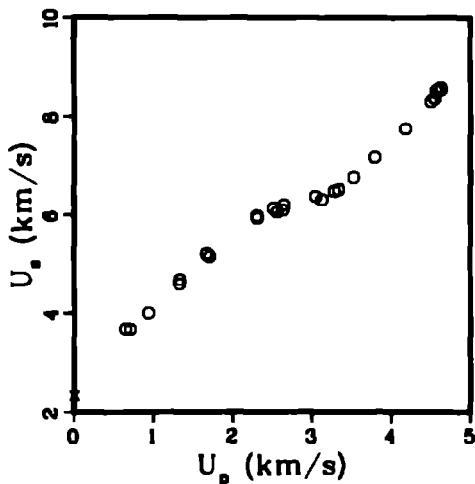
Average $\rho_0 = 1.414 \text{ g/cm}^3$.

Sound velocities longitudinal 2.72 km/s.
 shear 1.22 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.414	2.327	0.000	0.000	7072	1.414	1.000	s s p x
1.414	3.681	.645	3.357	5833	1.714	.825	im1 o o
1.414	3.670	.706	3.664	5712	1.751	.808	im1 o o
1.414	3.999	.936	5.293	5417	1.846	.766	im1 o o
1.414	4.594	1.330	8.640	5025	1.990	.710	im1 o o
1.414	4.685	1.334	8.837	5058	1.977	.715	im1 o o
1.414	5.210	1.675	12.340	4798	2.084	.679	im1 o o
1.414	5.153	1.714	12.489	4720	2.119	.667	im1 o o
1.414	5.980	2.307	19.507	4344	2.302	.614	im1 o o
1.414	5.931	2.312	19.389	4315	2.317	.610	im1 o o
1.414	6.135	2.516	21.826	4172	2.397	.590	im1 o o
1.414	6.060	2.563	21.962	4081	2.450	.577	im1 o o
1.414	6.096	2.635	22.713	4015	2.491	.568	im1 o o
1.414	6.200	2.648	23.214	4052	2.468	.573	im1 o o
1.414	6.374	3.052	27.507	3688	2.713	.521	im1 o o
1.414	6.311	3.129	27.922	3566	2.804	.504	im1 o o
1.414	6.486	3.286	30.137	3489	2.866	.493	im1 o o
1.414	6.514	3.341	30.773	3445	2.903	.487	im1 o o
1.414	6.762	3.530	33.752	3380	2.958	.478	im1 o o

(Continued)



POLYIMIDE
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.414	7.165	3.794	38.438	.3327	3.005	.470	im1 o
1.414	7.742	4.179	45.748	.3255	3.072	.460	im1 o
1.414	8.299	4.503	52.842	.3235	3.091	.457	im1 o
1.414	8.364	4.552	53.835	.3223	3.102	.456	im1 o
1.414	8.517	4.573	55.073	.3275	3.054	.463	im1 o
1.414	8.578	4.626	56.110	.3258	3.069	.461	im1 o
1.414	8.542	4.632	55.947	.3237	3.089	.458	im1 o

POLYMETHYL METHACRYLATE, acrylic, Plexiglas

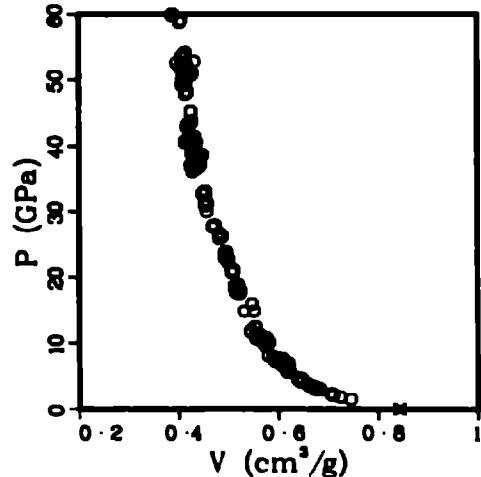
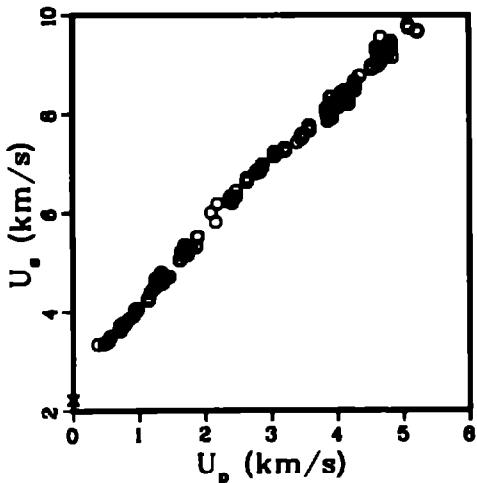
Average $\rho_0 = 1.186 \text{ g/cm}^3$.

Sound velocities longitudinal 2.72 km/s.
 shear 1.36 km/s.

References 6, 13, 51, 53

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.184	2.221	0.000	0.000	.8446	1.184	1.000	ssp x
1.189	2.229	0.000	0.000	.8410	1.189	1.000	ssp x
1.191	3.345	.376	1.498	.7453	1.342	.888	im1 o
1.187	3.350	.470	1.869	.7243	1.381	.860	im1 o
1.190	3.389	.531	2.141	.7087	1.411	.843	im1 o
1.186	3.446	.545	2.227	.7098	1.409	.842	im1 o
1.187	3.501	.570	2.369	.7053	1.418	.837	im1 o
1.186	3.612	.700	2.999	.6798	1.471	.806	im1 o
1.186	3.709	.708	3.106	.6827	1.485	.810	im1 o
1.186	3.702	.718	3.152	.6796	1.471	.806	im1 o
1.190	3.804	.719	3.084	.6727	1.487	.800	im1 o
1.189	3.757	.756	3.377	.6718	1.489	.799	im1 o
1.186	3.718	.765	3.373	.6697	1.493	.794	im1 o
1.189	3.741	.788	3.505	.6639	1.506	.789	im1 o
1.186	3.836	.841	3.826	.6583	1.519	.781	im1 o
1.186	3.908	.917	4.250	.6453	1.550	.765	im1 o
1.187	4.053	.939	4.517	.6473	1.545	.768	im1 o
1.187	4.039	.940	4.507	.6464	1.547	.767	im1 o
1.187	4.029	.941	4.500	.6457	1.549	.766	im1 o

(Continued)



POLYMETHYLMETHACRYLATE . acrylic . Plexiglas
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.187	4.008	.942	4.482	.6445	1.552	.765	im1 o
1.187	4.014	.966	4.603	.6397	1.563	.759	im1 o
1.187	4.070	.967	4.672	.6423	1.557	.762	im1 o
1.186	4.039	.970	4.647	.6407	1.561	.760	im1 o
1.186	4.050	.980	4.707	.6391	1.565	.758	im1 o
1.180	4.260	1.133	5.695	.6221	1.608	.734	im1 o
1.182	4.284	1.148	5.813	.6193	1.615	.732	im1 o
1.180	4.239	1.150	5.752	.6176	1.619	.729	im1 o
1.187	4.392	1.172	6.110	.6177	1.619	.733	im1 o
1.187	4.453	1.210	6.398	.6135	1.630	.728	im1 o
1.180	4.663	1.249	6.872	.6205	1.612	.732	im1 o
1.187	4.519	1.267	6.796	.6063	1.649	.720	im1 o
1.180	4.649	1.283	7.038	.6138	1.630	.724	im1 o
1.180	4.639	1.284	7.029	.6129	1.632	.723	im1 o
1.186	4.782	1.337	7.583	.6074	1.646	.720	im1 o
1.186	4.784	1.337	7.588	.6075	1.648	.721	im1 o
1.189	4.667	1.344	7.458	.5988	1.670	.712	im1 o
1.187	4.573	1.346	7.308	.5945	1.682	.706	im1 o
1.186	4.658	1.357	7.497	.5975	1.674	.709	im1 o
1.187	4.688	1.367	7.607	.5968	1.676	.708	im1 o
1.187	4.677	1.368	7.595	.5960	1.678	.708	im1 o
1.187	4.683	1.368	7.604	.5964	1.677	.708	im1 o
1.187	4.684	1.368	7.608	.5964	1.677	.708	im1 o
1.184	4.589	1.371	7.449	.5923	1.688	.701	im1 o
1.187	4.701	1.419	7.918	.5882	1.700	.698	im1 o
1.189	4.704	1.462	8.177	.5796	1.725	.689	im1 o
1.180	5.041	1.621	9.642	.5749	1.739	.678	im1 o
1.180	5.049	1.629	9.705	.5740	1.742	.677	im1 o
1.180	5.200	1.637	10.045	.5807	1.722	.685	im1 o
1.187	5.143	1.672	10.207	.5686	1.759	.675	im1 o
1.187	5.181	1.689	10.387	.5678	1.761	.674	im1 o
1.186	5.328	1.693	10.698	.5752	1.738	.682	im1 o
1.186	5.330	1.693	10.702	.5753	1.738	.682	im1 o
1.187	5.230	1.723	10.696	.5649	1.770	.671	im1 o
1.187	5.198	1.725	10.643	.5629	1.777	.668	im1 o
1.187	5.275	1.732	10.845	.5658	1.767	.672	im1 o
1.187	5.232	1.734	10.769	.5633	1.775	.669	im1 o
1.189	5.136	1.744	10.650	.5555	1.800	.660	im1 o
1.187	5.308	1.759	11.079	.5632	1.776	.668	im1 o
1.185	5.291	1.774	11.123	.5609	1.783	.665	im1 o
1.183	5.292	1.774	11.106	.5619	1.780	.665	im1 o
1.186	5.303	1.783	11.214	.5597	1.787	.664	im1 o
1.189	5.303	1.866	11.766	.5451	1.835	.648	im1 o

(Continued)

POLYMETHYLMETHACRYLATE, acrylic, Plexiglas
 (Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.189	5.303	1.866	11.766	.5451	1.835	.648	im1	o
1.187	5.507	1.886	12.328	.5539	1.805	.658	im1	o
1.186	5.515	1.895	12.395	.5534	1.807	.656	im1	o
1.180	6.005	2.097	14.859	.5515	1.813	.651	im1	o
1.180	5.814	2.166	14.860	.5317	1.881	.627	im1	o
1.180	6.182	2.188	15.981	.5475	1.826	.646	im1	o
1.189	6.241	2.367	17.584	.5221	1.915	.621	im1	o
1.186	6.239	2.377	17.589	.5219	1.916	.619	im1	o
1.189	6.324	2.387	17.948	.5238	1.910	.623	im1	o
1.186	6.325	2.403	18.028	.5228	1.913	.620	im1	o
1.186	6.194	2.416	17.748	.5143	1.944	.610	im1	o
1.186	6.442	2.474	18.902	.5194	1.925	.616	im1	o
1.189	6.324	2.477	18.625	.5116	1.955	.608	im1	o
1.187	6.641	2.639	20.803	.5077	1.970	.603	im1	o
1.187	6.621	2.641	20.756	.5064	1.975	.601	im1	o
1.186	6.695	2.643	20.988	.5103	1.980	.605	im1	o
1.186	6.693	2.643	20.980	.5102	1.980	.605	im1	o
1.187	6.790	2.765	22.285	.4994	2.002	.593	im1	o
1.186	6.841	2.789	22.628	.4994	2.002	.592	im1	o
1.186	6.834	2.790	22.613	.4989	2.004	.592	im1	o
1.186	6.832	2.833	22.955	.4935	2.026	.585	im1	o
1.186	6.822	2.834	22.930	.4929	2.029	.585	im1	o
1.186	6.971	2.870	23.728	.4960	2.016	.588	im1	o
1.186	6.956	2.871	23.685	.4952	2.020	.587	im1	o
1.187	6.938	2.871	23.644	.4938	2.025	.586	im1	o
1.186	6.928	2.872	23.598	.4936	2.026	.585	im1	o
1.187	6.932	2.872	23.632	.4934	2.027	.586	im1	o
1.186	7.242	3.049	28.188	.4882	2.048	.579	im1	o
1.187	7.176	3.052	25.997	.4842	2.065	.575	im1	o
1.186	7.182	3.052	25.996	.4849	2.062	.575	im1	o
1.186	7.143	3.055	25.881	.4826	2.072	.572	im1	o
1.187	7.136	3.055	25.877	.4818	2.078	.572	im1	o
1.184	7.235	3.090	28.470	.4839	2.087	.573	im1	o
1.185	7.206	3.092	28.403	.4818	2.076	.571	im1	o
1.187	7.228	3.093	28.537	.4820	2.075	.572	im1	o
1.186	7.325	3.212	27.904	.4734	2.112	.562	im1	o
1.187	7.281	3.215	27.786	.4705	2.126	.558	im1	o
1.186	7.288	3.215	27.789	.4712	2.122	.559	im1	o
1.187	7.279	3.215	27.778	.4704	2.126	.558	im1	o
1.186	7.244	3.218	27.847	.4686	2.134	.558	im1	o
1.187	7.440	3.402	30.044	.4572	2.187	.543	im1	o
1.186	7.593	3.465	31.203	.4584	2.182	.544	im1	o
1.186	7.549	3.468	31.049	.4558	2.194	.541	im1	o

(Continued)

POLYMETHYL METHACRYLATE, acrylic, Plexiglas
 (Continued)

	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.187	7.548	3.468	31.071	.4554	2.198	.541	im1	o
1.187	7.526	3.469	30.990	.4541	2.202	.539	im1	o
1.186	7.520	3.470	30.948	.4541	2.202	.539	im1	o
1.187	7.602	3.499	31.573	.4547	2.199	.540	im1	o
1.187	7.765	3.580	32.997	.4540	2.202	.539	im1	o
1.187	7.765	3.580	32.997	.4540	2.202	.539	im1	o
1.187	7.757	3.581	32.972	.4535	2.205	.538	im1	o
1.187	7.723	3.583	32.846	.4516	2.214	.536	im1	o
1.187	7.687	3.586	32.720	.4495	2.225	.533	im1	o
1.187	7.677	3.587	32.687	.4488	2.228	.533	im1	o
1.187	8.115	3.844	37.027	.4434	2.255	.528	im1	o
1.187	8.098	3.845	36.959	.4425	2.260	.525	im1	o
1.187	8.069	3.847	36.846	.4408	2.269	.523	im1	o
1.187	8.012	3.852	36.633	.4374	2.286	.519	im1	o
1.187	7.984	3.855	36.442	.4347	2.301	.516	im1	o
1.187	7.860	3.863	36.041	.4284	2.334	.509	im1	o
1.186	8.041	3.876	36.964	.4367	2.290	.518	im1	o
1.186	8.038	3.876	36.950	.4366	2.291	.518	im1	o
1.186	7.951	3.883	36.616	.4314	2.318	.512	im1	o
1.186	7.918	3.885	36.483	.4295	2.328	.509	im1	o
1.186	7.911	3.886	36.460	.4290	2.331	.509	im1	o
1.187	8.342	3.903	38.647	.4483	2.231	.532	im1	o
1.187	8.320	3.904	38.555	.4472	2.236	.531	im1	o
1.187	8.212	3.912	38.133	.4411	2.267	.524	im1	o
1.187	8.196	3.913	38.068	.4402	2.271	.523	im1	o
1.187	8.194	3.913	38.059	.4401	2.272	.522	im1	o
1.187	7.920	3.934	36.984	.4240	2.359	.503	im1	o
1.187	8.104	3.944	37.939	.4325	2.312	.513	im1	o
1.186	8.274	4.008	39.330	.4347	2.300	.516	im1	o
1.185	8.212	4.017	39.090	.4311	2.320	.511	im1	o
1.185	8.147	4.025	38.858	.4270	2.342	.508	im1	o
1.185	8.148	4.025	38.853	.4269	2.342	.508	im1	o
1.187	8.426	4.065	40.657	.4360	2.293	.518	im1	o
1.189	8.285	4.075	40.142	.4274	2.340	.508	im1	o
1.187	8.471	4.120	41.427	.4327	2.311	.514	im1	o
1.186	8.412	4.161	41.513	.4281	2.347	.505	im1	o
1.186	8.324	4.168	41.148	.4210	2.375	.499	im1	o
1.186	8.269	4.172	40.915	.4178	2.394	.495	im1	o
1.186	8.201	4.177	40.627	.4137	2.417	.491	im1	o
1.186	8.208	4.177	40.662	.4141	2.415	.491	im1	o
1.187	8.649	4.261	43.745	.4274	2.340	.507	im1	o
1.186	8.596	4.273	43.563	.4240	2.358	.503	im1	o
1.186	8.596	4.273	43.563	.4240	2.358	.503	im1	o

(Continued)

POLYMETHYLMETHACRYLATE, acrylic, Plexiglas
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/v ₀	Exp
1.189	8.463	4.274	43.007	.4163	2.402	.495	im1 o
1.186	8.562	4.275	43.411	.4222	2.369	.501	im1 o
1.186	8.554	4.276	43.380	.4217	2.371	.500	im1 o
1.186	8.537	4.277	43.304	.4207	2.377	.499	im1 o
1.186	8.772	4.346	45.214	.4254	2.351	.505	im1 o
1.186	8.760	4.348	45.173	.4247	2.355	.504	im1 o
1.185	8.984	4.523	48.152	.4190	2.386	.497	im1 o
1.185	8.951	4.527	48.018	.4171	2.398	.494	im1 o
1.186	8.916	4.531	47.912	.4147	2.411	.492	im1 o
1.185	8.898	4.534	47.807	.4139	2.416	.490	im1 o
1.186	9.343	4.593	50.980	.4279	2.337	.508	im1 o
1.187	9.303	4.596	50.752	.4263	2.348	.506	im1 o
1.186	9.101	4.613	49.792	.4158	2.405	.493	im1 o
1.185	9.322	4.623	51.068	.4254	2.351	.504	im1 o
1.186	8.960	4.624	49.220	.4073	2.455	.484	im1 o
1.185	8.985	4.624	49.233	.4098	2.441	.485	im1 o
1.186	9.253	4.632	50.832	.4211	2.375	.499	im1 o
1.187	9.344	4.635	51.408	.4246	2.355	.504	im1 o
1.185	9.210	4.638	50.618	.4189	2.387	.496	im1 o
1.187	9.208	4.646	50.780	.4174	2.396	.495	im1 o
1.187	9.148	4.651	50.504	.4141	2.415	.492	im1 o
1.188	9.331	4.654	51.591	.4219	2.370	.501	im1 o
1.187	9.082	4.655	50.238	.4111	2.432	.488	im1 o
1.187	9.048	4.659	50.038	.4087	2.447	.485	im1 o
1.185	9.281	4.660	51.251	.4202	2.380	.498	im1 o
1.185	9.045	4.661	49.958	.4090	2.445	.485	im1 o
1.186	9.558	4.663	52.859	.4318	2.316	.512	im1 o
1.185	9.223	4.665	50.985	.4170	2.398	.494	im1 o
1.188	9.191	4.666	50.948	.4144	2.413	.492	im1 o
1.187	9.192	4.666	50.910	.4148	2.411	.492	im1 o
1.185	9.353	4.741	52.546	.4161	2.403	.493	im1 o
1.186	9.280	4.750	52.279	.4116	2.430	.488	im1 o
1.185	9.190	4.763	51.870	.4065	2.480	.482	im1 o
1.185	9.159	4.767	51.738	.4047	2.471	.480	im1 o
1.187	9.195	4.774	52.106	.4051	2.469	.481	im1 o
1.187	9.479	4.817	54.199	.4143	2.413	.492	im1 o
1.187	9.447	4.820	54.049	.4128	2.424	.490	im1 o
1.187	9.358	4.827	53.618	.4079	2.452	.484	im1 o
1.187	9.332	4.829	53.491	.4065	2.460	.483	im1 o
1.187	9.153	4.844	52.628	.3966	2.521	.471	im1 o
1.189	9.808	5.075	59.171	.4058	2.464	.482	im1 o
1.186	9.742	5.087	58.775	.4029	2.482	.478	im1 o
1.185	9.688	5.220	59.927	.3892	2.569	.461	im1 o

(Continued)

POLYMETHYLMETHACRYLATE . acrylic . Plexiglas
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.186	9.684	5.220	59.953	.3887	2.573	.461	im1 o
1.185	9.676	5.222	59.876	.3885	2.574	.460	im1 o
1.185	9.671	5.223	59.856	.3881	2.576	.460	im1 o

POLYPHENYLQUINOXALINE

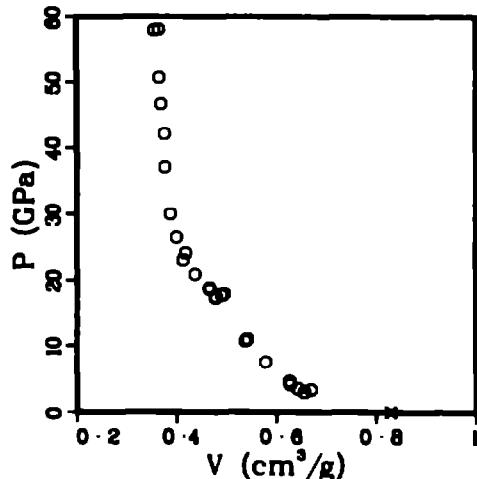
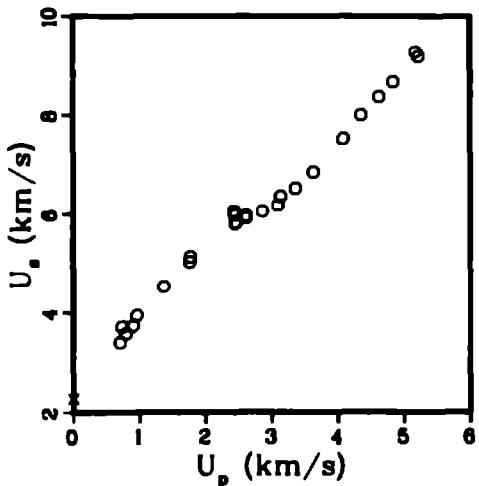
Average $\rho_0 = 1.207 \text{ g/cm}^3$.

Sound velocities longitudinal 2.70 km/s.
shear 1.27 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.205	2.267	0.000	0.000	.8299	1.205	1.000	s s p x
1.207	3.404	.710	2.917	.6557	1.525	.791	iml o
1.199	3.720	.735	3.278	.6692	1.494	.802	iml o
1.209	3.583	.799	3.461	.6427	1.556	.777	iml o
1.208	3.738	.805	4.087	.6274	1.594	.758	iml o
1.209	3.945	.959	4.574	.6261	1.597	.757	iml o
1.206	4.530	1.366	7.463	.5791	1.727	.698	iml o
1.205	5.025	1.767	10.699	.5381	1.859	.648	iml o
1.206	5.129	1.776	10.986	.5421	1.845	.654	iml o
1.210	6.059	2.427	17.793	.4954	2.019	.599	iml o
1.205	5.981	2.446	17.629	.4905	2.039	.591	iml o
1.206	5.808	2.452	17.203	.4783	2.091	.578	iml o
1.206	5.821	2.462	17.284	.4785	2.090	.577	iml o
1.198	5.918	2.610	18.504	.4668	2.143	.559	iml o
1.204	5.962	2.618	18.793	.4659	2.147	.561	iml o
1.206	6.055	2.862	20.899	.4373	2.287	.527	iml o
1.204	6.174	3.098	23.014	.4141	2.415	.499	iml o
1.209	6.352	3.135	24.075	.4189	2.387	.506	iml o
1.209	6.515	3.359	26.458	.4007	2.496	.484	iml o

(Continued)



POLYPHENYLQUINOXALINE
(Continued)

<u>ρ_0</u> (g/cm ³)	<u>U_s</u> (km/s)	<u>U_p</u> (km/s)	<u>P</u> (GPa)	<u>V</u> (cm ³ /g)	<u>ρ</u> (g/cm ³)	<u>V/V_0</u>	<u>Exp</u>
1.209	6.839	3.630	30.014	3881	2.577	.489	im1 o
1.209	7.505	4.087	37.084	3767	2.655	.455	im1 o
1.209	8.000	4.355	42.122	3789	2.653	.456	im1 o
1.209	8.357	4.622	46.899	3697	2.705	.447	im1 o
1.209	8.666	4.836	50.668	3656	2.736	.442	im1 o
1.209	9.274	5.182	58.102	3650	2.740	.441	im1 o
1.209	9.178	5.225	57.978	3582	2.807	.431	im1 o

POLYPROPYLENE

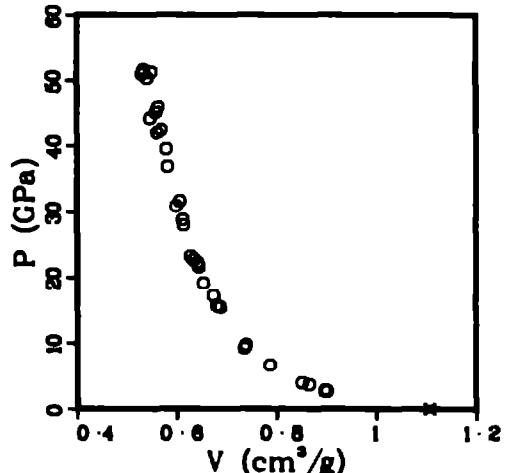
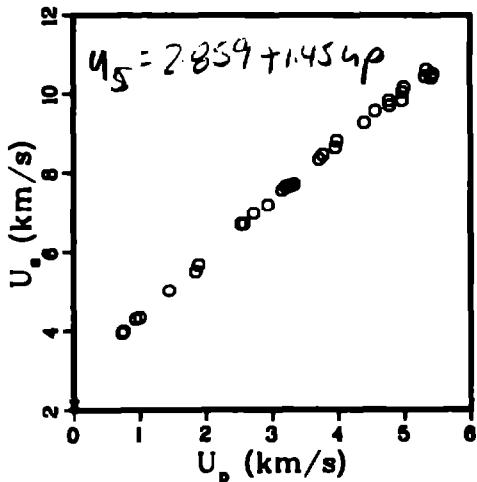
Average $\rho_0 = 0.904 \text{ g/cm}^3$.

Sound velocities longitudinal 2.58 km/s.
shear 1.26 km/s.

Reference 51

ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.904	2.131	0.000	0.000	1.1062	.904	1.000	ss p x
.904	3.939	.729	2.596	.9015	1.109	.815	im1 o
.904	3.883	.752	2.708	.8873	1.114	.811	im1 o
.904	4.295	.833	3.623	.8659	1.155	.783	im1 o
.904	4.332	.897	3.904	.8516	1.174	.770	im1 o
.904	5.019	1.447	6.565	.7873	1.270	.712	im1 o
.904	5.509	1.846	9.193	.7355	1.360	.665	im1 o
.904	5.678	1.886	9.681	.7388	1.354	.668	im1 o
.904	6.710	2.538	15.395	.6878	1.454	.622	im1 o
.904	6.702	2.575	15.601	.6812	1.468	.616	im1 o
.904	6.979	2.726	17.198	.6741	1.483	.609	im1 o
.904	7.193	2.941	19.124	.6539	1.529	.591	im1 o
.904	7.587	3.157	21.596	.6447	1.551	.583	im1 o
.903	7.646	3.216	22.204	.6416	1.559	.579	im1 o
.904	7.673	3.273	22.703	.6343	1.576	.573	im1 o
.904	7.706	3.334	23.225	.6276	1.593	.567	im1 o
.903	8.340	3.712	27.955	.6145	1.627	.555	im1 o
.904	8.448	3.768	28.776	.6128	1.632	.554	im1 o
.904	8.628	3.955	30.848	.5991	1.669	.542	im1 o

(Continued)



POLYPROPYLENE
(Continued)

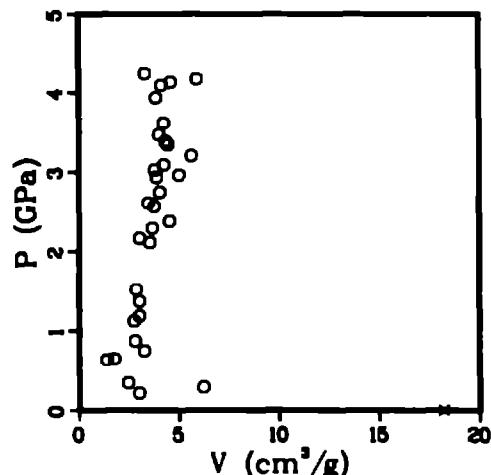
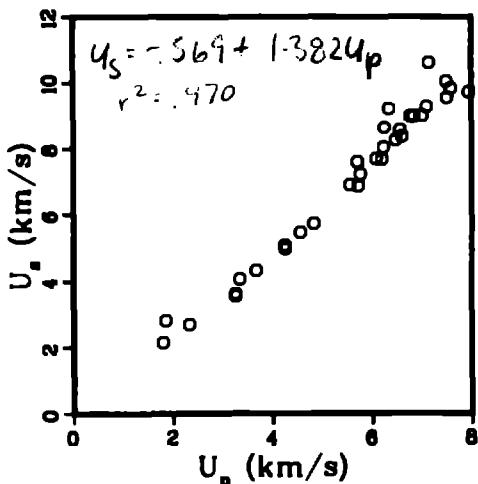
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.904	8.802	3.976	31.637	.6065	1.649	.548	im1 o
.904	9.269	4.400	38.868	.5811	1.721	.525	im1 o
.904	9.570	4.563	39.476	.5788	1.728	.523	im1 o
.904	9.831	4.771	42.401	.5694	1.756	.515	im1 o
.904	9.704	4.782	41.950	.5611	1.782	.507	im1 o
.904	10.040	4.968	45.090	.5588	1.789	.505	im1 o
.904	9.832	4.970	44.174	.5470	1.828	.495	im1 o
.903	10.163	5.000	45.886	.5628	1.777	.508	im1 o
.904	10.440	5.327	50.275	.5418	1.846	.490	im1 o
.904	10.613	5.339	51.223	.5497	1.819	.497	im1 o
.903	10.411	5.418	50.935	.5311	1.883	.480	im1 o
.903	10.507	5.436	51.576	.5345	1.871	.483	im1 o

POLYSTYRENE, foamed

Average $\rho_0 = 0.055 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.055	2.148	1.795	.212	2.9880	.335	.184	iml o
.055	2.804	1.847	.285	6.2054	.161	.341	iml o
.055	2.681	2.322	.342	2.4346	.411	.134	iml o
.055	3.603	3.254	.645	1.7612	.568	.097	iml o
.055	3.530	3.261	.633	1.3855	.722	.078	iml o
.055	4.068	3.339	.747	3.2582	.307	.179	iml o
.055	4.328	3.663	.872	2.7936	.358	.154	iml o
.055	5.081	4.240	1.185	3.0094	.332	.166	iml o
.053	4.975	4.252	1.121	2.7420	.365	.145	iml o
.055	5.469	4.554	1.370	3.0419	.329	.167	iml o
.055	5.730	4.825	1.521	2.8718	.348	.158	iml o
.055	6.910	5.561	2.113	3.5495	.282	.195	iml o
.055	7.583	5.705	2.382	4.5209	.221	.249	iml o
.055	6.874	5.729	2.166	3.0285	.330	.167	iml o
.055	7.230	5.770	2.294	3.6716	.272	.202	iml o
.055	7.685	6.082	2.571	3.7925	.284	.209	iml o
.055	7.667	6.197	2.613	3.4860	.287	.192	iml o
.055	8.027	6.230	2.750	4.0704	.248	.224	iml o
.055	8.629	6.245	2.964	5.0232	.199	.276	iml o
.055	9.186	6.338	3.202	5.6370	.177	.310	iml o
.055	8.243	6.475	2.938	3.8997	.258	.214	iml o
.055	8.567	6.558	3.090	4.2637	.235	.235	iml o

(Continued)



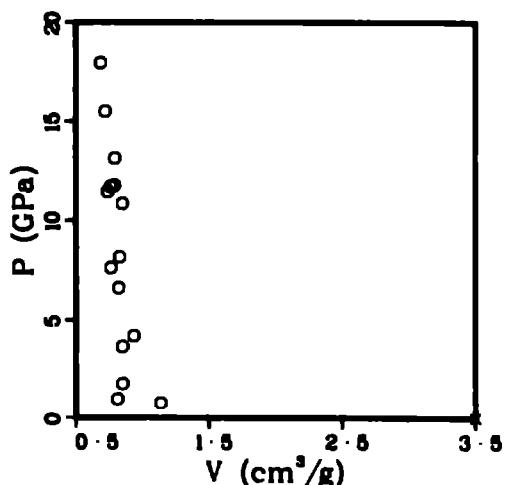
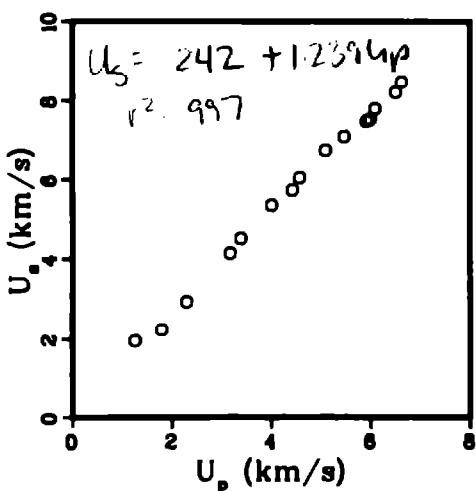
POLYSTYRENE, foamed
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.055	8.345	6.598	3.028	3.8063	.263	.209	im1 o
.055	8.976	6.773	3.344	4.4824	.224	.245	im1 o
.055	8.987	6.846	3.384	4.3315	.231	.238	im1 o
.055	8.993	7.013	3.469	4.0031	.250	.220	im1 o
.055	9.281	7.100	3.616	4.2426	.236	.233	im1 o
.055	10.593	7.154	4.168	5.9027	.169	.325	im1 o
.055	10.033	7.492	4.134	4.6048	.217	.253	im1 o
.055	9.534	7.506	3.936	3.8675	.259	.213	im1 o
.055	9.817	7.584	4.095	4.1357	.242	.227	im1 o
.055	9.711	7.943	4.242	3.3102	.302	.182	im1 o

POLYSTYRENE . foamed . pressed . $\rho_0 = 0.30 \text{ g/cm}^3$.

Average $\rho_0 = 0.286 \text{ g/cm}^3$.

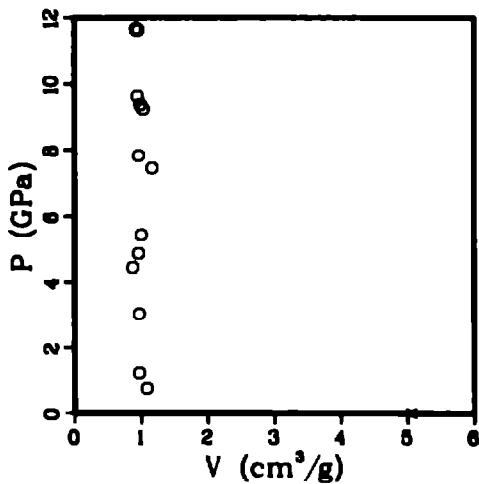
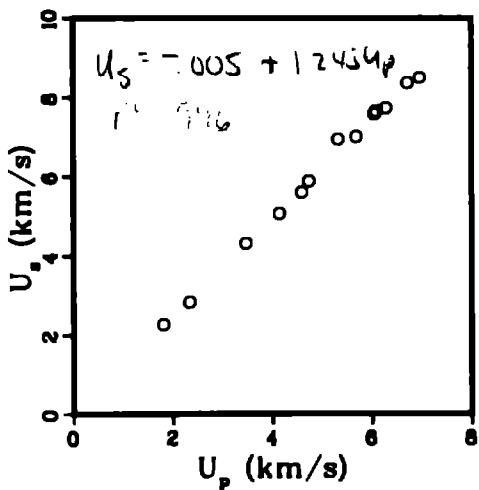
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
313	1.957	1.260	.772	1.1379	.879	.358	iml o
244	2.237	1.794	.979	.8116	1.232	.198	iml o
259	2.950	2.301	1.758	.8494	1.177	.220	iml o
275	4.147	3.177	3.623	.8506	1.176	.234	iml o
270	4.544	3.395	4.165	.9365	1.068	.253	iml o
307	5.365	4.013	6.610	.8209	1.218	.252	iml o
299	5.739	4.428	7.598	.7640	1.309	.228	iml o
294	6.046	4.573	8.129	.8287	1.207	.244	iml o
332	6.756	5.097	11.433	.7398	1.352	.246	iml o
301	7.100	5.469	11.688	.7632	1.310	.230	iml o
265	7.489	5.918	11.745	.7916	1.283	.210	iml o
240	7.534	5.996	10.842	.8506	1.176	.204	iml o
277	7.797	6.088	13.149	.7913	1.284	.219	iml o
290	8.218	6.503	15.498	.7196	1.390	.209	iml o
320	8.483	6.623	17.979	.6852	1.459	.219	iml o



POLYSTYRENE, foamed, pressed, $\rho_0 = 0.20 \text{ g/cm}^3$.

Average $\rho_0 = 0.198 \text{ g/cm}^3$.

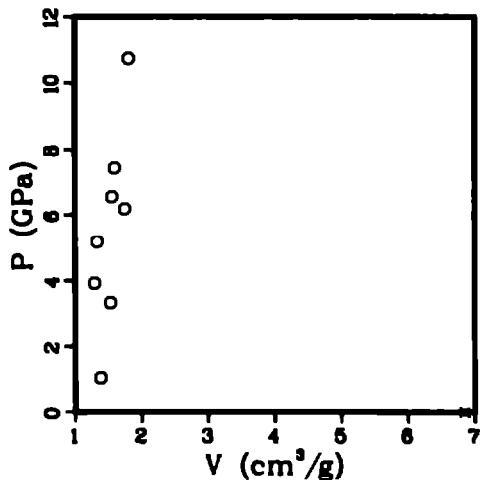
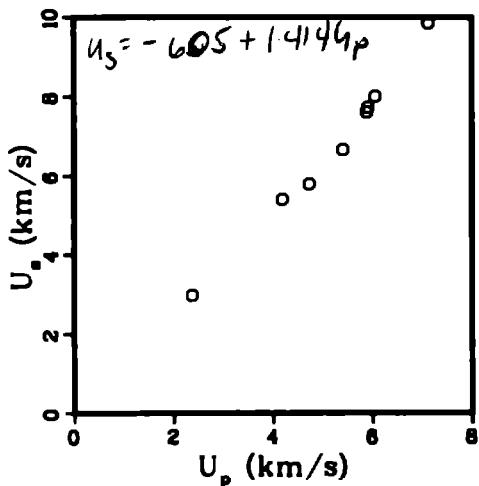
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
187	2.271	1.808	.768	1.0902	.917	.204	im1 o
186	2.852	2.335	1.239	.9746	1.026	.181	im1 o
203	4.316	3.465	3.038	.9713	1.030	.197	im1 o
211	5.078	4.142	4.438	.8736	1.145	.184	im1 o
189	5.609	4.590	4.886	.9612	1.040	.182	im1 o
185	5.885	4.732	5.430	1.0047	.995	.196	im1 o
201	6.954	5.322	7.439	1.1676	.856	.235	im1 o
196	7.018	5.688	7.824	.9669	1.034	.190	im1 o
204	7.589	6.052	9.369	.9928	1.007	.203	im1 o
198	7.663	6.087	9.236	1.0387	.963	.206	im1 o
198	7.740	6.284	9.630	.9501	1.053	.188	im1 o
207	8.371	6.713	11.632	.9568	1.045	.198	im1 o
197	8.509	6.959	11.665	.9247	1.081	.182	im1 o



POLYSTYRENE, foamed, pressed, $\rho_0 = 0.15 \text{ g/cm}^3$.

Average $\rho_0 = 0.146 \text{ g/cm}^3$.

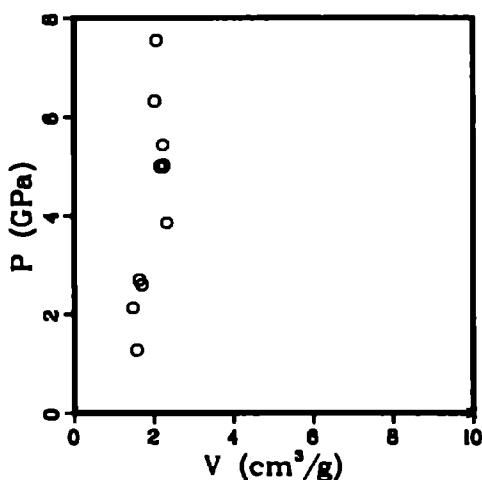
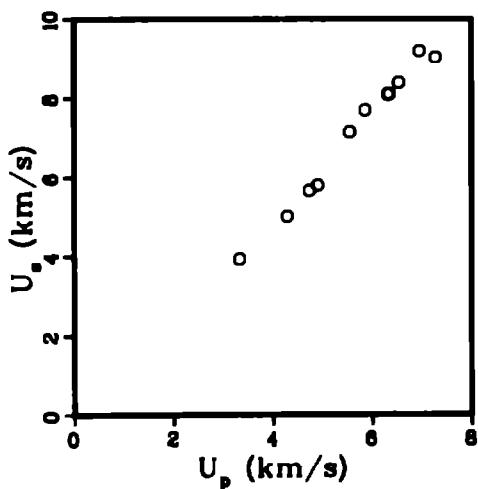
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
149	2.991	2.375	1.058	1.3822	.723	.206	im1 o
147	5.409	4.195	3.338	1.5268	.655	.224	im1 o
143	5.801	4.730	3.924	1.2911	.775	.185	im1 o
143	6.686	5.413	5.175	1.3315	.751	.190	im1 o
146	7.623	5.892	6.558	1.5553	.643	.227	im1 o
135	7.738	5.915	6.179	1.7451	.573	.236	im1 o
153	8.013	6.060	7.429	1.5930	.628	.244	im1 o
153	9.859	7.132	10.758	1.8078	.553	.277	im1 o



POLYSTYRENE . foamed . pressed . $\rho_0 = 0.10 \text{ g/cm}^3$.

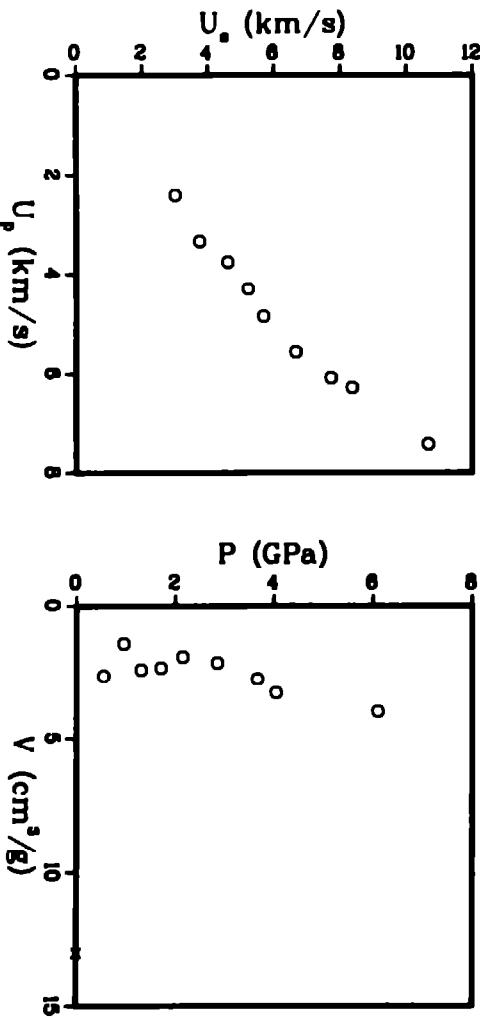
Average $\rho_0 = 0.100 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.098	3.931	3.327	1.282	1.5679	.638	.154	iml o
.099	5.020	4.289	2.132	1.4709	.680	.146	iml o
.097	5.669	4.734	2.603	1.7003	.588	.165	iml o
.095	5.802	4.904	2.703	1.6292	.614	.155	iml o
.097	7.158	5.544	3.849	2.3246	.430	.225	iml o
.111	7.700	5.861	4.991	2.1594	.463	.239	iml o
.098	8.100	6.317	5.014	2.2462	.445	.220	iml o
.097	8.104	6.346	4.989	2.2364	.447	.217	iml o
.099	8.390	6.539	5.431	2.2285	.449	.221	iml o
.118	9.200	6.953	7.548	2.0698	.483	.244	iml o
.096	9.035	7.280	6.314	2.0234	.494	.194	iml o



POLYSTYRENE, foamed, pressed, $\rho_0 = 0.09 \text{ g/cm}^3$.

Average $\rho_0 = 0.077 \text{ g/cm}^3$.



ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
0.09	3.009	2.409	.551	2.6237	.381	.189	im1
0.09	3.758	3.349	.957	1.4320	.686	.109	im1
0.09	4.596	3.780	1.313	2.3634	.418	.182	im1
0.09	5.226	4.301	1.708	2.3260	.429	.177	im1
0.09	5.694	4.845	2.152	1.9116	.523	.149	im1
0.09	6.886	5.582	2.855	2.1509	.465	.168	im1
0.09	7.728	6.076	3.663	2.7408	.365	.214	im1
0.09	8.370	6.273	4.043	3.2537	.307	.251	0
0.09	10.674	7.417	6.086	3.9628	.252	.305	im1

POLYSTYRENE . Styrolux

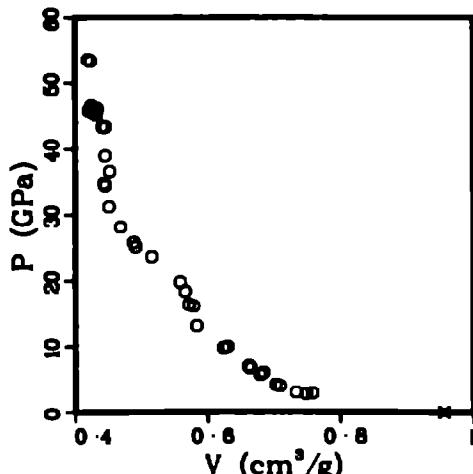
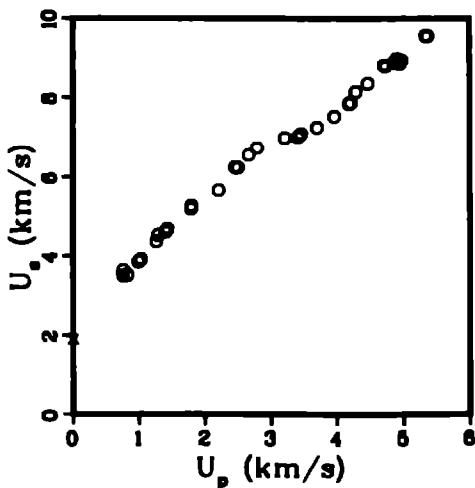
Average $\rho_0 = 1.046 \text{ g/cm}^3$.

Sound velocities longitudinal 2.31 km/s.
shear 1.14 km/s.

References 13, 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.046	1.898	0.000	0.000	.9580	1.046	1.000	ssp x
1.047	3.506	.759	2.786	.7483	1.336	.784	im1 o
1.044	3.638	.760	2.887	.7578	1.320	.791	im1 o
1.044	3.519	.825	3.031	.7333	1.364	.768	im1 o
1.047	3.850	.993	4.003	.7088	1.411	.742	im1 o
1.047	3.913	1.034	4.238	.7027	1.423	.736	im1 o
1.044	4.353	1.286	5.753	.6793	1.472	.709	im1 o
1.044	4.513	1.290	6.078	.6841	1.462	.714	im1 o
1.044	4.591	1.406	6.739	.6645	1.505	.694	im1 o
1.049	4.679	1.429	7.014	.6621	1.510	.695	im1 o
1.047	4.679	1.433	7.020	.6626	1.509	.694	im1 o
1.049	5.195	1.795	9.782	.6239	1.603	.654	im1 o
1.047	5.281	1.798	9.942	.6299	1.587	.660	im1 o
1.044	5.684	2.213	13.086	.5836	1.713	.609	im1 o
1.047	6.251	2.463	16.120	.5788	1.728	.606	im1 o
1.046	6.233	2.506	16.338	.5717	1.749	.598	im1 o
1.047	6.560	2.672	18.352	.5661	1.767	.593	im1 o
1.047	6.742	2.799	19.758	.5586	1.790	.585	im1 o
1.047	6.994	3.217	23.557	.5158	1.939	.540	im1 o

(Continued)



POLYSTYRENE . Styrolux
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.044	7.019	3.418	25.047	.4914	2.035	.513	im1 o
1.047	7.091	3.465	25.725	.4884	2.048	.511	im1 o
1.044	7.257	3.707	28.085	.4886	2.134	.489	im1 o
1.047	7.528	3.968	31.275	.4517	2.214	.473	im1 o
1.047	7.851	4.188	34.425	.4456	2.244	.467	im1 o
1.047	7.873	4.216	34.753	.4438	2.254	.464	im1 o
1.047	8.145	4.289	36.578	.4522	2.212	.473	im1 o
1.044	8.352	4.469	38.967	.4453	2.248	.465	im1 o
1.045	8.818	4.713	43.429	.4455	2.245	.466	im1 o
1.045	8.784	4.735	43.464	.4411	2.287	.461	im1 o
1.047	8.888	4.868	45.300	.4320	2.315	.452	im1 o
1.049	8.980	4.900	46.158	.4331	2.309	.454	im1 o
1.047	8.879	4.912	45.683	.4287	2.343	.447	im1 o
1.047	8.848	4.953	45.884	.4205	2.378	.440	im1 o
1.047	8.949	4.973	46.595	.4244	2.357	.444	im1 o
1.045	9.570	5.336	53.363	.4234	2.382	.442	im1 o
1.045	9.556	5.368	53.605	.4194	2.384	.438	im1 o

POLYSULFONE

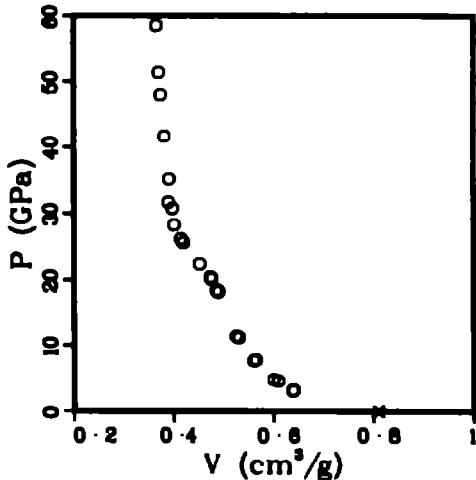
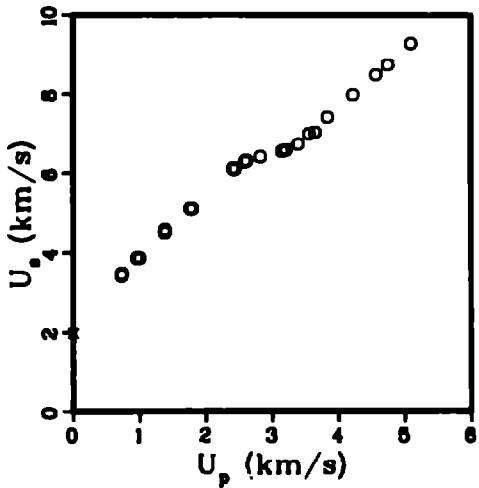
Average $\rho_0 = 1.235 \text{ g/cm}^3$.

Sound velocities longitudinal 2.25 km/s.
shear .93 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.235	1.977	0.000	0.000	.8087	1.235	1.000	ss p x
1.235	3.482	.729	3.135	.6402	1.562	.791	im1 o
1.235	3.434	.729	3.092	.6378	1.568	.788	im1 o
1.235	3.869	.957	4.573	.6094	1.641	.753	im1 o
1.235	3.866	1.001	4.782	.6002	1.866	.741	im1 o
1.235	4.576	1.384	7.821	.5648	1.770	.698	im1 o
1.235	4.494	1.385	7.687	.5602	1.785	.692	im1 o
1.235	5.125	1.766	11.178	.5307	1.884	.655	im1 o
1.235	5.119	1.799	11.373	.5252	1.904	.649	im1 o
1.235	6.113	2.418	18.255	.4894	2.043	.604	im1 o
1.236	6.111	2.419	18.271	.4888	2.046	.604	im1 o
1.235	6.104	2.444	18.424	.4855	2.060	.600	im1 o
1.235	6.287	2.592	20.125	.4759	2.101	.588	im1 o
1.236	6.311	2.617	20.414	.4738	2.112	.585	im1 o
1.236	6.407	2.826	22.379	.4522	2.211	.559	im1 o
1.236	6.549	3.153	25.522	.4185	2.384	.519	im1 o
1.235	6.580	3.212	26.102	.4145	2.413	.512	im1 o
1.235	6.729	3.398	28.238	.4008	2.495	.495	im1 o
1.235	6.995	3.560	30.754	.3978	2.515	.491	im1 o

(Continued)



POLYSULFONE
 (Continued)

<u>ρ_0</u> (g/cm ³)	<u>U_s</u> (km/s)	<u>U_p</u> (km/s)	<u>P</u> (GPa)	<u>V</u> (cm ³ /g)	<u>ρ</u> (g/cm ³)	<u>V/V_0</u>	<u>Exp</u>
1.235	7.034	3.651	31.716	.3894	2.568	.481	im1 o
1.235	7.421	3.839	35.184	.3908	2.559	.483	im1 o
1.235	7.983	4.224	41.644	.3813	2.623	.471	im1 o
1.235	8.493	4.572	47.955	.3738	2.675	.462	im1 o
1.235	8.751	4.753	51.368	.3699	2.703	.457	im1 o
1.235	9.295	5.100	58.545	.3654	2.736	.451	im1 o

POLYTETRAFLUOROETHYLENE . Teflon

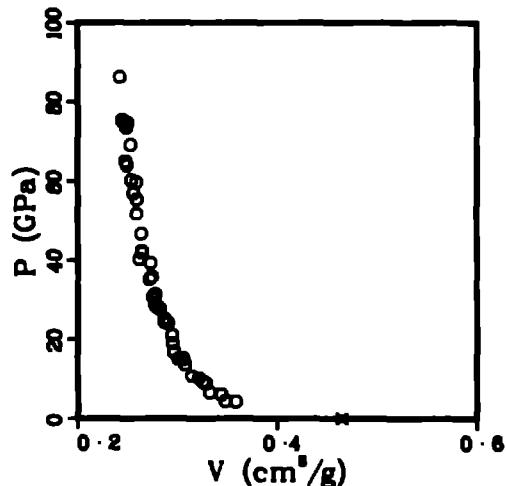
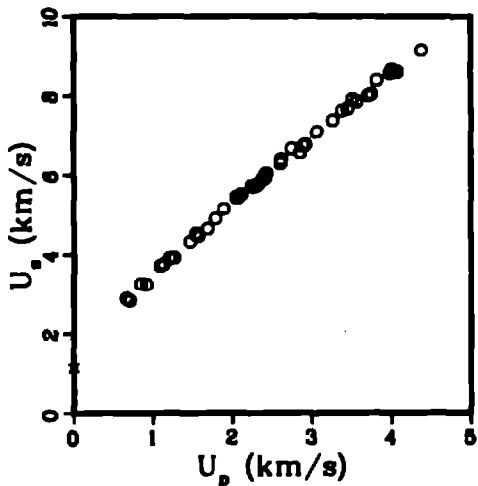
Average $\rho_0 = 2.152 \text{ g/cm}^3$.

Sound velocities longitudinal 1.23 km/s.
shear .41 km/s.

References 13, 51

ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.151	1.135	0.000	0.000	.4649	2.151	1.000	s s p x
2.152	2.889	.662	4.116	.3582	2.792	.771	i m l o
2.153	2.822	.709	4.308	.3478	2.875	.749	i m l o
2.152	3.255	.847	5.933	.3438	2.909	.740	i m l o
2.153	3.235	.921	6.415	.3322	3.010	.715	i m l o
2.152	3.707	1.087	8.672	.3284	3.045	.707	i m l o
2.147	3.755	1.131	9.118	.3255	3.072	.699	i m l o
2.152	3.913	1.205	10.147	.3216	3.110	.692	i m l o
2.153	3.907	1.263	10.624	.3143	3.181	.677	i m l o
2.147	4.320	1.468	13.597	.3077	3.250	.661	i m l o
2.152	4.512	1.539	14.943	.3062	3.286	.659	i m l o
2.153	4.518	1.550	15.077	.3051	3.277	.657	i m l o
2.153	4.457	1.570	15.086	.3009	3.324	.648	i m l o
2.152	4.645	1.687	16.863	.2959	3.379	.637	i m l o
2.153	4.803	1.789	18.885	.2950	3.390	.636	i m l o
2.147	5.150	1.892	20.820	.2947	3.394	.633	i m l o
2.153	5.453	2.048	24.021	.2902	3.446	.625	i m l o
2.152	5.430	2.072	24.212	.2874	3.480	.618	i m l o
2.153	5.516	2.109	25.046	.2869	3.486	.618	i m l o

(Continued)



POLYTETRAFLUOROETHYLENE, Teflon
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.153	5.717	2.242	27.596	.2823	3.542	.608	im1 o
2.154	5.729	2.290	28.259	.2787	3.588	.600	im1 o
2.152	5.770	2.321	28.820	.2778	3.600	.598	im1 o
2.156	5.895	2.376	30.223	.2767	3.614	.597	im1 o
2.154	5.927	2.406	30.742	.2756	3.628	.594	im1 o
2.152	5.990	2.410	31.086	.2777	3.601	.598	im1 o
2.153	6.036	2.424	31.501	.2779	3.588	.598	im1 o
2.153	6.291	2.806	35.297	.2721	3.676	.586	im1 o
2.152	6.379	2.613	35.870	.2743	3.645	.590	im1 o
2.152	6.655	2.747	39.341	.2729	3.665	.587	im1 o
2.155	6.551	2.856	40.319	.2617	3.821	.564	im1 o
2.152	6.723	2.897	41.913	.2644	3.781	.569	im1 o
2.149	6.751	2.921	42.378	.2640	3.788	.567	im1 o
2.152	7.084	3.062	46.679	.2638	3.790	.568	im1 o
2.152	7.377	3.281	51.769	.2593	3.857	.558	im1 o
2.152	7.625	3.378	55.430	.2588	3.864	.557	im1 o
2.152	7.673	3.451	56.984	.2557	3.911	.550	im1 o
2.152	7.910	3.508	59.714	.2586	3.867	.557	im1 o
2.152	7.848	3.565	60.209	.2536	3.943	.546	im1 o
2.152	8.003	3.711	63.913	.2492	4.013	.538	im1 o
2.151	8.040	3.749	64.835	.2491	4.030	.534	im1 o
2.152	8.390	3.818	68.935	.2532	3.949	.545	im1 o
2.152	8.575	3.986	73.555	.2487	4.021	.535	im1 o
2.152	8.664	4.008	74.729	.2497	4.004	.537	im1 o
2.152	8.602	4.050	74.972	.2459	4.067	.529	im1 o
2.152	8.604	4.078	75.507	.2444	4.091	.526	im1 o
2.152	9.153	4.375	86.175	.2426	4.122	.522	im1 o

POLYURETHANE

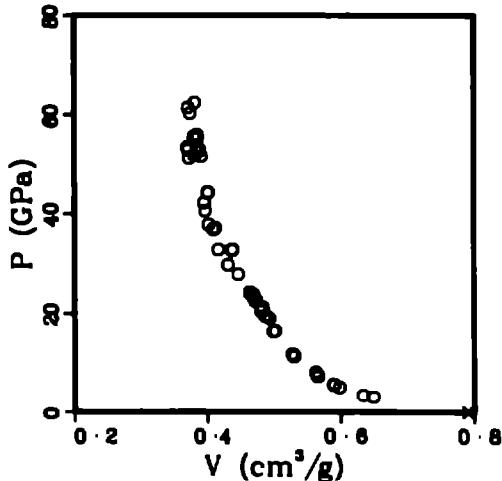
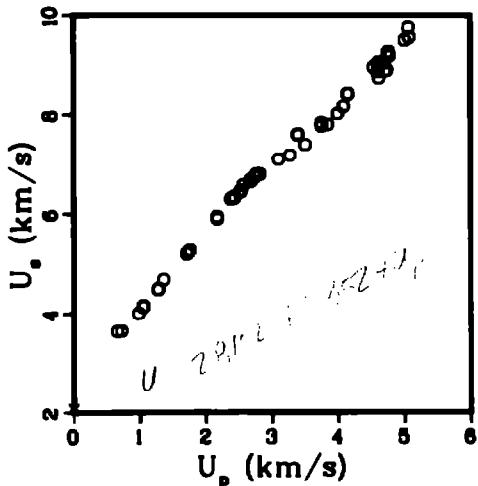
Average $\rho_0 = 1.284 \text{ g/cm}^3$.

Sound velocities longitudinal 2.39 km/s.
shear 1.03 km/s.

References 13, 51, 54

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.265	2.073	0.000	0.000	.7905	1.265	1.000	ssp x
1.262	3.644	.659	3.031	.6491	1.541	.819	im1 o
1.265	3.652	.725	3.349	.6336	1.578	.801	im1 o
1.262	4.007	.982	4.966	.5982	1.672	.755	im1 o
1.265	4.155	1.053	5.535	.5902	1.694	.747	im1 o
1.265	4.139	1.054	5.519	.5892	1.697	.745	im1 o
1.265	4.498	1.278	7.272	.5859	1.767	.716	im1 o
1.265	4.484	1.279	7.255	.5850	1.770	.715	im1 o
1.262	4.681	1.358	8.022	.5825	1.778	.710	im1 o
1.265	5.202	1.715	11.286	.5299	1.887	.670	im1 o
1.265	5.203	1.715	11.288	.5299	1.887	.670	im1 o
1.262	5.269	1.781	11.710	.5276	1.896	.666	im1 o
1.265	5.946	2.171	16.330	.5019	1.993	.635	im1 o
1.265	5.900	2.176	16.241	.4990	2.004	.631	im1 o
1.262	6.298	2.376	18.885	.4935	2.027	.623	im1 o
1.265	6.338	2.427	19.459	.4878	2.050	.617	im1 o
1.265	6.317	2.429	19.410	.4865	2.055	.615	im1 o
1.265	6.457	2.527	20.641	.4811	2.078	.609	im1 o
1.265	6.445	2.529	20.619	.4803	2.082	.608	im1 o

(Continued)



POLYURETHANE
 (Continued)

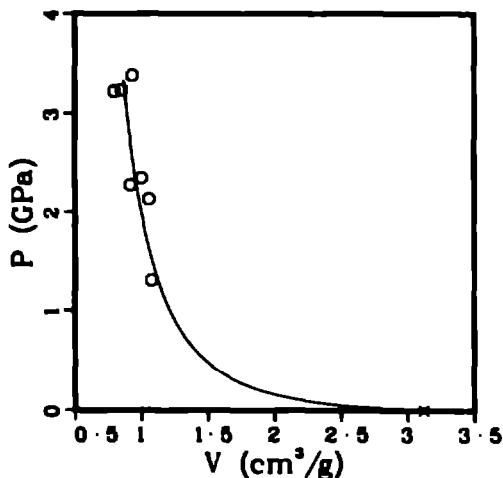
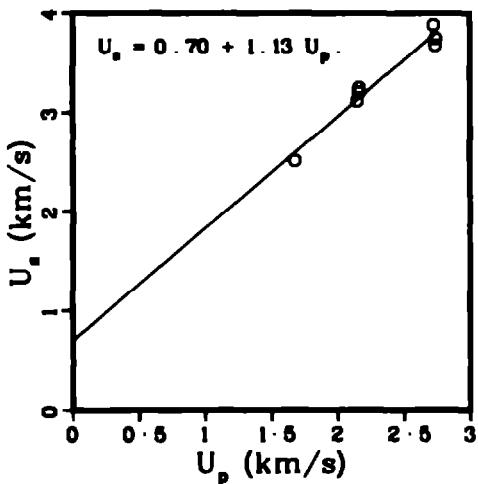
	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.262	6.570	2.585	21.267	.4830	2.070	.610	im1	o
1.265	6.679	2.680	22.643	.4733	2.113	.599	im1	o
1.265	6.652	2.683	22.577	.4717	2.120	.597	im1	o
1.265	6.746	2.743	23.408	.4891	2.132	.593	im1	o
1.265	6.797	2.766	23.783	.4888	2.133	.593	im1	o
1.262	6.795	2.820	24.182	.4835	2.157	.585	im1	o
1.262	7.099	3.100	27.773	.4484	2.240	.563	im1	o
1.262	7.177	3.273	29.845	.4310	2.320	.544	im1	o
1.265	7.609	3.393	32.659	.4380	2.283	.554	im1	o
1.265	7.588	3.396	32.598	.4367	2.290	.552	im1	o
1.262	7.389	3.505	32.684	.4165	2.401	.526	im1	o
1.265	7.836	3.749	37.162	.4123	2.425	.522	im1	o
1.265	7.773	3.752	38.893	.4089	2.445	.517	im1	o
1.262	7.801	3.844	37.844	.4019	2.488	.507	im1	o
1.265	8.029	3.998	40.608	.3969	2.520	.502	im1	o
1.265	8.168	4.083	42.168	.3954	2.529	.500	im1	o
1.265	8.424	4.149	44.213	.4012	2.493	.507	im1	o
1.265	8.416	4.150	44.182	.4007	2.496	.507	im1	o
1.262	8.975	4.542	51.445	.3914	2.555	.494	im1	o
1.265	8.877	4.602	51.678	.3807	2.627	.482	im1	o
1.262	9.019	4.610	52.471	.3874	2.582	.489	im1	o
1.265	9.089	4.611	52.899	.3886	2.573	.492	im1	o
1.265	8.739	4.618	51.051	.3728	2.683	.472	im1	o
1.265	9.055	4.654	53.310	.3842	2.603	.486	im1	o
1.265	8.886	4.713	52.978	.3712	2.694	.470	im1	o
1.265	8.919	4.741	53.490	.3703	2.700	.468	im1	o
1.262	9.245	4.750	55.419	.3853	2.596	.486	im1	o
1.265	9.281	4.765	55.943	.3847	2.600	.487	im1	o
1.265	9.199	4.777	55.569	.3800	2.632	.481	im1	o
1.265	9.516	5.009	60.297	.3744	2.671	.474	im1	o
1.262	9.784	5.066	62.424	.3813	2.623	.481	im1	o
1.265	9.570	5.078	61.475	.3711	2.695	.469	im1	o

POLYURETHANE, foamed, $\rho_0 = 0.32 \text{ g/cm}^3$.

Average $\rho_0 = 0.321 \text{ g/cm}^3$.

References 13, 54

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.310	2.518	1.680	1.310	1.0749	.930	.333	im1 o
.339	3.121	2.150	2.277	.9167	1.091	.311	im1 o
.308	3.206	2.164	2.135	1.0563	.947	.325	im1 o
.334	3.250	2.165	2.347	1.0010	.999	.334	im1 o
.319	3.883	2.725	3.376	.9346	1.070	.298	im1 o
.320	3.678	2.737	3.222	.7978	1.254	.255	im1 o
.315	3.747	2.740	3.233	.8534	1.172	.269	im1 o

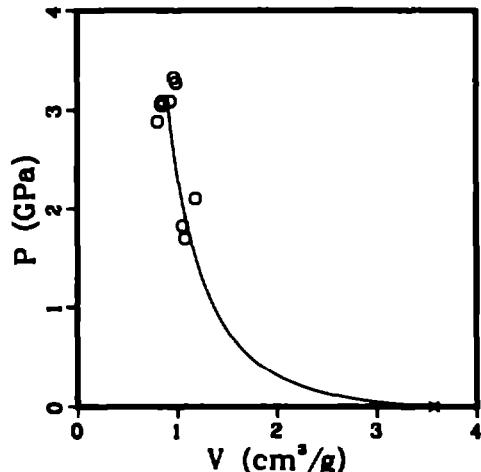
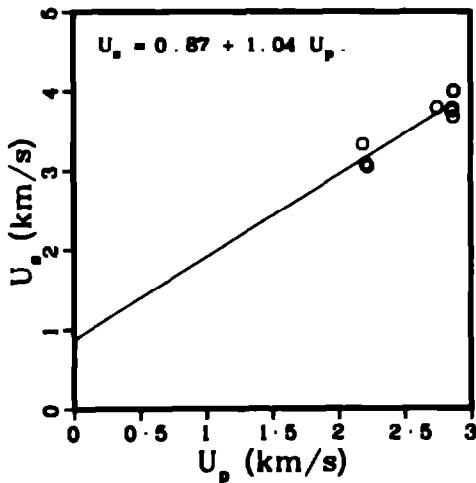


POLYURETHANE, foamed, $\rho_0 = 0.28 \text{ g/cm}^3$.

Average $\rho_0 = 0.280 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.289	3.331	2.187	2.108	1.1871	.842	.343	im1 o
.287	3.083	2.211	1.819	1.059	.944	.283	im1 o
.250	3.049	2.223	1.694	1.0841	.922	.271	im1 o
.288	3.794	2.746	3.087	.9322	1.073	.276	im1 o
.286	3.755	2.854	3.081	.8401	1.190	.240	im1 o
.285	3.785	2.881	3.087	.8583	1.168	.244	im1 o
.282	3.778	2.882	3.061	.8592	1.164	.242	im1 o
.273	3.681	2.868	2.886	.8078	1.238	.221	im1 o
.285	4.001	2.869	3.271	.9827	1.007	.283	im1 o
.289	3.997	2.871	3.321	.9734	1.027	.282	im1 o

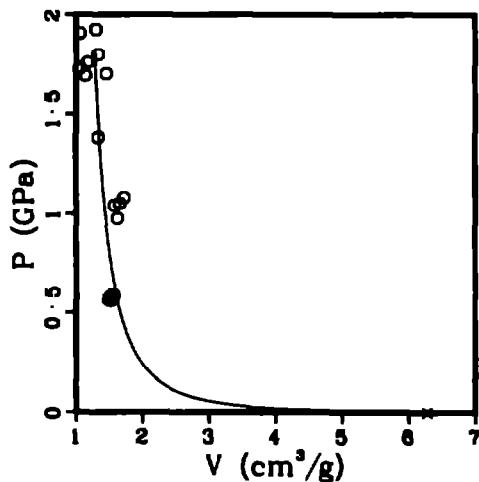
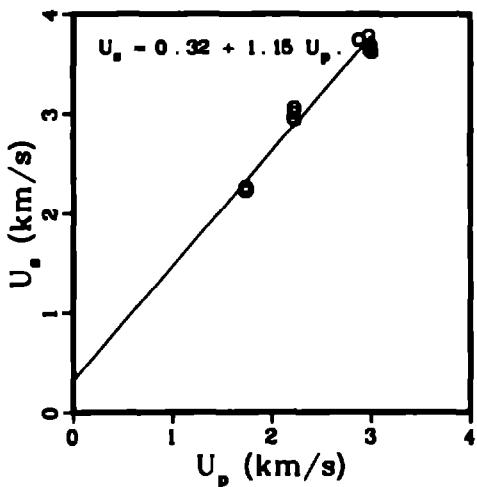


POLYURETHANE, foamed, $\rho_0 = 0.16 \text{ g/cm}^3$.

Average $\rho_0 = 0.159 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.145	2.227	1.732	.561	1.5287	.654	.222	im1 o
.150	2.259	1.736	.589	1.5424	.648	.232	im1 o
.149	2.265	1.738	.585	1.5658	.639	.233	im1 o
.147	2.227	1.742	.569	1.4856	.673	.218	im1 o
.145	2.242	1.750	.570	1.5093	.663	.219	im1 o
.159	2.955	2.214	1.043	1.5732	.636	.251	im1 o
.159	3.058	2.222	1.062	1.7172	.582	.273	im1 o
.157	3.008	2.225	1.053	1.6548	.604	.280	im1 o
.149	2.938	2.230	.976	1.6173	.618	.241	im1 o
.202	3.057	2.232	1.379	1.3353	.749	.270	im1 o
.178	3.748	2.878	1.924	1.3011	.769	.232	im1 o
.158	3.743	2.880	1.702	1.4602	.685	.231	im1 o
.160	3.782	2.978	1.800	1.3328	.750	.213	im1 o
.175	3.657	2.981	1.906	1.0575	.946	.185	im1 o
.158	3.633	2.984	1.693	1.1437	.874	.179	im1 o
.159	3.685	2.997	1.758	1.1728	.853	.187	im1 o
.159	3.612	3.006	1.729	1.0539	.949	.168	im1 o

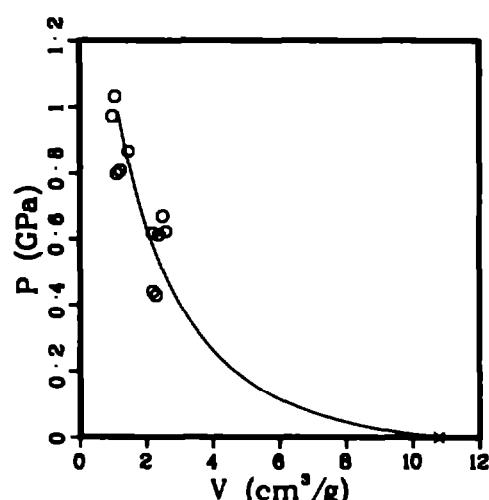
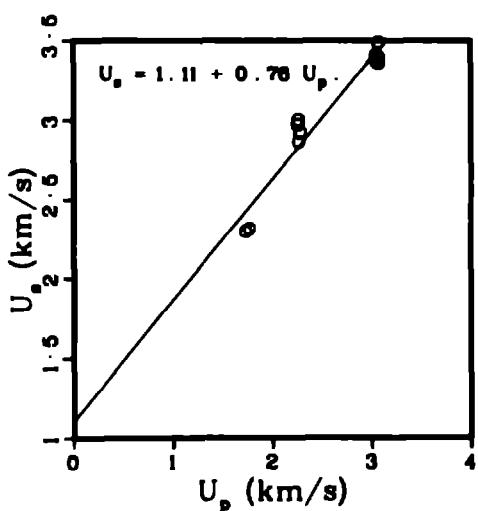


POLYURETHANE, foamed, $\rho_0 = 0.09 \text{ g/cm}^3$.

Average $\rho_0 = 0.093 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.107	2.300	1.735	.428	2.2915	.436	.246	im1 o
.107	2.317	1.772	.440	2.1942	.456	.235	im1 o
.093	2.974	2.259	.622	2.5963	.385	.240	im1 o
.099	3.004	2.265	.670	2.4975	.400	.246	im1 o
.095	2.869	2.272	.618	2.1950	.456	.208	im1 o
.091	2.924	2.287	.612	2.3809	.420	.218	im1 o
.089	3.410	3.051	1.030	1.0634	.940	.105	im1 o
.095	3.368	3.053	.972	.9897	1.010	.094	im1 o
.077	3.360	3.071	.799	1.1113	.900	.086	im1 o
.081	3.490	3.075	.666	1.4735	.679	.119	im1 o
.077	3.395	3.076	.808	1.2140	.824	.094	im1 o



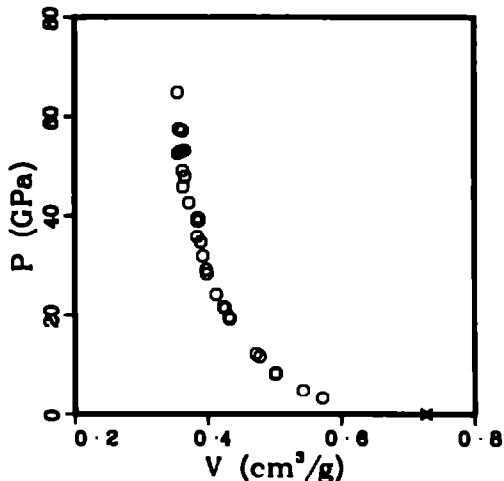
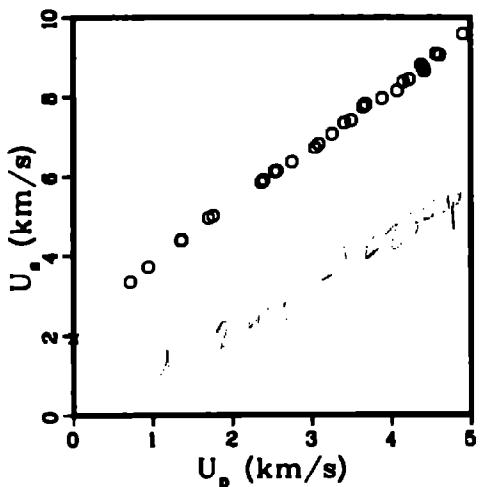
POLYVINYL CHLORIDE. Boltron

Average $\rho_a = 1.376 \text{ g/cm}^3$.

Reference 51

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.376	1.933	0.000	0.000	.7267	1.376	1.000	ss p x
1.376	3.353	.716	3.303	.5716	1.750	.786	im1 o
1.376	3.717	.942	4.818	.5426	1.843	.747	im1 o
1.376	4.375	1.358	8.175	.5012	1.995	.690	im1 o
1.376	4.397	1.361	8.234	.5018	1.993	.690	im1 o
1.376	4.962	1.700	11.607	.4778	2.093	.657	im1 o
1.376	5.017	1.759	12.143	.4719	2.119	.649	im1 o
1.376	5.853	2.368	19.071	.4327	2.311	.595	im1 o
1.376	5.907	2.396	19.475	.4320	2.315	.594	im1 o
1.376	6.127	2.536	21.380	.4259	2.348	.586	im1 o
1.376	6.140	2.562	21.645	.4235	2.361	.583	im1 o
1.376	6.368	2.753	24.115	.4125	2.424	.568	im1 o
1.376	6.734	3.043	28.196	.3963	2.510	.548	im1 o
1.376	6.826	3.092	29.042	.3975	2.515	.547	im1 o
1.376	7.082	3.258	31.749	.3924	2.548	.540	im1 o
1.376	7.357	3.413	34.551	.3896	2.567	.536	im1 o
1.376	7.417	3.498	35.700	.3840	2.604	.528	im1 o
1.376	7.752	3.648	38.912	.3847	2.599	.529	im1 o
1.386	7.797	3.676	39.152	.3869	2.584	.529	im1 o

(Continued)



POLYVINYL CHLORIDE . Boltron
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.376	7.812	3.678	39.536	.3846	2.600	.529	iml o
1.376	7.959	3.888	42.580	.3717	2.690	.511	iml o
1.376	8.148	4.080	45.744	.3628	2.756	.499	iml o
1.376	8.368	4.155	47.842	.3659	2.733	.503	iml o
1.376	8.427	4.228	49.026	.3621	2.762	.498	iml o
1.376	8.818	4.382	53.169	.3658	2.735	.503	iml o
1.376	8.738	4.409	52.999	.3600	2.778	.495	iml o
1.376	8.699	4.415	52.847	.3579	2.794	.492	iml o
1.376	8.640	4.419	52.536	.3550	2.817	.489	iml o
1.376	9.100	4.565	57.161	.3622	2.761	.498	iml o
1.376	9.062	4.613	57.521	.3568	2.803	.491	iml o
1.376	9.592	4.907	64.765	.3550	2.817	.488	iml o

POLYVINYLIDENE FLUORIDE . Kynar

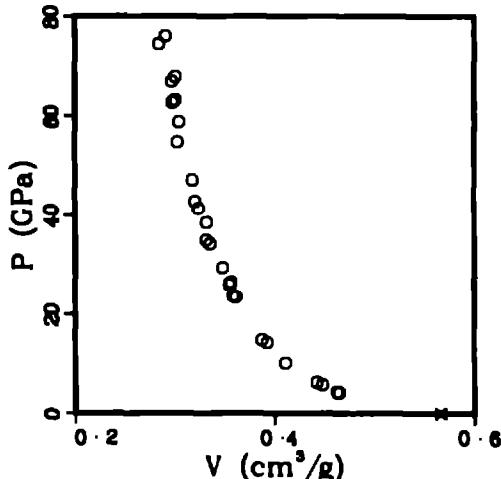
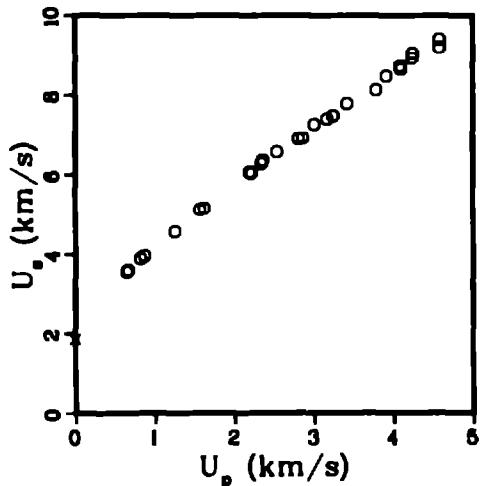
Average $\rho_0 = 1.767 \text{ g/cm}^3$.

Sound velocities longitudinal 2.10 km/s.
shear 0.85 km/s.

Reference 51

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.768	1.857	0.000	0.000	5656	1.768	1.000	ssp x
1.768	3.562	.842	4.038	4642	2.154	.820	im1 o
1.768	3.604	.861	4.207	4624	2.163	.817	im1 o
1.768	3.897	.816	5.616	4477	2.234	.791	im1 o
1.768	3.963	.869	6.082	4421	2.262	.781	im1 o
1.768	4.573	1.254	10.127	4110	2.433	.726	im1 o
1.768	5.136	1.569	14.247	3928	2.546	.695	im1 o
1.768	5.167	1.626	14.854	3876	2.580	.685	im1 o
1.768	6.057	2.192	23.447	3613	2.768	.638	im1 o
1.768	6.042	2.215	23.634	3587	2.788	.633	im1 o
1.768	6.279	2.342	25.970	3550	2.817	.627	im1 o
1.768	6.355	2.359	26.475	3561	2.809	.629	im1 o
1.768	6.569	2.536	29.420	3476	2.876	.614	im1 o
1.768	6.891	2.810	34.196	3353	2.982	.592	im1 o
1.768	6.910	2.864	34.950	3316	3.016	.586	im1 o
1.768	7.264	3.004	38.536	3321	3.011	.586	im1 o
1.768	7.400	3.165	41.361	3241	3.086	.572	im1 o
1.768	7.479	3.242	42.820	3208	3.117	.567	im1 o
1.768	7.785	3.418	46.992	3176	3.148	.561	im1 o

(Continued)



POLYVINYLIDENE FLUORIDE . Kynar
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.766	8.152	3.789	54.548	.3031	3.300	.535	iml o
1.766	8.479	3.916	58.704	.3044	3.285	.538	iml o
1.766	8.730	4.091	63.143	.3008	3.327	.531	iml o
1.766	8.652	4.101	62.661	.2979	3.357	.526	iml o
1.766	8.931	4.237	66.902	.2973	3.364	.526	iml o
1.766	9.055	4.241	67.818	.3010	3.322	.532	iml o
1.766	9.412	4.578	76.094	.2908	3.438	.514	iml o
1.766	9.208	4.579	74.545	.2843	3.517	.503	iml o

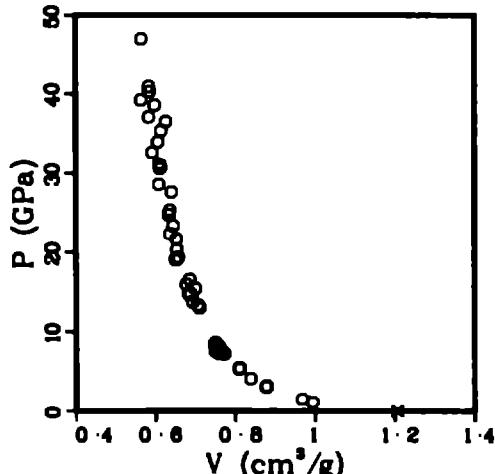
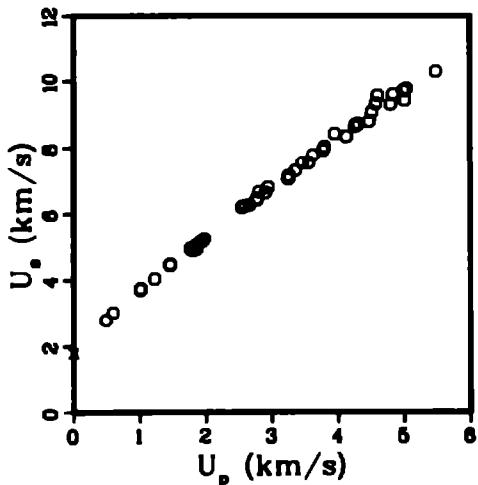
POLY 4-METHYL-1-PENTENE . TPX

Average $\rho_0 = 0.830 \text{ g/cm}^3$.

Sound velocities longitudinal 2.19 km/s .
shear 1.08 km/s .

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	U/V_0	Exp
.829	1.800	0.000	0.000	1.2063	.829	1.000	ssp x
.830	2.798	.490	1.138	.9938	1.006	.825	im1 o
.830	3.019	.594	1.488	.9678	1.033	.803	im1 o
.830	3.706	1.009	3.104	.8788	1.141	.728	im1 o
.829	3.738	1.013	3.139	.8794	1.137	.729	im1 o
.830	4.032	1.225	4.100	.8388	1.192	.696	im1 o
.830	4.464	1.459	5.406	.8110	1.233	.673	im1 o
.829	4.446	1.462	5.389	.8096	1.235	.671	im1 o
.830	4.927	1.767	7.226	.7727	1.294	.641	im1 o
.831	4.851	1.804	7.420	.7651	1.307	.636	im1 o
.831	4.910	1.805	7.363	.7612	1.314	.632	im1 o
.831	4.902	1.816	7.395	.7578	1.320	.630	im1 o
.830	4.918	1.816	7.413	.7599	1.316	.631	im1 o
.831	4.939	1.859	7.630	.7504	1.333	.624	im1 o
.831	4.947	1.859	7.642	.7512	1.331	.624	im1 o
.829	5.073	1.872	7.873	.7611	1.314	.631	im1 o
.830	5.146	1.912	8.166	.7572	1.321	.628	im1 o
.830	5.167	1.952	8.371	.7497	1.334	.622	im1 o
.830	5.239	1.976	8.592	.7504	1.333	.623	im1 o
.829	6.199	2.545	13.079	.7110	1.406	.589	im1 o

(Continued)



POLY 4-METHYL-1-PENTENE . TPX
 (Continued)

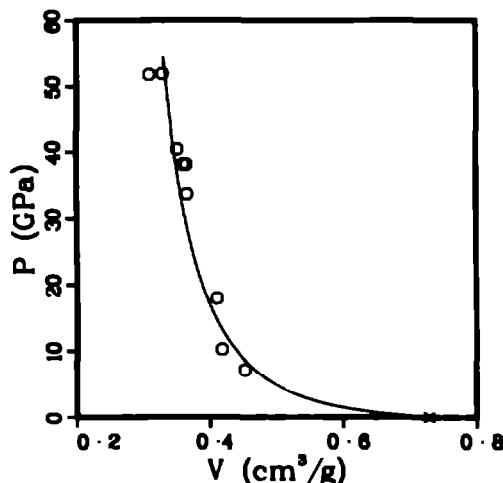
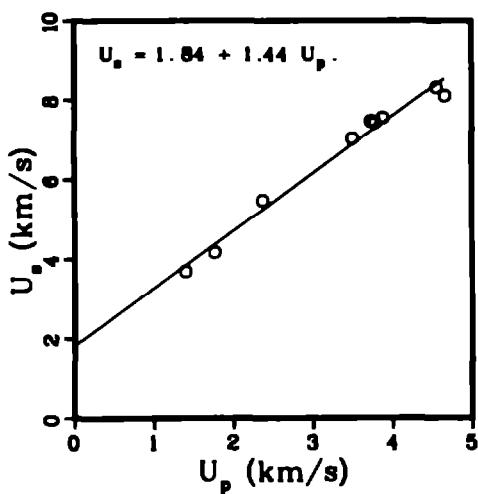
	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
827	6.242	2.595	13.396	.7065	1.415	.584	im1	o
829	6.262	2.661	13.814	.6937	1.442	.575	im1	o
830	6.451	2.772	14.849	.6868	1.458	.570	im1	o
831	6.419	2.773	14.786	.6838	1.462	.568	im1	o
827	6.666	2.806	15.469	.7002	1.428	.579	im1	o
830	6.634	2.904	15.990	.6774	1.476	.562	im1	o
827	6.808	2.945	16.581	.6881	1.457	.587	im1	o
831	7.078	3.248	19.104	.6512	1.536	.541	im1	o
831	7.078	3.248	19.104	.6512	1.536	.541	im1	o
830	7.094	3.250	19.136	.6529	1.532	.542	im1	o
829	7.160	3.258	19.338	.6574	1.521	.545	im1	o
827	7.313	3.359	20.315	.6538	1.530	.541	im1	o
829	7.547	3.464	21.672	.6526	1.532	.541	im1	o
830	7.553	3.562	22.330	.6366	1.571	.528	im1	o
829	7.779	3.621	23.351	.6448	1.551	.535	im1	o
827	7.925	3.777	24.754	.6329	1.580	.523	im1	o
829	8.038	3.798	25.308	.6363	1.572	.527	im1	o
829	8.428	3.952	27.612	.6408	1.561	.531	im1	o
830	8.344	4.129	28.585	.6086	1.643	.505	im1	o
830	8.657	4.281	30.817	.6118	1.635	.508	im1	o
829	8.698	4.275	30.825	.6134	1.630	.509	im1	o
830	8.721	4.310	31.198	.6094	1.641	.506	im1	o
830	8.800	4.474	32.678	.5923	1.688	.492	im1	o
829	9.080	4.516	33.993	.6063	1.649	.503	im1	o
829	9.329	4.576	35.390	.6146	1.627	.509	im1	o
829	9.575	4.602	36.529	.6265	1.596	.519	im1	o
830	9.309	4.801	37.095	.5834	1.714	.484	im1	o
830	9.606	4.836	38.557	.5983	1.671	.497	im1	o
830	9.715	4.994	40.289	.5855	1.708	.486	im1	o
830	9.426	5.013	39.220	.5641	1.773	.488	im1	o
830	9.777	5.041	40.907	.5836	1.713	.484	im1	o
830	10.328	5.484	47.010	.5651	1.770	.469	im1	o

RUBBER, Silastic, RTV-521

Average $\rho_0 = 1.372 \text{ g/cm}^3$.

Reference 13

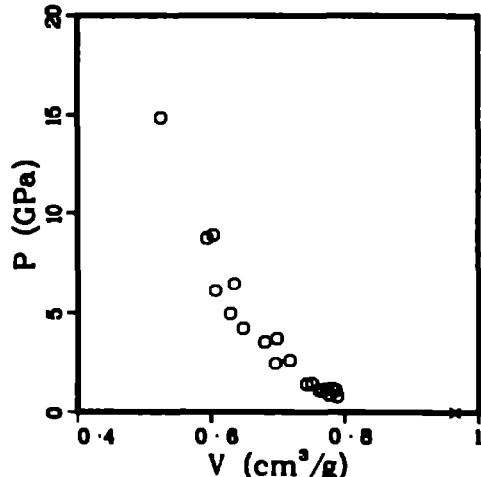
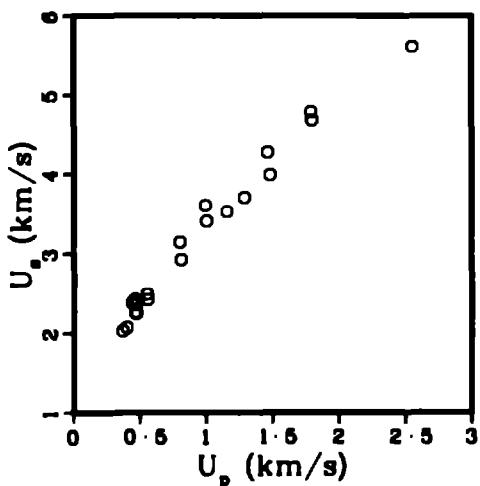
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.370	3.686	1.400	7.070	.4527	2.209	.620	im1 o
1.380	4.69	1.787	10.166	.4175	2.395	.576	im1 o
1.380	5.477	2.373	17.936	.4107	2.435	.587	im1 o
1.370	7.027	3.504	33.733	.3680	2.733	.501	im1 o
1.370	7.483	3.730	38.137	.3651	2.739	.500	im1 o
1.360	7.424	3.780	38.165	.3609	2.771	.491	im1 o
1.380	7.542	3.881	40.393	.3518	2.843	.485	im1 o
1.370	8.313	4.558	51.910	.3297	3.033	.452	im1 o
1.370	8.102	4.684	51.769	.3097	3.229	.424	im1 o



SYLGARD

Average $\rho_0 = 1.037 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.037	2.028	.369	.776	.7889	1.288	.818	im1 o
1.037	2.073	.401	.862	.7778	1.286	.807	im1 o
1.037	2.383	.440	1.087	.7863	1.272	.815	im1 o
1.037	2.426	.461	1.160	.7811	1.280	.810	im1 o
1.037	2.265	.465	1.092	.7663	1.305	.795	im1 o
1.037	2.364	.469	1.150	.7730	1.294	.802	im1 o
1.037	2.251	.472	1.102	.7621	1.312	.790	im1 o
1.037	2.492	.551	1.424	.7511	1.331	.779	im1 o
1.037	2.423	.556	1.397	.7430	1.346	.771	im1 o
1.037	3.142	.802	2.613	.7182	1.392	.745	im1 o
1.037	2.922	.812	2.460	.6963	1.436	.722	im1 o
1.037	3.604	.993	3.711	.6986	1.431	.724	im1 o
1.037	3.405	1.003	3.542	.6803	1.470	.705	im1 o
1.037	3.525	1.156	4.226	.6481	1.543	.672	im1 o
1.037	3.708	1.290	4.960	.6288	1.590	.652	im1 o
1.037	4.271	1.462	6.475	.6342	1.577	.658	im1 o
1.037	3.989	1.481	6.128	.6063	1.649	.629	im1 o
1.037	4.790	1.792	8.901	.6036	1.657	.626	im1 o
1.037	4.688	1.800	8.751	.5941	1.683	.616	im1 o
1.037	5.613	2.555	14.872	.5254	1.903	.545	im1 o



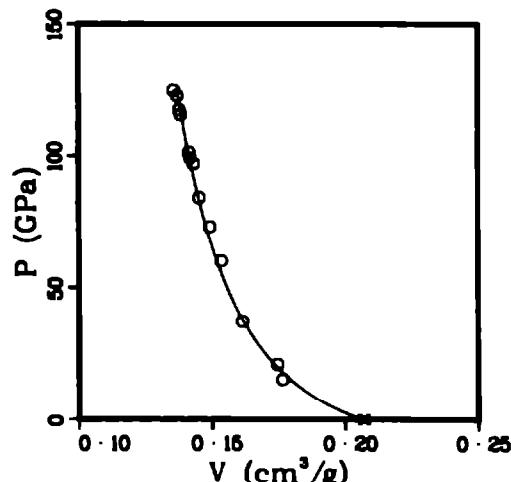
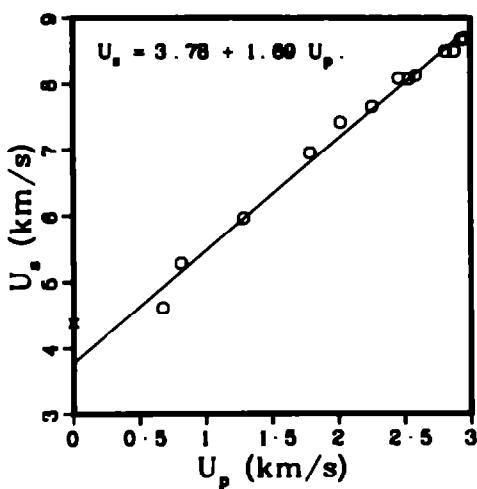
OTHER SYNTHETICS

COPPER-27 . 2 WT% BORON CARBIDE

Average $\rho_0 = 4.840 \text{ g/cm}^3$.

Sound velocities longitudinal 5.86 km/s.
shear 3.37 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
4.822	4.381	0.000	0.000	2074	4.822	1.000	s p x
4.835	4.611	.675	15.049	1765	5.664	.854	im1 o
4.844	5.281	.814	20.823	1748	5.727	.846	im1 o
4.856	5.962	1.286	37.232	1615	6.192	.784	im1 o
4.835	6.947	1.787	60.023	1536	6.509	.743	im1 o
4.872	7.414	2.018	72.892	1494	6.694	.728	im1 o
4.854	7.657	2.256	83.849	1453	6.882	.705	im1 o
4.860	8.090	2.457	96.603	1433	6.980	.696	im1 o
4.834	8.077	2.533	98.899	1420	7.043	.686	im1 o
4.819	8.130	2.585	101.276	1415	7.066	.682	im1 o
4.835	8.504	2.811	115.579	1385	7.222	.669	im1 o
4.800	8.504	2.877	117.437	1379	7.254	.662	im1 o
4.831	8.681	2.928	122.794	1372	7.290	.663	im1 o
4.863	8.694	2.954	124.892	1358	7.366	.660	im1 o

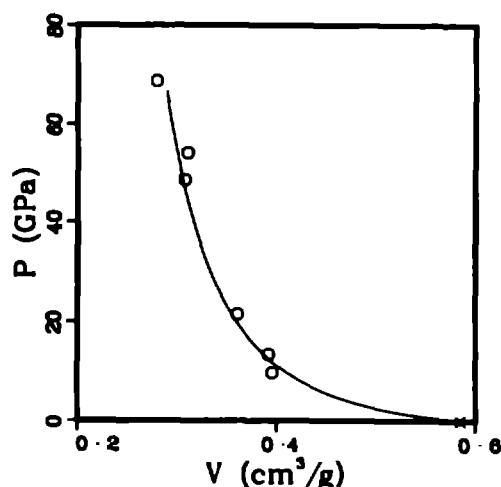
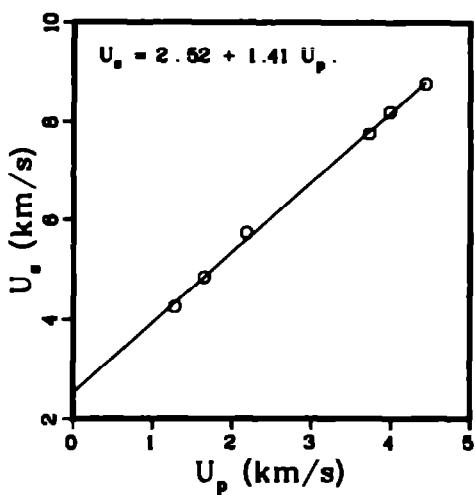


COPPER OXIDE-56 WT% EPOXY

Average $\rho_0 = 1.710 \text{ g/cm}^3$.

Reference 13

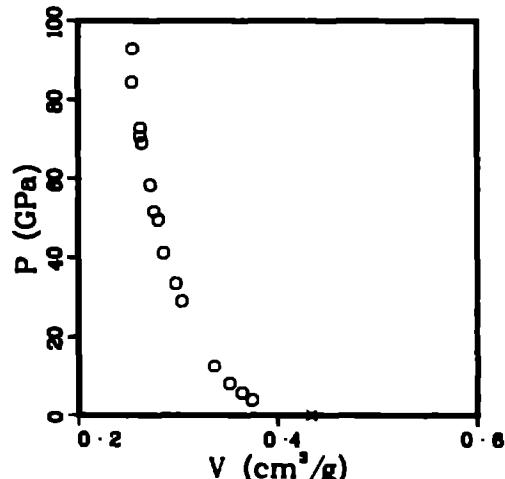
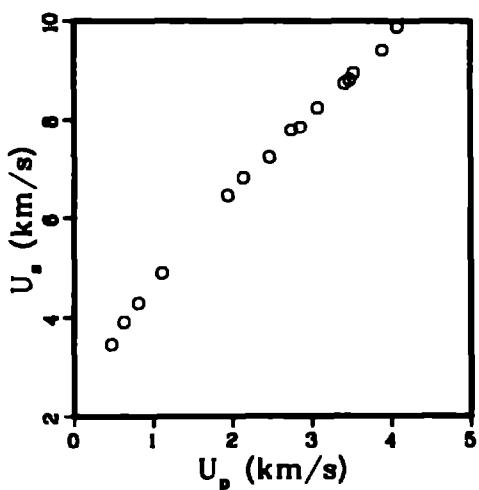
ρ_0 (g/cm^3)	U_n (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.761	4.249	1.284	9.608	.3963	2.524	.698	im1 o
1.684	4.850	1.649	13.468	.3919	2.552	.660	im1 o
1.717	5.734	2.179	21.453	.3611	2.769	.620	im1 o
1.682	7.744	3.730	48.585	.3082	3.245	.518	im1 o
1.651	8.196	3.991	54.018	.3108	3.217	.513	im1 o
1.766	8.763	4.437	68.865	.2795	3.577	.494	im1 o



EPOXY-40 VOL% CORUNDUM

Average $\rho_0 = 2.307 \text{ g/cm}^3$.

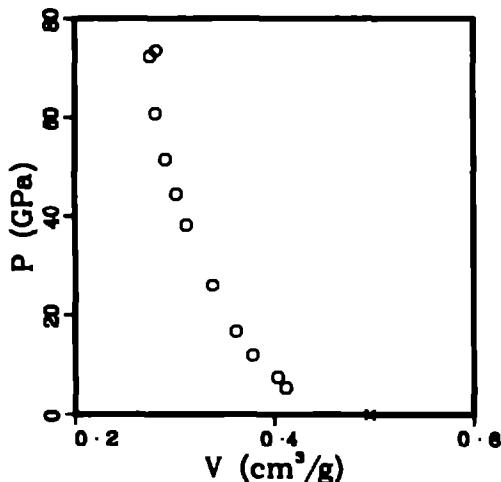
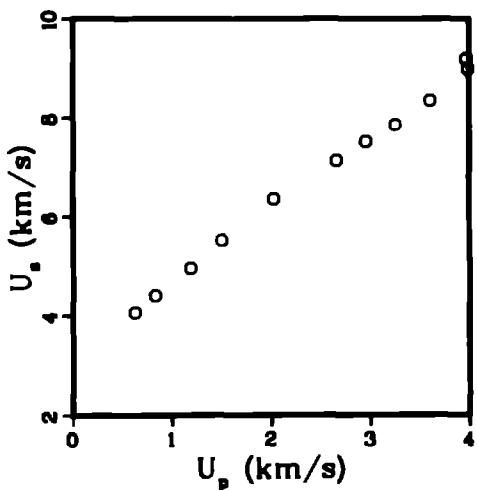
ρ_0 (g/cm ³)	U_n (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.306	3.462	.475	3.792	.3742	2.673	.863	im1 o
2.307	3.913	.628	5.669	.3639	2.748	.840	im1 o
2.306	4.287	.812	8.027	.3515	2.845	.811	im1 o
2.307	4.912	1.106	12.533	.3359	2.977	.775	im1 o
2.307	6.467	1.936	28.884	.3037	3.293	.701	im1 o
2.307	6.815	2.135	33.567	.2977	3.359	.687	im1 o
2.307	7.234	2.465	41.138	.2858	3.499	.659	im1 o
2.310	7.786	2.743	49.335	.2804	3.566	.648	im1 o
2.306	7.846	2.855	51.655	.2759	3.625	.636	im1 o
2.307	8.236	3.070	58.331	.2719	3.678	.627	im1 o
2.306	8.735	3.418	68.848	.2640	3.788	.609	im1 o
2.307	8.805	3.481	70.710	.2621	3.815	.605	im1 o
2.307	8.943	3.531	72.850	.2623	3.812	.605	im1 o
2.307	9.409	3.890	84.439	.2543	3.933	.587	im1 o
2.307	9.887	4.078	93.016	.2547	3.927	.588	im1 o



EPOXY-40 VOL% ENSTATITE

Average $\rho_0 = 2.017 \text{ g/cm}^3$.

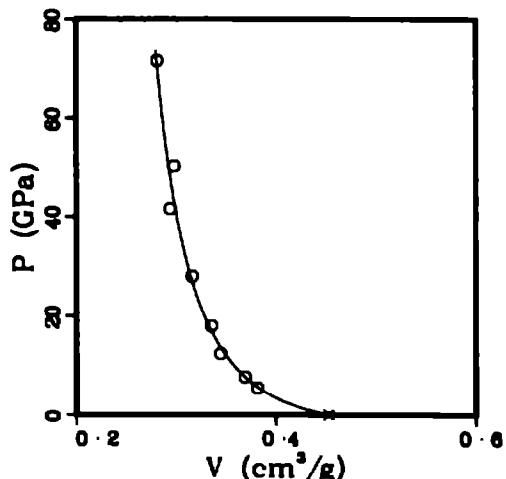
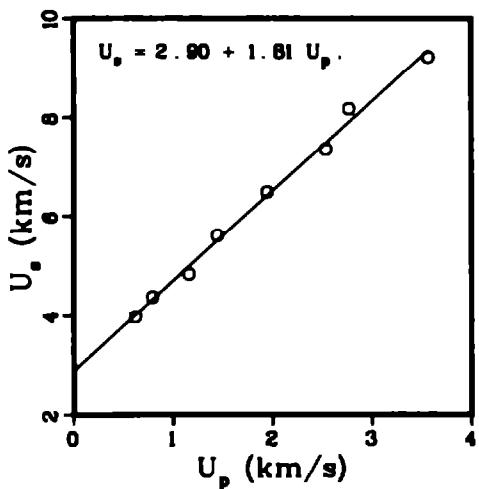
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.055	4.061	.628	5.241	.4114	2.431	.845	im1 o
2.013	4.397	.828	7.329	.4032	2.480	.812	im1 o
2.011	4.965	1.187	11.852	.3784	2.643	.761	im1 o
2.012	5.520	1.504	16.704	.3616	2.785	.728	im1 o
2.016	6.384	2.027	28.006	.3380	2.958	.681	im1 o
2.011	7.139	2.659	38.174	.3121	3.205	.628	im1 o
2.009	7.510	2.958	44.599	.3018	3.313	.606	im1 o
2.012	7.851	3.255	51.417	.2910	3.437	.585	im1 o
2.018	8.344	3.609	60.769	.2812	3.556	.567	im1 o
2.016	9.183	3.969	73.478	.2816	3.551	.568	im1 o
2.016	8.976	3.992	72.254	.2755	3.630	.555	im1 o



EPOXY-40 VOL% FORSTERITE , $\rho_0 = 2.2 \text{ g/cm}^3$.

Average $\rho_0 = 2.210 \text{ g/cm}^3$.

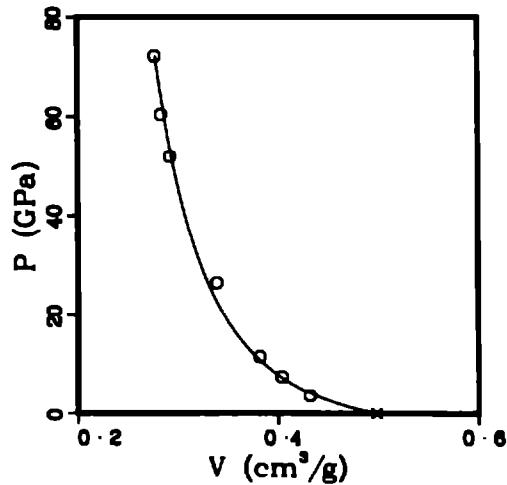
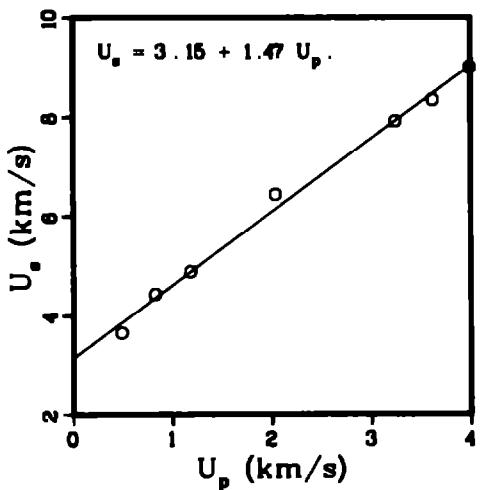
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.211	3.981	.622	5.475	.3816	2.620	.844	iml o
2.219	4.377	.793	7.702	.3690	2.710	.819	iml o
2.204	4.836	1.161	12.375	.3448	2.900	.760	iml o
2.212	5.610	1.446	17.944	.3356	2.980	.742	iml o
2.213	6.490	1.947	27.984	.3163	3.161	.700	iml o
2.228	7.357	2.539	41.580	.2942	3.399	.655	iml o
2.216	8.175	2.771	50.199	.2983	3.352	.661	iml o
2.178	9.216	3.568	71.618	.2814	3.554	.613	iml o



EPOXY-40 VOL% FORSTERITE , $\rho_0 = 2.0 \text{ g/cm}^3$.

Average $\rho_0 = 2.007 \text{ g/cm}^3$.

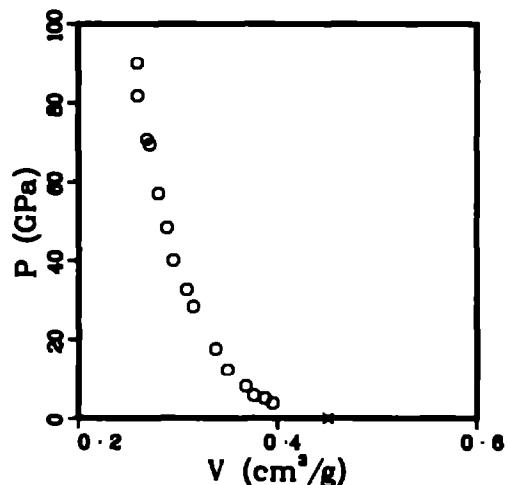
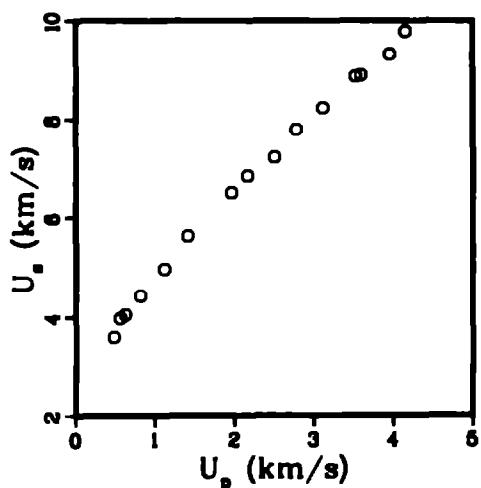
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.006	3.653	.488	3.576	.4319	2.315	.866	im1 o
2.015	4.434	.825	7.371	.4039	2.478	.814	im1 o
1.986	4.886	1.181	11.460	.3818	2.619	.758	im1 o
2.016	6.437	2.037	26.434	.3391	2.949	.684	im1 o
2.019	7.917	3.242	51.821	.2925	3.419	.591	im1 o
2.000	8.350	3.619	60.437	.2833	3.530	.587	im1 o
2.009	9.015	3.991	72.282	.2774	3.605	.557	im1 o



EPOXY-40 VOL% PERICLASE

Average $\rho_0 = 2.219 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/V ₀	Exp
2.194	3.597	.477	3.764	.3953	2.529	.867	im1 o
2.218	3.979	.562	4.960	.3872	2.583	.859	im1 o
2.248	4.053	.628	5.704	.3781	2.659	.848	im1 o
2.218	4.429	.814	8.013	.3682	2.716	.817	im1 o
2.218	4.976	1.117	12.328	.3496	2.860	.778	im1 o
2.218	5.633	1.413	17.654	.3378	2.961	.749	im1 o
2.218	6.521	1.958	28.320	.3155	3.170	.700	im1 o
2.218	6.855	2.162	32.872	.3087	3.240	.685	im1 o
2.218	7.231	2.501	40.112	.2949	3.391	.654	im1 o
2.225	7.797	2.779	48.211	.2892	3.457	.644	im1 o
2.218	8.240	3.114	56.912	.2805	3.565	.622	im1 o
2.218	8.876	3.521	69.318	.2720	3.676	.603	im1 o
2.218	8.897	3.589	70.824	.2690	3.718	.597	im1 o
2.218	9.325	3.958	81.863	.2595	3.854	.578	im1 o
2.218	9.785	4.152	90.111	.2595	3.853	.578	im1 o

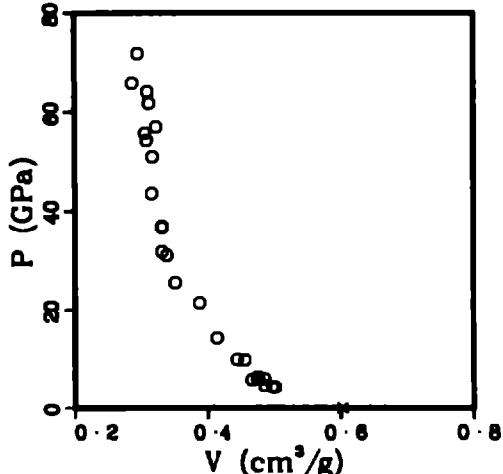
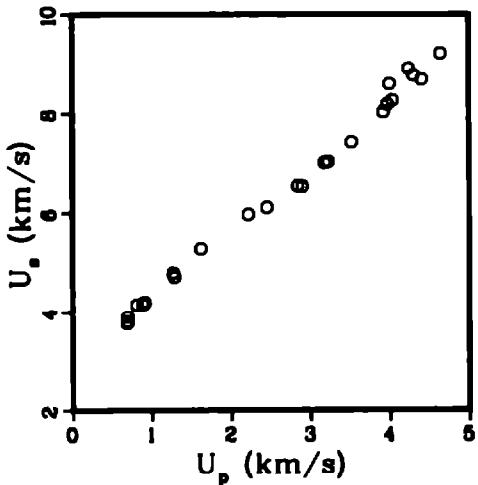


EPOXY-40 VOL% QUARTZ

Average $\rho_0 = 1.660 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.633	3.779	.687	4.240	.5010	1.996	.818	im1 o
1.646	3.804	.690	4.320	.4973	2.011	.819	im1 o
1.693	3.902	.692	4.571	.4859	2.058	.823	im1 o
1.726	4.152	.809	5.798	.4685	2.144	.805	im1 o
1.622	4.163	.888	5.996	.4850	2.082	.787	im1 o
1.653	4.171	.893	6.157	.4754	2.103	.786	im1 o
1.649	4.197	.909	6.291	.4751	2.105	.783	im1 o
1.614	4.787	1.267	9.789	.4556	2.195	.735	im1 o
1.636	4.705	1.287	9.907	.4440	2.252	.728	im1 o
1.673	5.267	1.619	14.286	.4140	2.415	.693	im1 o
1.621	5.976	2.218	21.486	.3879	2.578	.629	im1 o
1.706	6.109	2.451	25.544	.3510	2.849	.599	im1 o
1.670	6.537	2.840	31.004	.3387	2.953	.566	im1 o
1.678	6.528	2.899	31.756	.3313	3.018	.556	im1 o
1.646	7.000	3.181	38.651	.3315	3.017	.546	im1 o
1.631	7.021	3.227	38.953	.3313	3.018	.540	im1 o
1.665	7.431	3.519	43.539	.3162	3.163	.528	im1 o
1.613	8.033	3.923	50.831	.3172	3.153	.512	im1 o
1.669	8.187	3.974	54.301	.3083	3.243	.515	im1 o
1.657	8.600	4.001	57.015	.3227	3.099	.535	im1 o
1.670	8.268	4.039	55.769	.3063	3.265	.511	im1 o
1.695	8.920	4.240	64.106	.3095	3.231	.525	im1 o

(Continued)



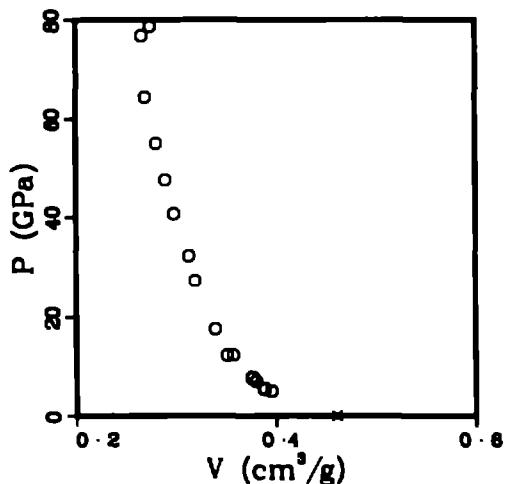
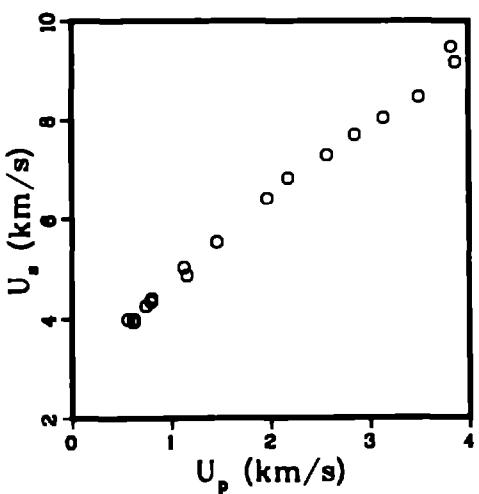
EPOXY-40 VOL% QUARTZ
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.635	8.782	4.300	61.742	.3121	3.204	.510	im1 o
1.718	8.693	4.408	65.832	.2869	3.485	.493	im1 o
1.680	9.224	4.643	71.949	.2956	3.383	.497	im1 o

EPOXY-40 VOL% SPINEL

Average $\rho_0 = 2.171 \text{ g/cm}^3$.

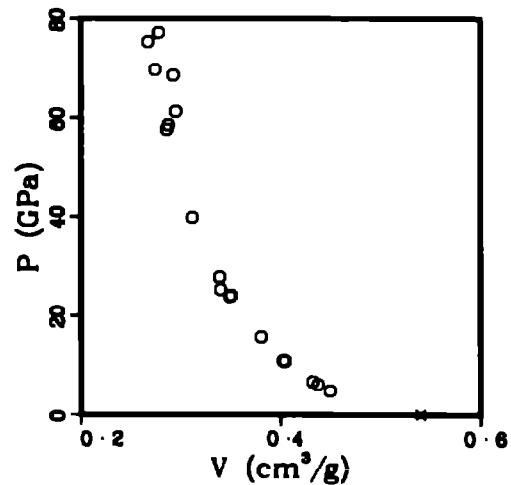
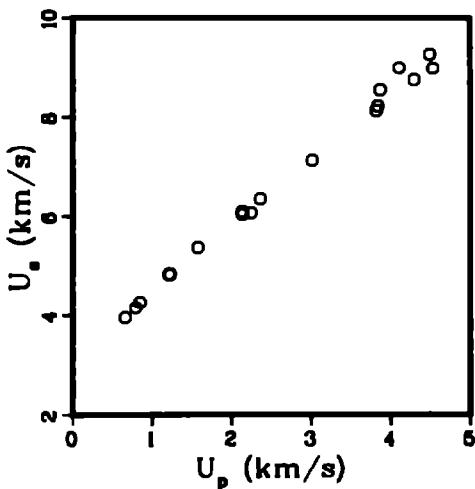
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.171	3.995	566	4.909	3954	2.529	.858	i ml o
2.171	3.942	623	5.332	3878	2.579	.842	i ml o
2.171	3.991	626	5.424	3884	2.575	.843	i ml o
2.171	4.264	747	6.915	3799	2.632	.825	i ml o
2.171	4.351	800	7.557	3759	2.660	.816	i ml o
2.171	4.406	808	7.710	3764	2.657	.817	i ml o
2.171	5.045	1.133	12.409	3572	2.800	.775	i ml o
2.171	4.885	1.163	12.334	3510	2.849	.762	i ml o
2.170	5.549	1.462	17.604	3394	2.946	.737	i ml o
2.171	6.420	1.968	27.430	3194	3.131	.693	i ml o
2.171	6.828	2.182	32.345	3134	3.191	.680	i ml o
2.171	7.285	2.571	40.662	2981	3.355	.647	i ml o
2.171	7.689	2.854	47.641	2896	3.452	.629	i ml o
2.171	8.047	3.143	54.908	2807	3.562	.609	i ml o
2.171	8.467	3.501	64.355	2702	3.702	.587	i ml o
2.171	9.479	3.825	78.714	2747	3.640	.596	i ml o
2.171	9.162	3.864	76.858	2664	3.754	.578	i ml o



EPOXY-40 VOL% WOLLASTONITE

Average $\rho_0 = 1.852 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.853	3.953	.660	4.834	.4496	2.224	.833	im1 o
1.850	4.154	.793	6.094	.4374	2.286	.809	im1 o
1.854	4.264	.848	6.704	.4321	2.314	.801	im1 o
1.852	4.827	1.212	10.835	.4044	2.473	.749	im1 o
1.851	4.820	1.227	10.947	.4027	2.483	.745	im1 o
1.854	5.354	1.576	15.644	.3806	2.627	.706	im1 o
1.853	6.090	2.134	24.082	.3506	2.853	.650	im1 o
1.849	6.038	2.138	23.869	.3493	2.863	.646	im1 o
1.853	6.070	2.246	25.262	.3400	2.941	.630	im1 o
1.852	6.346	2.361	27.748	.3391	2.949	.628	im1 o
1.851	7.122	3.017	39.773	.3114	3.211	.576	im1 o
1.853	8.130	3.822	57.578	.2860	3.497	.530	im1 o
1.852	8.222	3.842	58.503	.2876	3.477	.533	im1 o
1.853	8.545	3.870	61.277	.2953	3.387	.547	im1 o
1.853	8.987	4.111	68.460	.2928	3.415	.543	im1 o
1.852	8.745	4.298	69.609	.2746	3.642	.509	im1 o
1.852	9.269	4.495	77.162	.2781	3.596	.515	im1 o
1.850	8.978	4.534	75.307	.2676	3.737	.495	im1 o

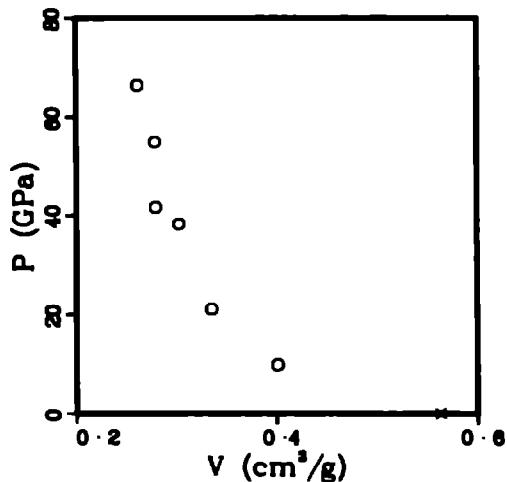
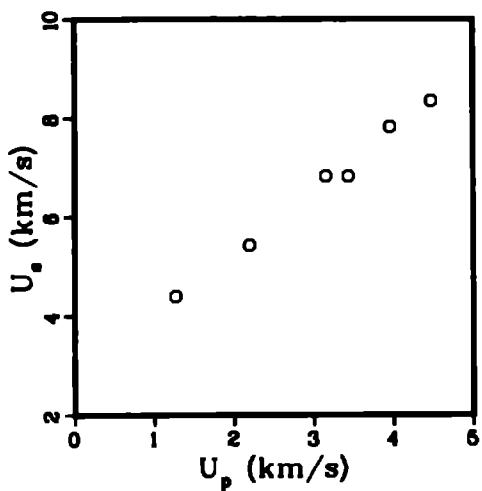


EPOXY-71 WT% LITHIUM ALUMINUM SILICATE

Average $\rho_0 = 1.775 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.777	4.408	1.267	9.924	.4010	2.484	.713	im1 o
1.776	5.417	2.194	21.108	.3350	2.985	.595	im1 o
1.776	6.821	3.154	38.208	.3027	3.304	.538	im1 o
1.774	6.822	3.439	41.620	.2795	3.577	.496	im1 o
1.775	7.827	3.958	54.988	.2785	3.591	.494	im1 o
1.775	8.348	4.476	66.324	.2613	3.827	.464	im1 o



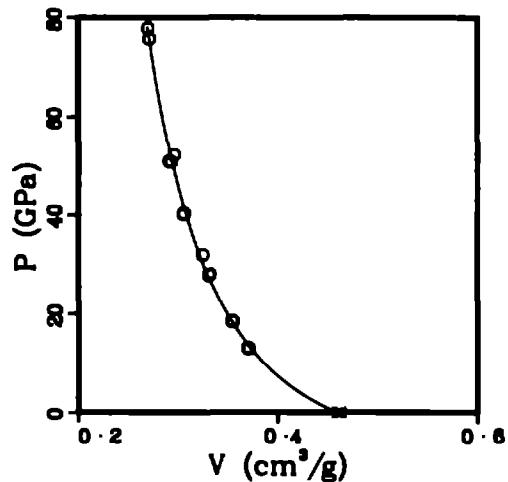
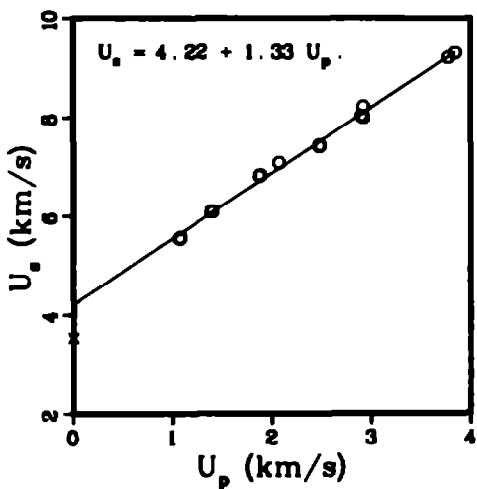
EPOXY-90 WT% LITHIUM TETRABORATE

Average $\rho_0 = 2.176 \text{ g/cm}^3$.

Sound velocities longitudinal 4.91 km/s.
shear 2.95 km/s.

Reference 13

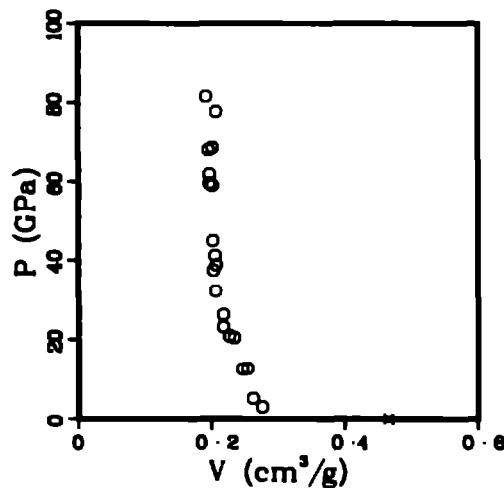
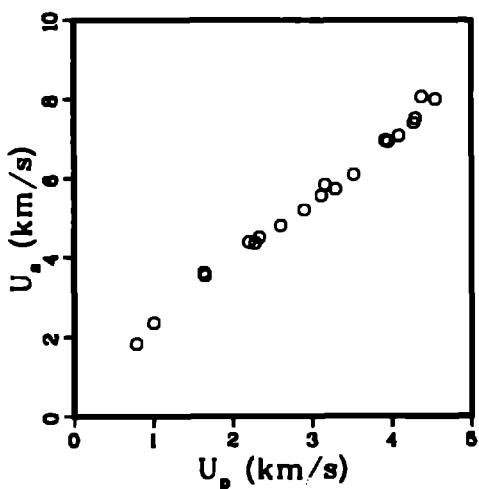
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.180	3.536	0.000	0.000	.4630	2.160	1.000	s sp x
2.174	5.544	1.072	12.920	.3710	2.695	.807	im1 o
2.181	5.585	1.080	13.108	.3695	2.706	.806	im1 o
2.177	6.091	1.388	18.405	.3547	2.819	.772	im1 o
2.175	6.087	1.403	18.575	.3538	2.826	.770	im1 o
2.188	6.813	1.873	27.921	.3314	3.018	.725	im1 o
2.181	6.832	1.883	28.058	.3321	3.011	.724	im1 o
2.177	7.086	2.072	31.963	.3250	3.077	.708	im1 o
2.179	7.425	2.479	40.108	.3057	3.271	.666	im1 o
2.176	7.446	2.488	40.312	.3060	3.268	.666	im1 o
2.178	8.038	2.906	50.875	.2931	3.411	.638	im1 o
2.176	8.226	2.922	52.303	.2963	3.375	.645	im1 o
2.178	8.002	2.927	51.013	.2912	3.434	.634	im1 o
2.173	9.222	3.778	75.709	.2717	3.681	.580	im1 o
2.172	9.316	3.848	77.862	.2702	3.701	.587	im1 o



NIOBIUM CARBIDE-50 WT% CARBON

Average $\rho_0 = 2.148 \text{ g/cm}^3$.

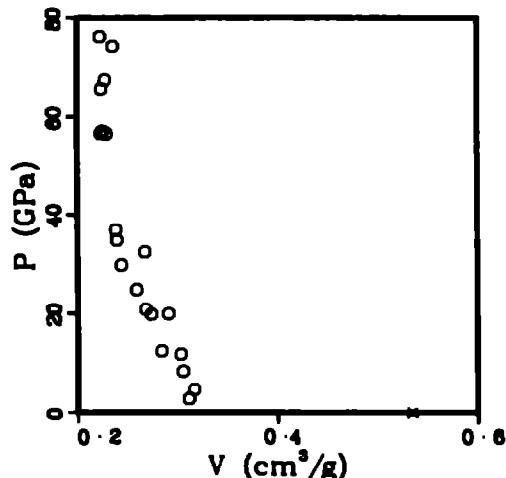
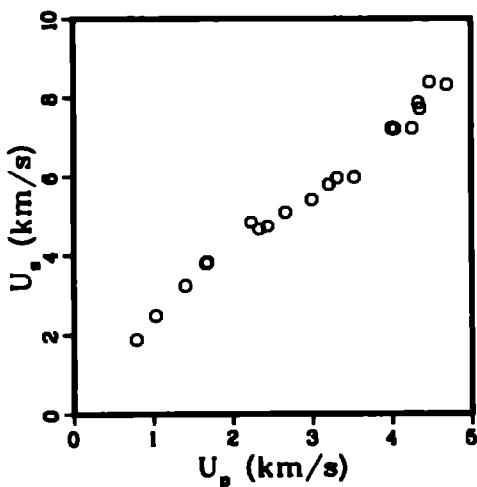
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.087	1.837	.777	2.979	.2785	3.617	.577	i m1 o
2.188	2.350	1.000	5.142	.2628	3.809	.574	i m1 o
2.155	3.615	1.636	12.745	.2540	3.936	.547	i m1 o
2.163	3.543	1.654	12.675	.2465	4.057	.533	i m1 o
2.124	4.382	2.203	20.504	.2341	4.271	.497	i m1 o
2.101	4.360	2.282	20.904	.2288	4.408	.477	i m1 o
2.209	4.501	2.334	23.208	.2179	4.588	.481	i m1 o
2.100	4.800	2.604	26.248	.2179	4.590	.457	i m1 o
2.136	5.198	2.899	32.175	.2070	4.832	.442	i m1 o
2.160	5.561	3.113	37.393	.2038	4.907	.440	i m1 o
2.231	5.840	3.158	41.146	.2058	4.858	.459	i m1 o
2.054	5.738	3.290	38.775	.2077	4.814	.427	i m1 o
2.089	6.100	3.521	44.868	.2024	4.941	.423	i m1 o
2.161	6.961	3.924	59.028	.2019	4.953	.436	i m1 o
2.171	6.931	3.960	59.587	.1974	5.065	.429	i m1 o
2.137	7.077	4.094	61.916	.1972	5.070	.422	i m1 o
2.145	7.405	4.282	68.014	.1986	5.086	.422	i m1 o
2.117	7.527	4.302	68.551	.2024	4.941	.428	i m1 o
2.201	8.066	4.379	77.742	.2077	4.815	.457	i m1 o
2.238	8.005	4.552	81.550	.1927	5.188	.431	i m1 o



NIOBIUM CARBIDE-70 WT% CARBON

Average $\rho_0 = 1.871 \text{ g/cm}^3$.

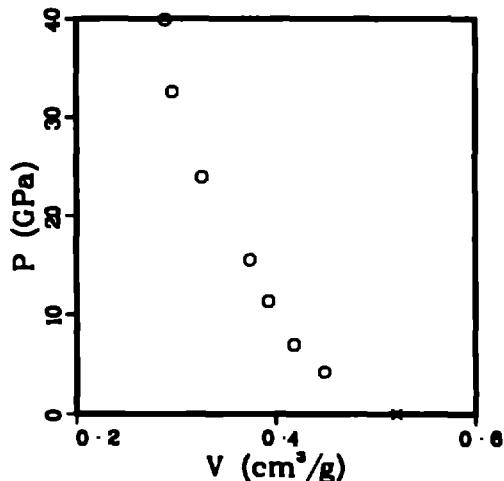
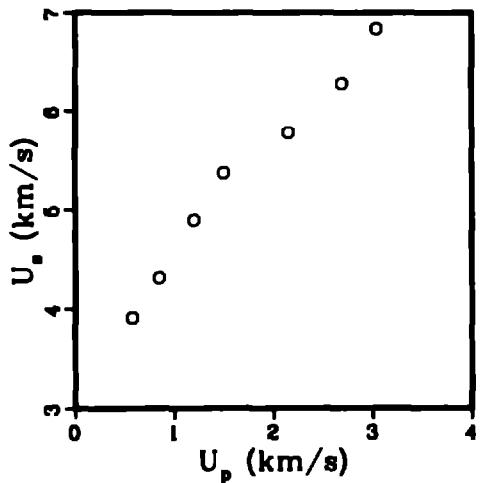
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.873	1.890	.788	2.789	.3113	3.212	.583	im1 o
1.848	2.472	1.026	4.687	.3165	3.159	.585	im1 o
1.864	3.242	1.398	8.448	.3051	3.277	.569	im1 o
1.978	3.798	1.663	12.487	.2841	3.520	.562	im1 o
1.850	3.825	1.679	11.881	.3033	3.297	.561	im1 o
1.850	4.828	2.229	19.909	.2910	3.437	.538	im1 o
1.825	4.658	2.330	19.807	.2739	3.652	.500	im1 o
1.807	4.729	2.437	20.825	.2682	3.728	.485	im1 o
1.840	5.081	2.661	24.878	.2589	3.863	.476	im1 o
1.835	5.416	2.993	29.746	.2438	4.102	.447	im1 o
1.865	5.800	3.211	34.733	.2393	4.178	.448	im1 o
1.864	5.963	3.314	36.835	.2383	4.196	.444	im1 o
1.533	5.982	3.530	32.372	.2674	3.740	.410	im1 o
1.952	7.242	4.001	56.580	.2293	4.362	.448	im1 o
1.956	7.224	4.039	57.072	.2254	4.436	.441	im1 o
1.841	7.231	4.256	56.657	.2235	4.475	.411	im1 o
1.972	7.874	4.337	67.343	.2278	4.390	.449	im1 o
1.946	7.724	4.357	65.490	.2240	4.464	.436	im1 o
1.977	8.386	4.477	74.225	.2358	4.241	.486	im1 o
1.951	8.316	4.698	76.223	.2230	4.484	.435	im1 o



PARAFFIN-81.3 WT% ALPHA QUARTZ

Average $\rho_0 = 1.920 \text{ g/cm}^3$.

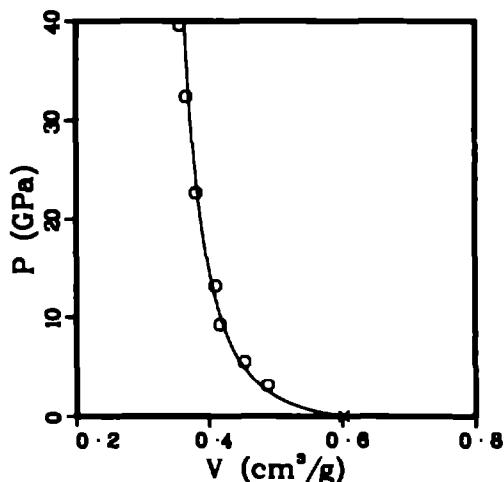
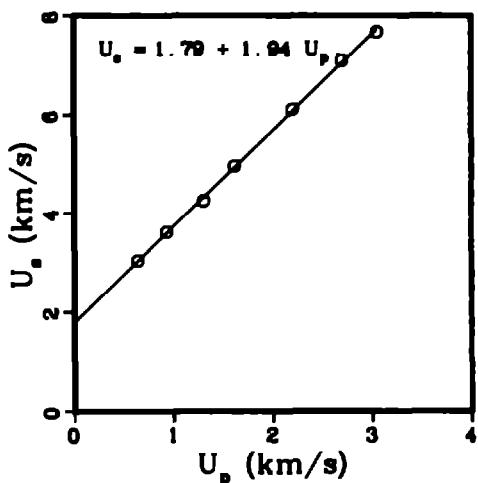
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.904	3.911	.569	4.237	.4488	2.228	.855	im1 o
1.921	4.318	.847	7.026	.4185	2.390	.804	im1 o
1.923	4.896	1.199	11.289	.3927	2.547	.755	im1 o
1.924	5.375	1.502	15.533	.3745	2.670	.721	im1 o
1.923	5.777	2.151	23.898	.3284	3.064	.628	im1 o
1.924	6.277	2.695	32.547	.2986	3.372	.571	im1 o
1.918	6.839	3.042	39.903	.2895	3.455	.555	im1 o



PARAFFIN-65 .6 WT% CORUNDUM

Average $\rho_0 = 1.662 \text{ g/cm}^3$.

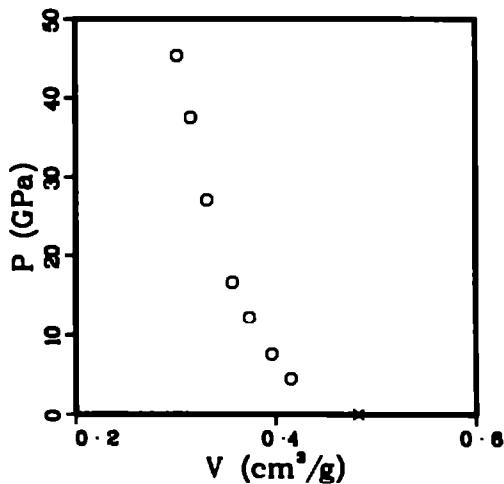
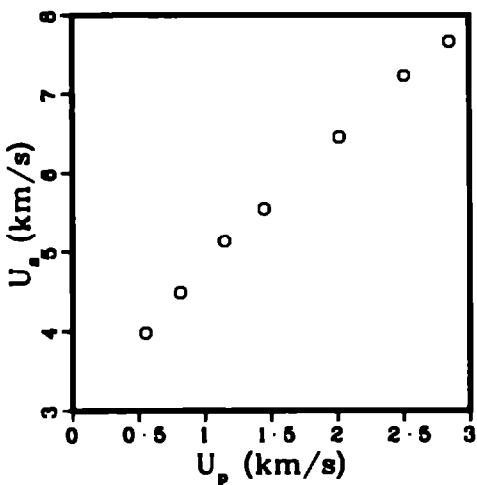
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.622	3.036	.636	3.132	.4874	2.052	.791	im1 o
1.637	3.619	.932	5.521	.4536	2.205	.742	im1 o
1.664	4.253	1.305	9.235	.4166	2.401	.693	im1 o
1.647	4.959	1.615	13.190	.4094	2.442	.674	im1 o
1.681	6.111	2.204	22.641	.3803	2.629	.639	im1 o
1.691	7.089	2.701	32.378	.3660	2.732	.619	im1 o
1.691	7.671	3.053	39.602	.3560	2.809	.602	im1 o



PARAFFIN-80 . 2 WT% ENSTATITE

Average $\rho_0 = 2.073 \text{ g/cm}^3$.

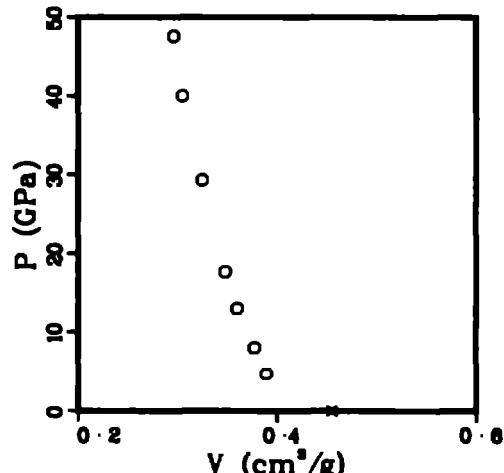
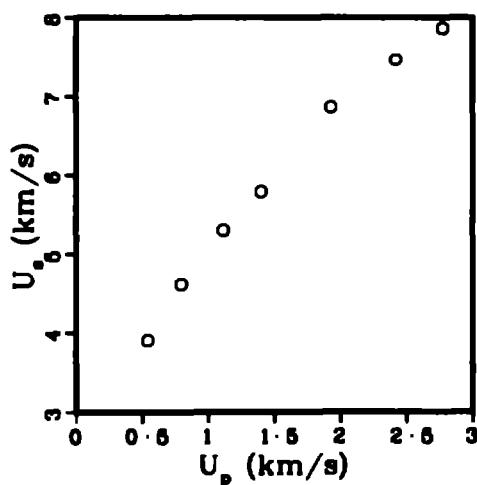
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.075	3.980	.551	4.550	.4152	2.408	.862	im1 o
2.068	4.492	.817	7.582	.3960	2.525	.818	im1 o
2.077	5.136	1.149	12.257	.3738	2.676	.776	im1 o
2.070	5.549	1.450	16.655	.3569	2.802	.739	im1 o
2.074	6.471	2.019	27.097	.3317	3.015	.688	im1 o
2.070	7.236	2.508	37.566	.3157	3.168	.653	im1 o
2.079	7.671	2.849	45.436	.3024	3.307	.629	im1 o



PARAFFIN-85 . 3 WT% FORSTERITE

Average $\rho_0 = 2.198 \text{ g/cm}^3$.

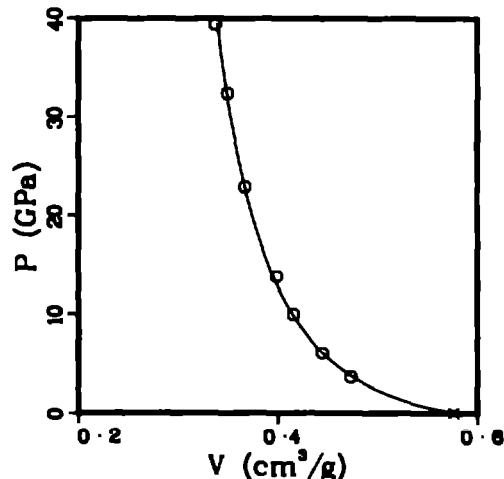
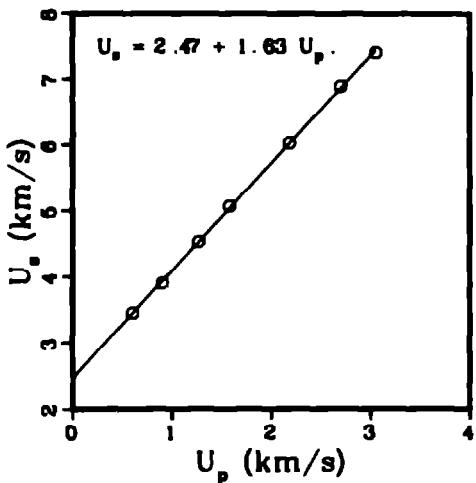
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.213	3.905	.542	4.684	.3892	2.570	.881	i m1 o
2.194	4.620	.792	8.028	.3777	2.648	.829	i m1 o
2.193	5.298	1.115	12.955	.3600	2.778	.790	i m1 o
2.179	5.794	1.401	17.688	.3480	2.874	.758	i m1 o
2.211	6.869	1.830	29.312	.3252	3.075	.719	i m1 o
2.212	7.469	2.421	39.988	.3055	3.273	.676	i m1 o
2.183	7.865	2.775	47.645	.2965	3.373	.647	i m1 o



PARAFFIN-61.0 WT% HEMATITE

Average $\rho_0 = 1.736 \text{ g/cm}^3$.

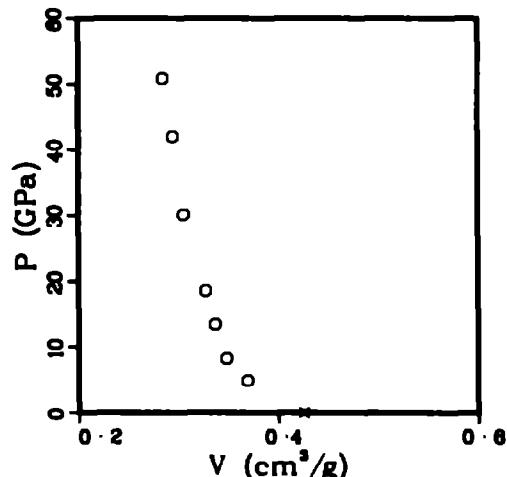
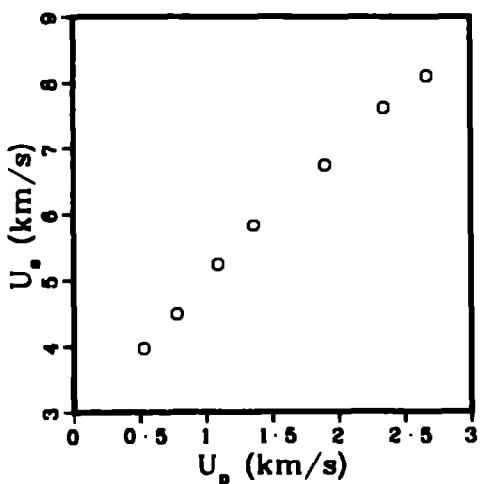
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.744	3.456	.604	3.640	.4732	2.113	.825	im1 o
1.729	3.905	.901	6.083	.4449	2.248	.769	im1 o
1.733	4.539	1.267	9.966	.4160	2.404	.721	im1 o
1.725	5.076	1.583	13.861	.3989	2.507	.688	im1 o
1.737	6.035	2.190	22.957	.3688	2.726	.637	im1 o
1.741	6.894	2.700	32.407	.3494	2.862	.608	im1 o
1.740	7.407	3.059	39.425	.3374	2.964	.587	im1 o



PARAFFIN-84.2 WT% PERICLASE

Average $\rho_0 = 2.353 \text{ g/cm}^3$.

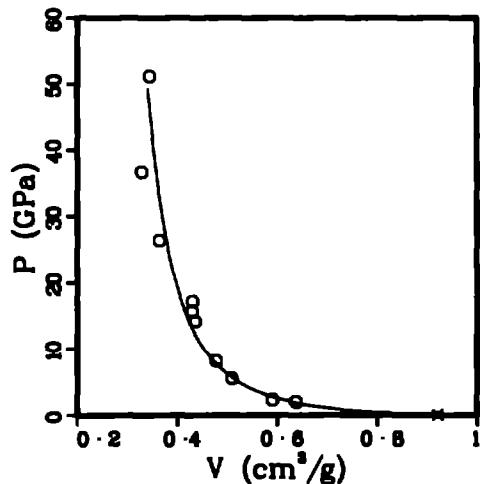
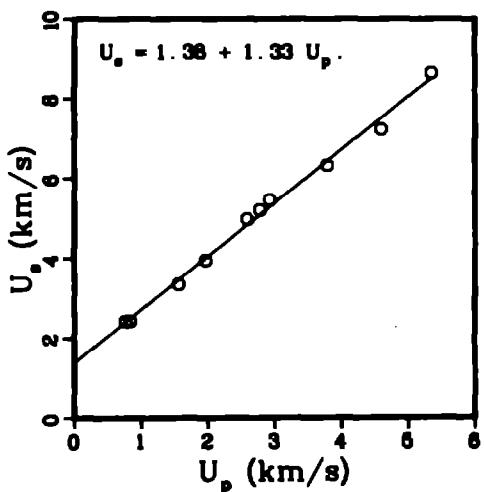
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
2.350	3.968	.528	4.923	.3689	2.711	.867	im1 o
2.373	4.486	.778	8.282	.3483	2.871	.827	im1 o
2.352	5.236	1.091	13.436	.3368	2.971	.792	im1 o
2.339	5.825	1.362	18.557	.3276	3.053	.766	im1 o
2.351	6.742	1.899	30.100	.3055	3.273	.718	im1 o
2.351	7.623	2.348	42.080	.2943	3.397	.692	im1 o
2.352	8.104	2.669	50.873	.2851	3.507	.671	im1 o



PHENOLIC REFRASIL, low-density phenolic, GE M-3057

Average $\rho_0 = 1.066 \text{ g/cm}^3$.

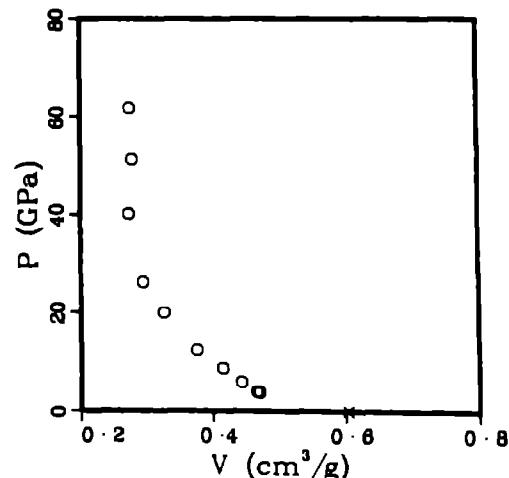
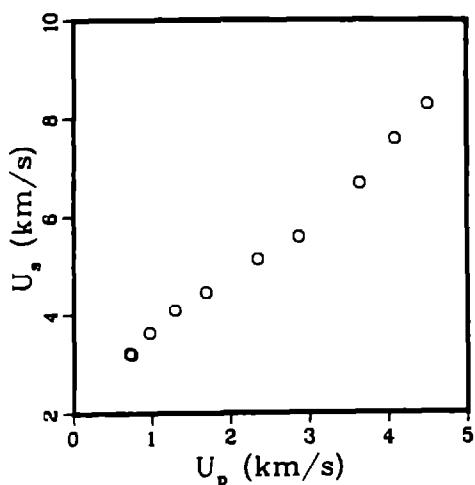
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.071	2.421	.766	1.988	.6383	1.567	.684	i m1 o
1.111	2.431	.835	2.255	.5909	1.692	.657	i m1 o
1.050	3.352	1.560	5.491	.5091	1.964	.535	i m1 o
1.050	3.950	1.968	8.162	.4779	2.093	.502	i m1 o
1.101	4.973	2.588	14.170	.4356	2.298	.480	i m1 o
1.084	5.208	2.781	15.700	.4299	2.326	.486	i m1 o
1.074	5.459	2.931	17.184	.4312	2.319	.483	i m1 o
1.101	6.321	3.789	26.369	.3638	2.749	.401	i m1 o
1.107	7.220	4.593	36.710	.3287	3.042	.384	i m1 o
1.107	8.641	5.347	51.147	.3444	2.904	.381	i m1 o



PHENOLIC REFRASIL, McDonnell-Douglas

Average $\rho_0 = 1.656 \text{ g/cm}^3$.

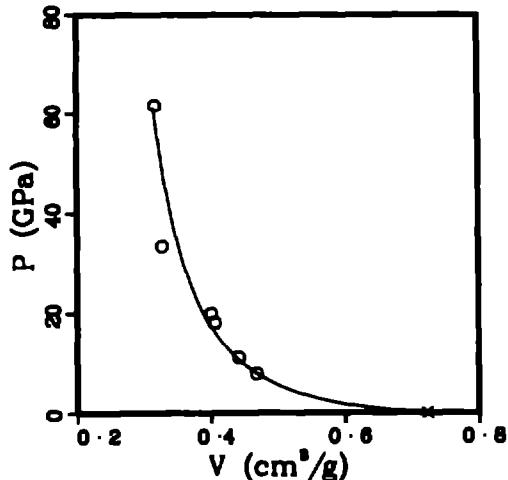
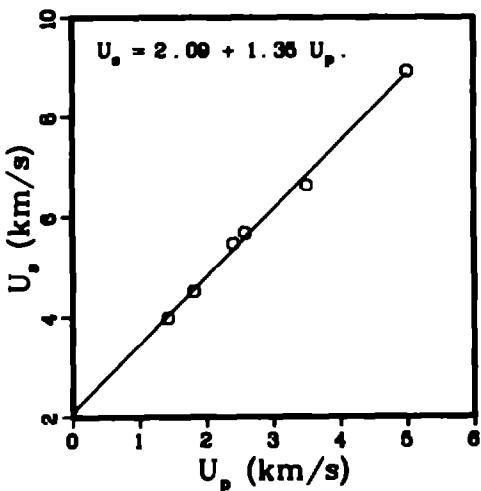
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.659	3.213	.708	3.774	.4699	2.128	.780	i m1 o
1.652	3.192	.735	3.876	.4659	2.146	.770	i m1 o
1.654	3.629	.971	5.828	.4428	2.258	.732	i m1 o
1.651	4.085	1.289	8.693	.4146	2.412	.684	i m1 o
1.659	4.454	1.680	12.414	.3754	2.664	.623	i m1 o
1.666	5.120	2.336	19.926	.3264	3.064	.544	i m1 o
1.655	5.560	2.852	26.244	.2943	3.398	.487	i m1 o
1.660	6.663	3.631	40.161	.2741	3.648	.455	i m1 o
1.652	7.577	4.085	51.133	.2790	3.585	.461	i m1 o
1.657	8.278	4.498	61.697	.2756	3.629	.457	i m1 o



PHENOLIC REFRASIL, multiple-warp . GE 2B-3057

Average $\rho_0 = 1.382 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.371	3.984	1.430	7.811	.4878	2.139	.641	im1 o
1.353	4.509	1.814	11.067	.4418	2.284	.598	im1 o
1.382	5.472	2.400	18.150	.4062	2.482	.581	im1 o
1.381	5.680	2.583	19.968	.4006	2.496	.545	im1 o
1.442	6.635	3.503	33.516	.3274	3.055	.472	im1 o
1.384	8.916	5.005	61.760	.3169	3.155	.439	im1 o

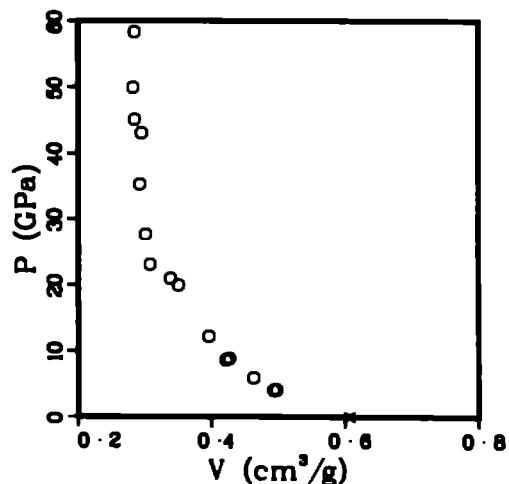
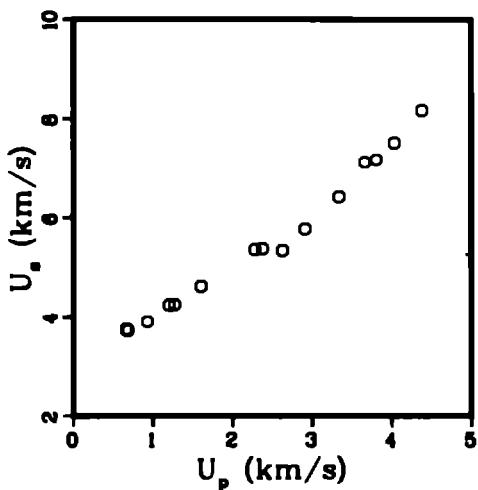


PHENOLIC REFRASIL, one-dimensional weave, Avco

Average $\rho_0 = 1.649 \text{ g/cm}^3$.

Reference 13

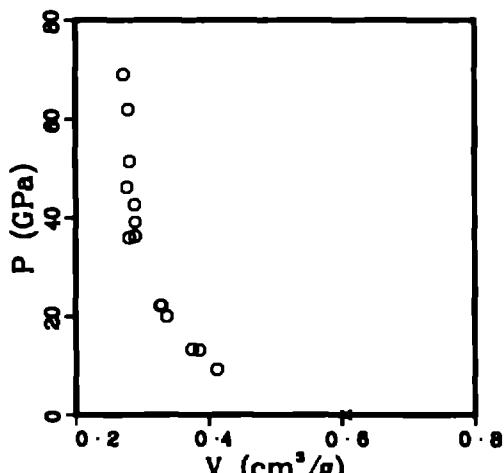
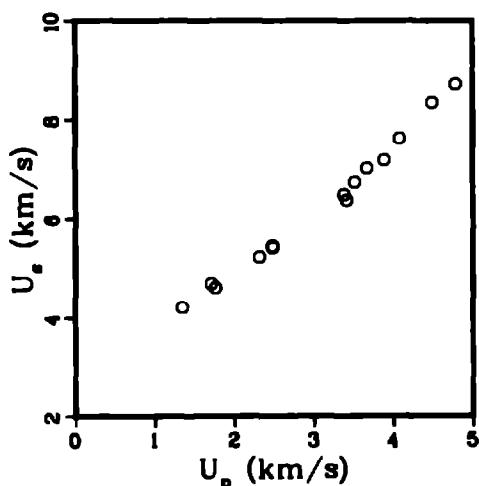
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.667	3.744	.664	4.144	.4935	2.026	.823	im1 o
1.641	3.720	.683	4.169	.4975	2.010	.816	im1 o
1.647	3.903	.929	5.972	.4628	2.161	.762	im1 o
1.699	4.237	1.201	8.848	.4217	2.371	.717	im1 o
1.642	4.245	1.270	8.852	.4268	2.343	.701	im1 o
1.645	4.604	1.605	12.156	.3960	2.525	.651	im1 o
1.637	5.345	2.279	19.941	.3504	2.854	.574	im1 o
1.646	5.358	2.374	20.937	.3384	2.956	.557	im1 o
1.646	5.325	2.627	23.026	.3078	3.249	.507	im1 o
1.645	5.769	2.910	27.616	.3013	3.319	.496	im1 o
1.643	6.423	3.339	35.236	.2922	3.422	.480	im1 o
1.650	7.130	3.663	43.093	.2947	3.393	.486	im1 o
1.651	7.179	3.808	45.134	.2844	3.516	.470	im1 o
1.643	7.526	4.036	49.906	.2822	3.543	.464	im1 o
1.630	8.170	4.381	58.342	.2845	3.515	.464	im1 o



PHENOLIC REFRASIL, three-dimensional weave, Avco

Average $\rho_0 = 1.651 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.651	4.209	1.346	9.353	.4120	2.427	.680	im1 o
1.651	4.697	1.706	13.230	.3857	2.593	.637	im1 o
1.651	4.613	1.759	13.397	.3747	2.669	.619	im1 o
1.651	5.225	2.316	19.979	.3372	2.965	.557	im1 o
1.651	5.439	2.481	22.279	.3294	3.036	.544	im1 o
1.651	5.409	2.485	22.192	.3274	3.054	.541	im1 o
1.651	6.481	3.380	36.166	.2898	3.451	.478	im1 o
1.651	6.366	3.414	35.882	.2809	3.560	.484	im1 o
1.651	6.731	3.517	39.084	.2892	3.458	.477	im1 o
1.651	7.024	3.674	42.606	.2889	3.462	.477	im1 o
1.651	7.183	3.890	46.132	.2777	3.801	.458	im1 o
1.651	7.624	4.078	51.331	.2817	3.550	.485	im1 o
1.651	8.343	4.492	61.874	.2796	3.577	.482	im1 o
1.651	8.710	4.790	68.881	.2728	3.668	.450	im1 o

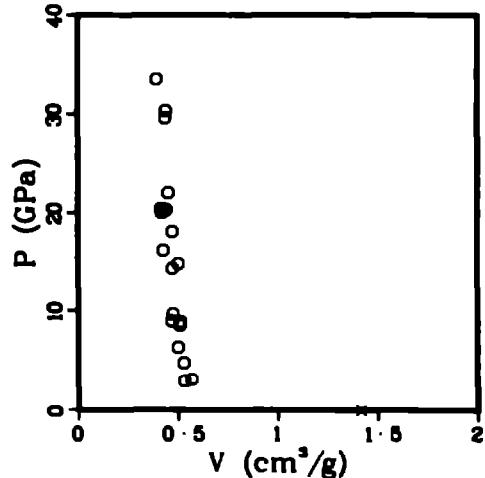
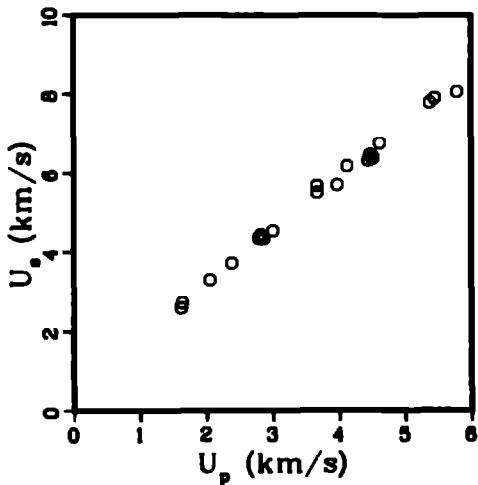


POLYURETHANE, FOAMED-50 WT% LITHIUM ALUMINUM SILICATE

Average $\rho_0 = 0.707 \text{ g/cm}^3$.

Reference 13

ρ_0 (g/cm ³)	U_n (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
702	2.585	1.617	2.934	.5334	1.875	.374	im1 o
699	2.712	1.632	3.094	.5697	1.755	.398	im1 o
705	3.302	2.084	4.805	.5318	1.880	.375	im1 o
712	3.716	2.390	6.323	.5012	1.995	.357	im1 o
703	4.350	2.792	8.538	.5095	1.963	.358	im1 o
708	4.433	2.825	8.866	.5123	1.952	.363	im1 o
721	4.335	2.865	8.955	.4703	2.126	.339	im1 o
709	4.531	3.007	9.660	.4744	2.108	.336	im1 o
707	5.694	3.670	14.774	.5028	1.989	.355	im1 o
706	5.517	3.674	14.310	.4732	2.113	.334	im1 o
709	5.714	3.977	16.112	.4288	2.332	.304	im1 o
705	6.188	4.127	18.004	.4724	2.117	.333	im1 o
708	6.334	4.446	19.938	.4210	2.375	.298	im1 o
701	6.478	4.472	20.308	.4417	2.264	.310	im1 o
704	6.426	4.508	20.385	.4244	2.356	.299	im1 o
707	6.387	4.517	20.397	.4141	2.415	.293	im1 o
704	6.773	4.617	22.015	.4522	2.212	.318	im1 o
706	7.794	5.380	29.604	.4387	2.279	.310	im1 o
703	7.907	5.454	30.317	.4413	2.266	.310	im1 o
717	8.065	5.787	33.464	.3939	2.538	.282	im1 o

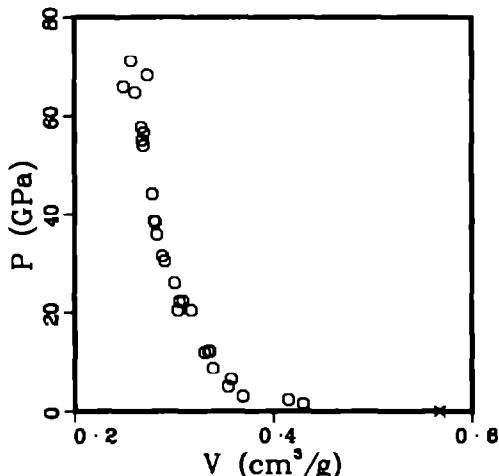
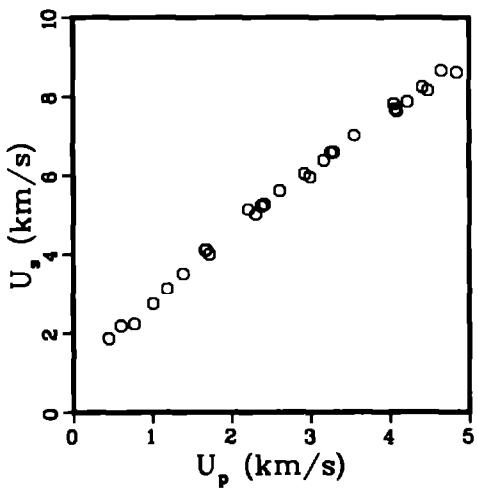


SILICON CARBIDE-50 WT% CARBON

Average $\rho_0 = 1.763 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.770	1.870	.447	1.480	.4299	2.326	.761	im1 o
1.744	2.185	.603	2.298	.4152	2.409	.724	im1 o
1.771	2.232	.772	3.052	.3694	2.707	.654	im1 o
1.780	2.742	1.012	4.939	.3545	2.821	.631	im1 o
1.739	3.133	1.183	6.445	.3579	2.794	.622	im1 o
1.781	3.511	1.387	8.673	.3397	2.944	.605	im1 o
1.774	4.103	1.667	12.134	.3347	2.988	.594	im1 o
1.760	4.113	1.680	12.161	.3361	2.975	.592	im1 o
1.724	3.999	1.719	11.851	.3307	3.024	.570	im1 o
1.797	5.145	2.208	20.414	.3177	3.148	.571	im1 o
1.777	5.009	2.301	20.481	.3042	3.287	.541	im1 o
1.787	5.239	2.375	22.235	.3059	3.269	.547	im1 o
1.755	5.276	2.413	22.343	.3092	3.234	.543	im1 o
1.782	5.818	2.609	26.119	.3006	3.327	.536	im1 o
1.786	6.033	2.924	31.506	.2885	3.466	.515	im1 o
1.713	5.958	2.990	30.516	.2908	3.439	.498	im1 o
1.776	6.374	3.169	35.874	.2831	3.532	.503	im1 o
1.794	6.569	3.257	38.383	.2810	3.558	.504	im1 o
1.782	6.580	3.295	38.636	.2802	3.569	.499	im1 o
1.774	7.007	3.548	44.103	.2783	3.594	.494	im1 o
1.785	7.819	4.054	56.581	.2698	3.707	.482	im1 o
1.756	7.688	4.067	54.905	.2682	3.728	.471	im1 o

(Continued)



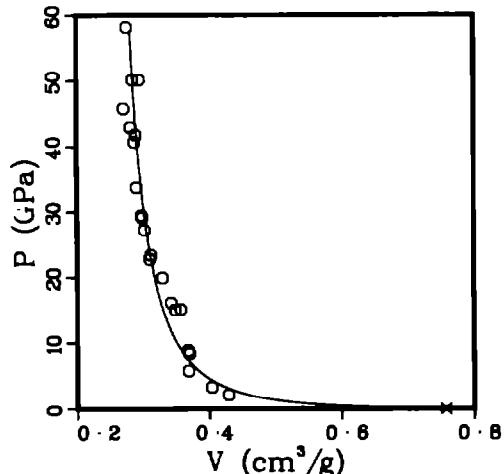
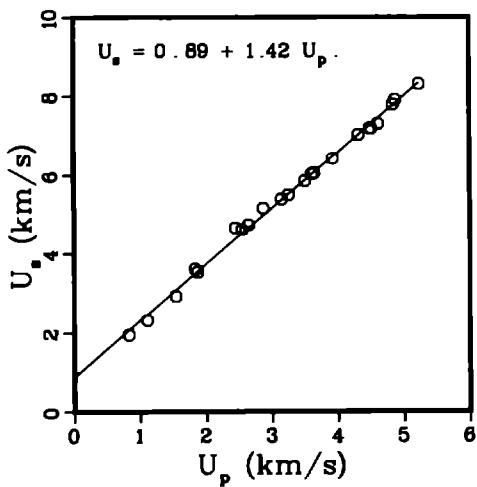
SILICON CARBIDE-50 WT% CARBON
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.725	7.640	4.086	53.849	.2697	3.708	.465	im1 o
1.734	7.876	4.224	57.687	.2674	3.740	.464	im1 o
1.779	8.244	4.414	64.736	.2611	3.829	.465	im1 o
1.804	8.157	4.482	65.954	.2497	4.004	.451	im1 o
1.697	8.663	4.647	68.316	.2732	3.661	.464	im1 o
1.705	8.619	4.843	71.170	.2570	3.892	.438	im1 o

SILICON CARBIDE-80 WT% CARBON

Average $\rho_0 = 1.320 \text{ g/cm}^3$.

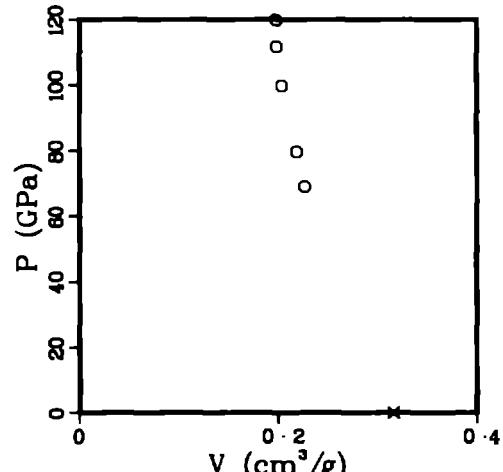
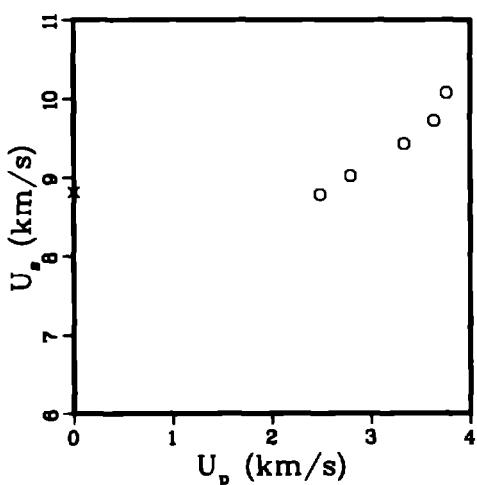
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.341	1.947	.828	2.162	.4286	2.333	.575	im1 o
1.294	2.317	1.108	3.322	.4032	2.480	.522	im1 o
1.286	2.933	1.544	5.824	.3683	2.716	.474	im1 o
1.336	3.612	1.837	8.865	.3678	2.719	.491	im1 o
1.269	3.532	1.875	8.404	.3697	2.705	.469	im1 o
1.329	4.655	2.449	15.151	.3566	2.804	.474	im1 o
1.282	4.607	2.550	15.061	.3483	2.871	.446	im1 o
1.287	4.736	2.650	16.152	.3422	2.922	.440	im1 o
1.344	5.156	2.875	19.923	.3292	3.038	.442	im1 o
1.340	5.386	3.149	22.727	.3100	3.226	.415	im1 o
1.305	5.495	3.257	23.358	.3121	3.204	.407	im1 o
1.325	5.851	3.508	27.196	.3022	3.309	.400	im1 o
1.340	6.021	3.611	29.134	.2987	3.348	.400	im1 o
1.336	6.051	3.644	29.459	.2977	3.359	.398	im1 o
1.338	6.420	3.926	33.724	.2903	3.444	.388	im1 o
1.342	7.026	4.318	40.714	.2872	3.482	.385	im1 o
1.295	7.186	4.494	41.821	.2893	3.457	.375	im1 o
1.324	7.192	4.510	42.945	.2817	3.550	.373	im1 o
1.357	7.304	4.617	45.762	.2711	3.689	.368	im1 o
1.329	7.790	4.842	50.129	.2848	3.512	.378	im1 o
1.301	7.904	4.877	50.151	.2944	3.397	.383	im1 o
1.338	8.299	5.238	58.163	.2757	3.628	.369	im1 o



SILICON NITRIDE-5 WT% PERICLASE

Average $\rho_0 = 3.164 \text{ g/cm}^3$.

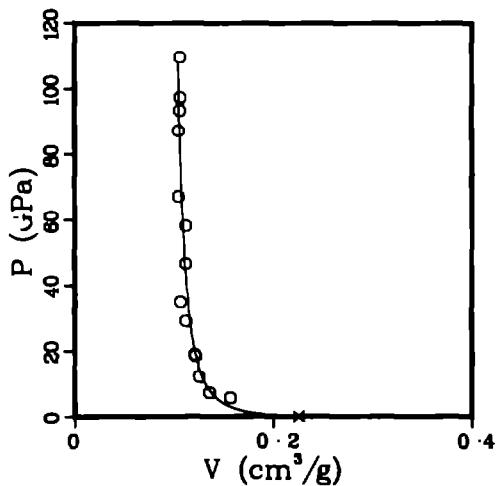
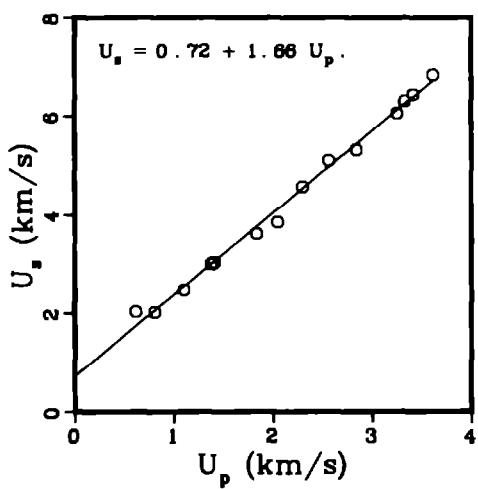
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
3.160	8.818	0.000	0.000	.3165	3.160	1.000	s sp x
3.168	8.787	2.482	69.092	.2265	4.415	.718	i m1 o
3.160	9.023	2.791	79.579	.2186	4.575	.691	i m1 o
3.174	9.426	3.333	99.717	.2037	4.910	.646	i m1 o
3.158	9.725	3.640	111.790	.1981	5.047	.626	i m1 o
3.165	10.072	3.760	119.861	.1980	5.050	.627	i m1 o



TANTALUM CARBIDE-70 WT% CARBON , $\rho_0 = 4.4 \text{ g/cm}^3$.

Average $\rho_0 = 4.433 \text{ g/cm}^3$.

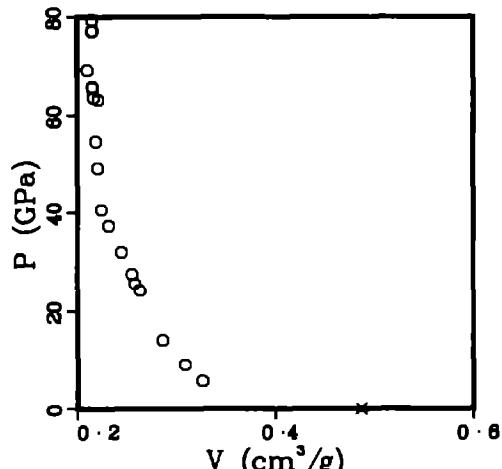
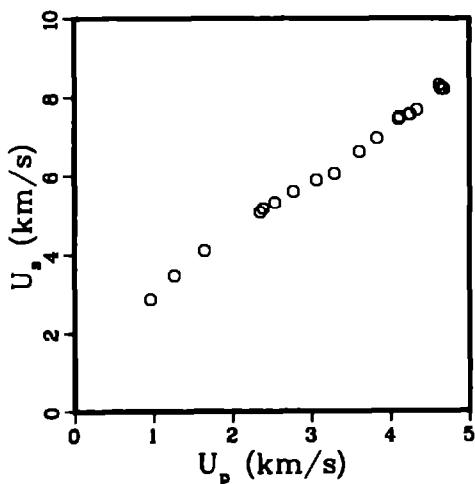
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
4.435	2.032	.618	5.569	.1569	6.373	.696	im1 o
4.413	2.020	.809	7.212	.1358	7.361	.600	im1 o
4.421	2.473	1.100	12.026	.1256	7.963	.555	im1 o
4.466	3.003	1.377	18.467	.1212	8.248	.541	im1 o
4.439	3.032	1.405	18.910	.1209	8.272	.537	im1 o
4.399	3.615	1.833	29.149	.1121	8.924	.493	im1 o
4.417	3.859	2.046	34.874	.1064	9.402	.470	im1 o
4.435	4.574	2.302	46.698	.1120	8.929	.497	im1 o
4.460	5.105	2.561	58.310	.1117	8.950	.498	im1 o
4.449	5.320	2.842	67.266	.1047	9.552	.466	im1 o
4.420	6.060	3.255	87.186	.1047	9.549	.463	im1 o
4.445	6.310	3.330	93.400	.1062	9.412	.472	im1 o
4.426	6.443	3.414	97.356	.1062	9.415	.470	im1 o
4.437	6.839	3.615	109.696	.1062	9.412	.471	im1 o



TANTALUM CARBIDE-70 WT% CARBON , $\rho_0 = 2.0 \text{ g/cm}^3$.

Average $\rho_0 = 2.054 \text{ g/cm}^3$.

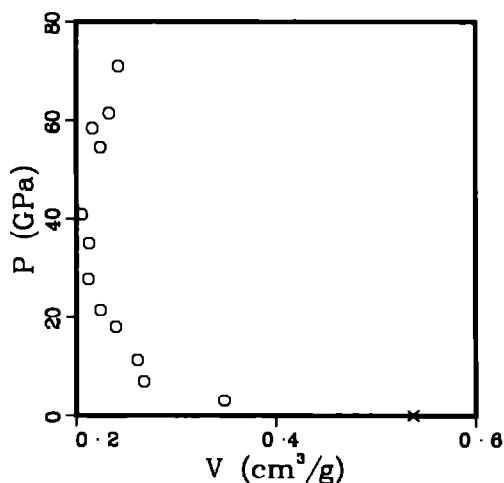
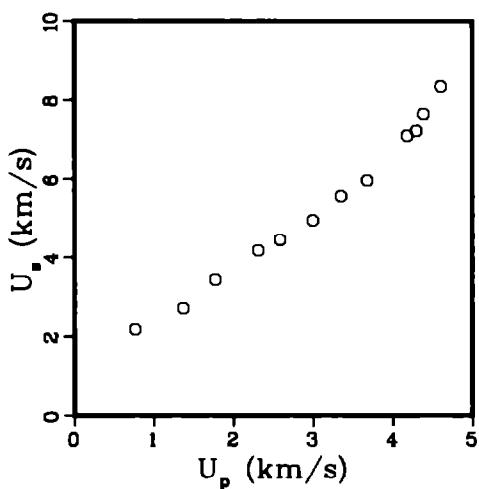
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.041	2.859	.956	5.578	.3261	3.066	.666	im1 o
2.064	3.477	1.264	9.071	.3084	3.243	.636	im1 o
2.090	4.099	1.644	14.084	.2866	3.490	.599	im1 o
2.040	5.071	2.349	24.300	.2631	3.800	.537	im1 o
2.083	5.164	2.386	25.665	.2583	3.872	.538	im1 o
2.049	5.315	2.534	27.596	.2554	3.916	.523	im1 o
2.065	5.594	2.770	31.998	.2445	4.091	.505	im1 o
2.069	5.886	3.066	37.338	.2316	4.318	.479	im1 o
2.037	6.057	3.292	40.617	.2241	4.462	.456	im1 o
2.056	6.609	3.611	49.067	.2206	4.532	.454	im1 o
2.050	6.943	3.831	54.527	.2186	4.574	.448	im1 o
2.079	7.451	4.102	63.543	.2162	4.625	.449	im1 o
2.045	7.503	4.114	63.124	.2209	4.527	.452	im1 o
2.045	7.575	4.243	65.728	.2151	4.649	.440	im1 o
2.040	7.569	4.247	65.577	.2151	4.648	.439	im1 o
2.073	7.690	4.336	69.122	.2104	4.753	.436	im1 o
2.069	8.310	4.615	79.347	.2149	4.653	.445	im1 o
2.025	8.224	4.638	77.239	.2153	4.644	.436	im1 o
2.008	8.215	4.675	77.117	.2146	4.660	.431	im1 o



TANTALUM CARBIDE-85 WT% CARBON , $\rho_0 = 1.9 \text{ g/cm}^3$.

Average $\rho_0 = 1.860 \text{ g/cm}^3$.

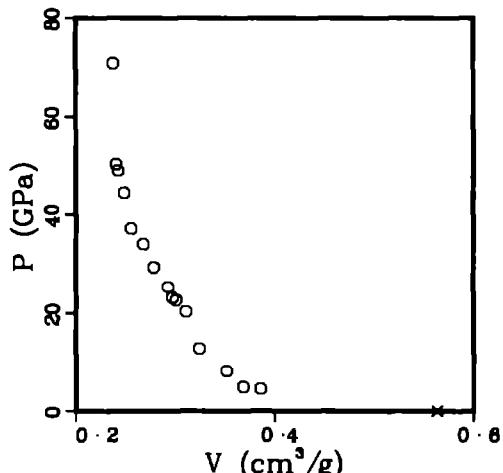
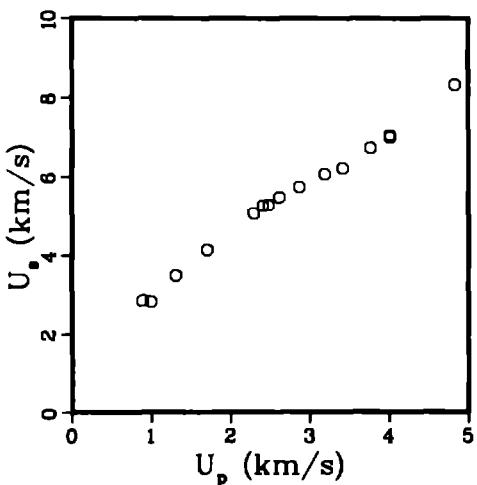
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/Vo	Exp
1.860	2.173	.765	3.092	.3484	2.871	.648	im1 o
1.869	2.732	1.366	6.975	.2675	3.738	.500	im1 o
1.858	3.441	1.769	11.310	.2615	3.824	.486	im1 o
1.865	4.171	2.308	17.954	.2395	4.175	.447	im1 o
1.870	4.448	2.583	21.485	.2242	4.460	.419	im1 o
1.862	4.954	2.998	27.655	.2120	4.716	.395	im1 o
1.870	5.564	3.350	34.856	.2128	4.699	.398	im1 o
1.865	5.962	3.680	40.918	.2052	4.873	.383	im1 o
1.840	7.111	4.182	54.718	.2239	4.467	.412	im1 o
1.882	7.236	4.297	58.517	.2158	4.634	.406	im1 o
1.832	7.653	4.388	61.521	.2329	4.294	.427	im1 o
1.849	8.341	4.606	71.036	.2422	4.129	.448	im1 o



TANTALUM CARBIDE-85 WT% CARBON , $\rho_0 = 1.8 \text{ g/cm}^3$.

Average $\rho_0 = 1.775 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.788	2.848	.884	4.502	.3857	2.593	.690	im1 o
1.757	2.818	.994	4.922	.3684	2.714	.647	im1 o
1.780	3.503	1.312	8.181	.3514	2.846	.625	im1 o
1.810	4.137	1.707	12.782	.3245	3.081	.587	im1 o
1.757	5.051	2.294	20.358	.3107	3.219	.546	im1 o
1.796	5.248	2.414	22.753	.3007	3.326	.540	im1 o
1.778	5.268	2.486	23.285	.2970	3.367	.528	im1 o
1.776	5.468	2.621	25.453	.2932	3.411	.521	im1 o
1.788	5.725	2.872	29.399	.2787	3.588	.498	im1 o
1.767	6.052	3.187	34.081	.2679	3.733	.473	im1 o
1.756	6.200	3.416	37.191	.2557	3.911	.449	im1 o
1.762	6.712	3.764	44.515	.2493	4.012	.439	im1 o
1.786	7.032	4.008	50.337	.2408	4.153	.430	im1 o
1.753	6.978	4.010	49.052	.2426	4.121	.425	im1 o
1.764	8.309	4.824	70.706	.2378	4.206	.419	im1 o

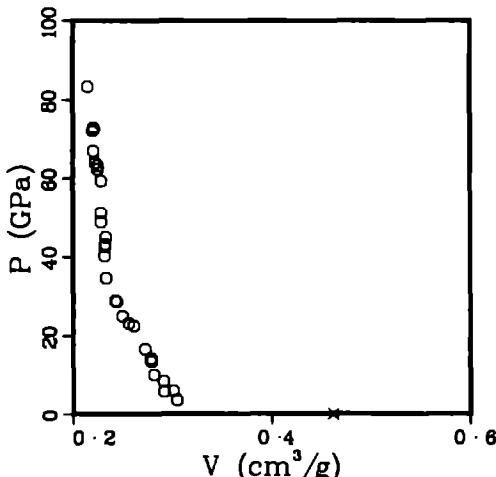
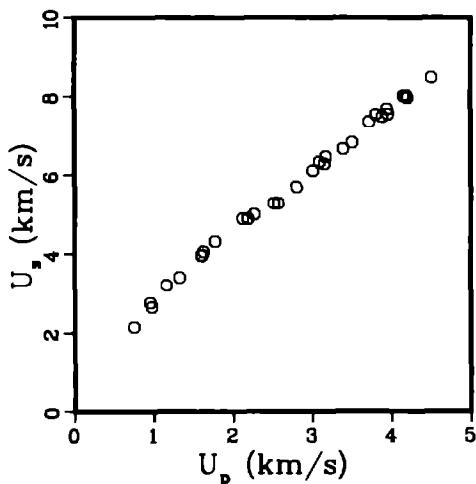


TITANIUM CARBIDE-50 WT% CARBON

Average $\rho_0 = 2.165 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.145	2.154	.748	3.456	.3043	3.286	.653	im1 o
2.184	2.772	.951	5.757	.3008	3.325	.657	im1 o
2.176	2.660	.972	5.626	.2916	3.429	.635	im1 o
2.197	3.214	1.160	8.191	.2909	3.438	.639	im1 o
2.176	3.412	1.325	9.837	.2811	3.558	.612	im1 o
2.134	3.957	1.599	13.502	.2792	3.581	.596	im1 o
2.137	3.971	1.606	13.629	.2787	3.588	.596	im1 o
2.149	4.057	1.628	14.194	.2786	3.589	.599	im1 o
2.163	4.320	1.772	16.558	.2727	3.667	.590	im1 o
2.165	4.879	2.121	22.404	.2611	3.830	.565	im1 o
2.157	4.887	2.188	23.064	.2560	3.906	.552	im1 o
2.190	5.000	2.266	24.813	.2497	4.005	.547	im1 o
2.153	5.280	2.511	28.545	.2436	4.105	.524	im1 o
2.117	5.283	2.570	28.743	.2426	4.122	.514	im1 o
2.176	5.698	2.801	34.729	.2337	4.280	.508	im1 o
2.187	6.106	3.011	40.208	.2318	4.315	.507	im1 o
2.201	6.333	3.091	43.085	.2326	4.299	.512	im1 o
2.146	6.281	3.156	42.540	.2318	4.313	.498	im1 o
2.185	6.468	3.174	44.857	.2331	4.290	.509	im1 o
2.154	6.664	3.392	48.690	.2279	4.387	.491	im1 o
2.135	6.828	3.505	51.095	.2279	4.387	.487	im1 o
2.166	7.357	3.715	59.199	.2285	4.375	.495	im1 o

(Continued)



TITANIUM CARBIDE-50 WT% CARBON
 (Continued)

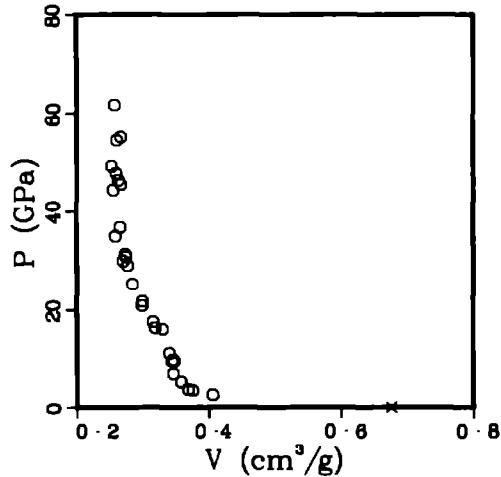
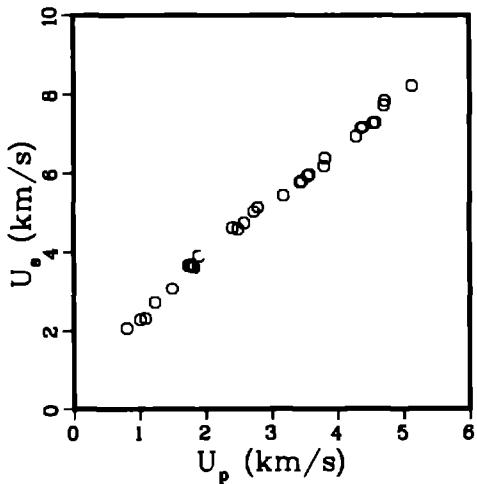
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
2.202	7.536	3.801	63.075	.2251	4.443	.496	i m1 o
2.140	7.481	3.882	62.148	.2248	4.448	.481	i m1 o
2.202	7.680	3.949	66.783	.2206	4.533	.486	i m1 o
2.138	7.545	3.955	63.799	.2225	4.493	.476	i m1 o
2.176	8.008	4.155	72.403	.2211	4.523	.481	i m1 o
2.166	8.022	4.190	72.804	.2205	4.534	.478	i m1 o
2.149	7.963	4.204	71.941	.2197	4.552	.472	i m1 o
2.176	8.479	4.508	83.174	.2152	4.646	.468	i m1 o

TITANIUM CARBIDE-80 WT% CARBON

Average $\rho_0 = 1.480 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.502	2.063	.807	2.501	.4053	2.467	.609	im1 o
1.483	2.281	1.012	3.423	.3751	2.666	.556	im1 o
1.434	2.310	1.090	3.611	.3683	2.715	.528	im1 o
1.522	2.720	1.238	5.125	.3580	2.793	.545	im1 o
1.491	3.074	1.488	6.820	.3460	2.890	.516	im1 o
1.512	3.655	1.736	9.594	.3472	2.880	.525	im1 o
1.486	3.678	1.788	9.772	.3458	2.892	.514	im1 o
1.448	3.620	1.816	9.519	.3442	2.906	.498	im1 o
1.512	3.901	1.895	11.177	.3401	2.940	.514	im1 o
1.449	4.608	2.406	16.065	.3298	3.032	.478	im1 o
1.429	4.576	2.492	16.295	.3187	3.138	.455	im1 o
1.433	4.724	2.586	17.506	.3158	3.166	.453	im1 o
1.521	5.015	2.733	20.847	.2992	3.343	.455	im1 o
1.516	5.126	2.796	21.728	.2998	3.335	.455	im1 o
1.464	5.437	3.175	25.272	.2842	3.519	.416	im1 o
1.466	5.773	3.432	29.046	.2766	3.615	.406	im1 o
1.497	5.795	3.452	29.946	.2701	3.703	.404	im1 o
1.466	5.931	3.544	30.815	.2745	3.643	.402	im1 o
1.468	5.968	3.572	31.294	.2735	3.657	.401	im1 o
1.490	6.178	3.796	34.943	.2588	3.864	.386	im1 o
1.514	6.377	3.810	36.785	.2659	3.761	.403	im1 o
1.496	6.925	4.284	44.381	.2549	3.923	.381	im1 o

(Continued)



TITANIUM CARBIDE-80 WT% CARBON
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.460	7.147	4.364	45.537	.2667	3.749	.389	i m1 o
1.474	7.166	4.390	46.370	.2628	3.805	.387	i m1 o
1.445	7.276	4.546	47.796	.2597	3.851	.375	i m1 o
1.474	7.297	4.576	49.218	.2530	3.953	.373	i m1 o
1.501	7.722	4.699	54.465	.2608	3.834	.391	i m1 o
1.492	7.836	4.714	55.113	.2670	3.745	.398	i m1 o
1.464	8.221	5.126	61.694	.2572	3.889	.376	i m1 o

TUNGSTEN . SINTERED-24 WT% INFILTRATED COPPER .

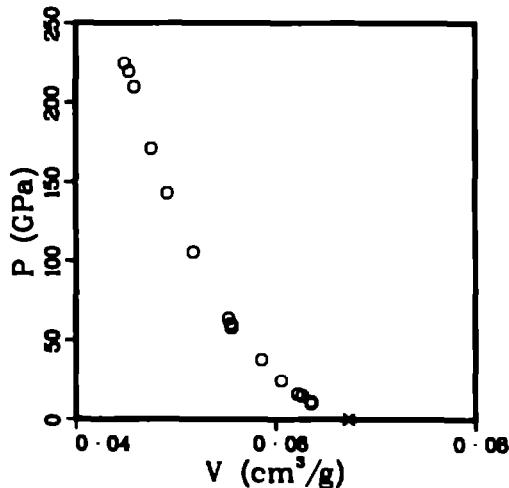
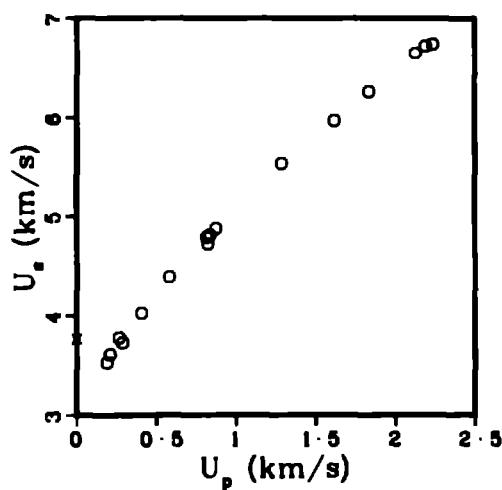
Elkonite 10W3

Average $\rho_0 = 14.852 \text{ g/cm}^3$.

Sound velocities longitudinal 4.77 km/s .
shear 2.53 km/s .

References 13 , 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
14.870	3.771	0.000	0.000	.0672	14.870	1.000	ss p x
14.890	3.535	.189	9.948	.0636	15.731	.947	im1 o
14.830	3.616	.208	11.154	.0636	15.735	.942	im1 o
14.840	3.783	.265	14.877	.0627	15.958	.930	im1 o
14.830	3.733	.288	15.944	.0622	16.070	.923	im1 o
14.830	4.024	.408	24.348	.0606	16.503	.899	im1 o
14.810	4.393	.581	37.800	.0586	17.067	.868	im1 o
14.900	4.791	.818	58.394	.0557	17.968	.829	im1 o
14.860	4.723	.824	57.831	.0556	18.000	.826	im1 o
14.880	4.812	.837	59.931	.0555	18.013	.826	im1 o
14.840	4.878	.875	63.341	.0553	18.084	.821	im1 o
14.830	5.534	1.285	105.459	.0518	19.315	.768	im1 o
14.820	5.970	1.617	143.065	.0492	20.325	.729	im1 o
14.860	6.259	1.836	170.764	.0476	21.028	.707	im1 o
14.820	6.648	2.128	209.658	.0459	21.797	.680	im1 o
14.880	6.722	2.191	219.151	.0453	22.075	.674	im1 o
14.890	6.739	2.237	224.469	.0449	22.289	.668	im1 o



TUNGSTEN . SINTERED-32 WT% INFILTRATED COPPER .

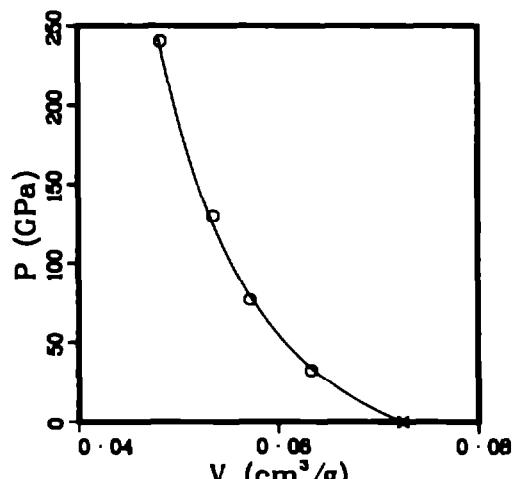
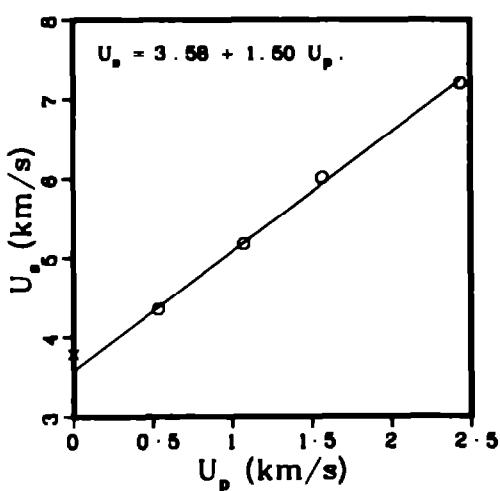
Elkonite 3W3

Average $\rho_0 = 13.812 \text{ g/cm}^3$.

Sound velocities longitudinal 4.76 km/s .
shear 2.50 km/s .

References 13 . 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
13.800	3.785	0.000	0.000	.0725	13.800	1.000	s s p x
13.880	4.354	.533	32.165	.0633	15.793	.878	im1 o
13.870	5.177	1.073	77.047	.0572	17.496	.793	im1 o
13.820	6.017	1.568	130.387	.0535	18.691	.739	im1 o
13.710	7.203	2.436	240.563	.0483	20.716	.662	im1 o



TUNGSTEN, SINTERED-45 WT% INFILTRATED COPPER.

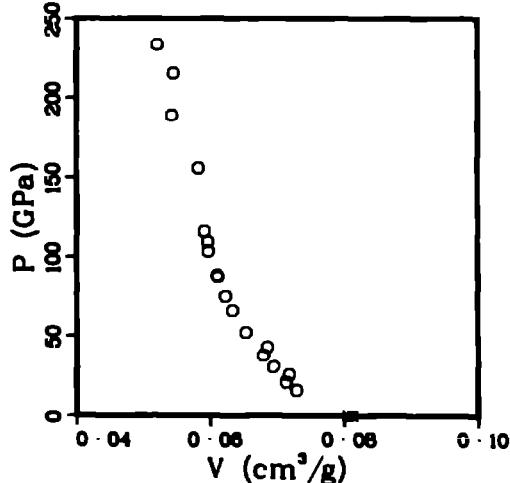
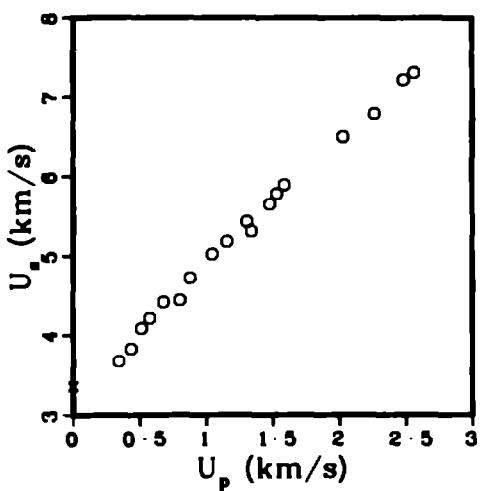
Elkonite 1W3

Average $\rho_0 = 12.315 \text{ g/cm}^3$.

Sound velocities longitudinal 4.55 km/s.
shear 2.66 km/s.

References 13, 30

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
12.420	3.357	0.000	0.000	.0805	12.420	1.000	ssp x
12.440	3.668	.341	15.560	.0729	13.715	.907	im1 o
12.410	3.831	.436	20.729	.0714	14.004	.886	im1 o
12.170	4.086	.513	25.510	.0719	13.917	.874	im1 o
12.430	4.214	.576	30.171	.0695	14.398	.863	im1 o
12.450	4.416	.681	37.441	.0679	14.720	.846	im1 o
11.950	4.442	.804	42.678	.0685	14.591	.819	im1 o
12.480	4.729	.878	51.735	.0654	15.301	.814	im1 o
12.500	5.028	1.047	65.804	.0633	15.787	.792	im1 o
12.460	5.184	1.158	74.798	.0623	16.044	.777	im1 o
12.450	5.434	1.304	88.220	.0610	16.381	.760	im1 o
12.240	5.311	1.339	87.044	.0611	16.366	.748	im1 o
12.360	5.652	1.479	103.321	.0597	16.741	.738	im1 o
12.320	5.785	1.533	109.259	.0597	16.762	.735	im1 o
12.360	5.897	1.590	115.890	.0591	16.923	.730	im1 o
11.790	6.496	2.031	155.550	.0583	17.153	.687	im1 o
12.300	6.792	2.263	189.055	.0542	18.446	.667	im1 o
12.020	7.216	2.485	215.540	.0545	18.334	.656	im1 o
12.460	7.307	2.564	233.440	.0521	19.196	.649	im1 o



TUNGSTEN, SINTERED-75 WT% INFILTRATED COPPER.

Elkonite 2125C

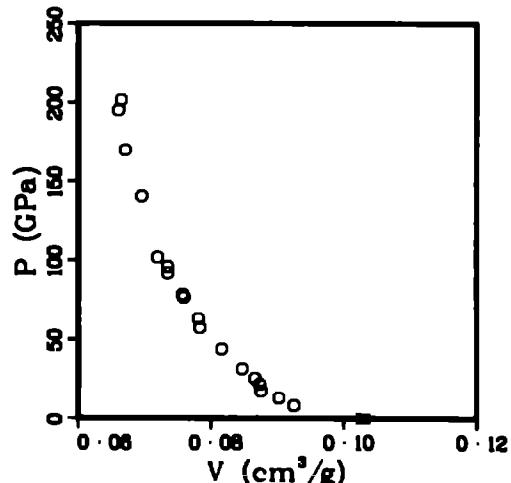
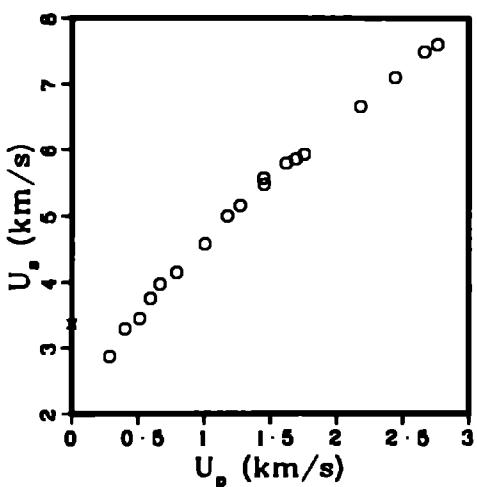
Average $\rho_0 = 9.691 \text{ g/cm}^3$.

Sound velocities longitudinal 4.18 km/s.

shear 2.15 km/s.

Reference: 13, 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	U/V_0	Exp
9.748	3.363	0.000	0.000	.1028	9.748	1.000	s s p x
9.734	2.873	.286	7.998	.0925	10.810	.900	im1 o
9.724	3.285	.402	12.841	.0903	11.080	.878	im1 o
9.722	3.441	.512	17.128	.0876	11.421	.851	im1 o
9.642	3.760	.593	21.499	.0874	11.447	.842	im1 o
9.611	3.976	.666	25.450	.0866	11.545	.832	im1 o
9.547	4.143	.792	31.328	.0847	11.803	.809	im1 o
9.551	4.566	1.008	43.872	.0816	12.250	.780	im1 o
9.767	4.998	1.174	57.309	.0783	12.766	.765	im1 o
9.638	5.153	1.274	63.273	.0781	12.803	.753	im1 o
9.762	5.583	1.450	78.744	.0757	13.204	.739	im1 o
9.672	5.470	1.454	78.925	.0759	13.174	.734	im1 o
9.796	5.790	1.621	91.941	.0735	13.605	.720	im1 o
9.669	5.854	1.694	95.884	.0735	13.606	.711	im1 o
9.776	5.924	1.757	101.753	.0720	13.898	.703	im1 o
9.654	6.658	2.186	140.508	.0696	14.373	.672	im1 o
9.775	7.100	2.445	169.689	.0671	14.909	.656	im1 o
9.758	7.500	2.666	195.111	.0661	15.140	.645	im1 o
9.578	7.609	2.766	201.583	.0665	15.048	.636	im1 o



TUNGSTEN CARBIDE . SINTERED-44 WT% INFILTRATED COPPER .

Elkonite TC10

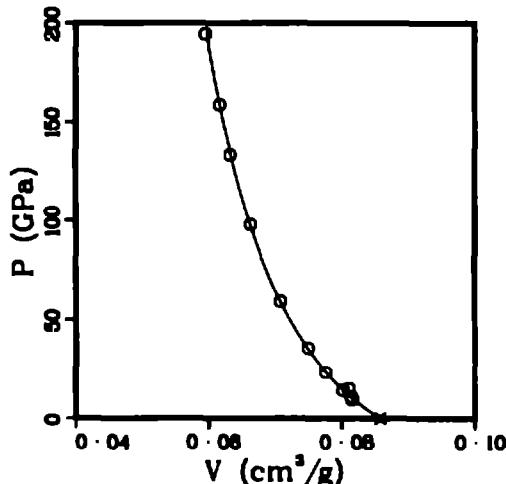
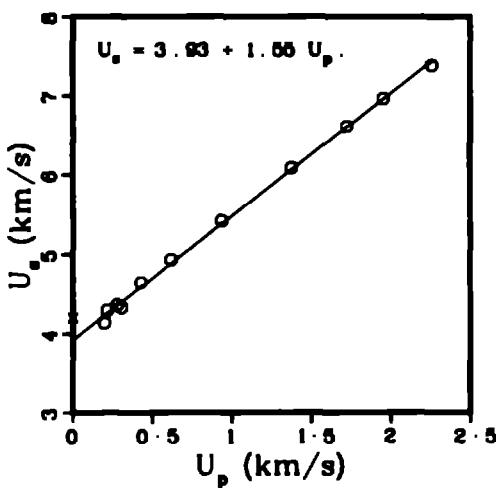
Average $\rho_0 = 11.653 \text{ g/cm}^3$.

Sound velocities longitudinal 5.41 km/s.

shear 2.95 km/s.

References 13 , 30

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
11.670	4.203	0.000	0.000	.0857	11.670	1.000	s s p x
11.670	4.135	.198	9.555	.0816	12.257	.952	i m l o
11.680	4.296	.216	10.820	.0815	12.277	.950	i m l o
11.670	4.364	.279	14.209	.0802	12.467	.936	i m l o
11.680	4.330	.305	15.135	.0811	12.328	.930	i m l o
11.690	4.649	.429	23.315	.0776	12.878	.908	i m l o
11.670	4.934	.619	35.642	.0749	13.344	.875	i m l o
11.680	5.416	.936	59.210	.0708	14.120	.827	i m l o
11.670	6.086	1.377	97.800	.0663	15.083	.774	i m l o
11.680	6.609	1.723	133.004	.0633	15.799	.739	i m l o
11.680	6.961	1.954	158.597	.0617	16.210	.719	i m l o
11.680	7.383	2.261	194.640	.0595	16.807	.694	i m l o



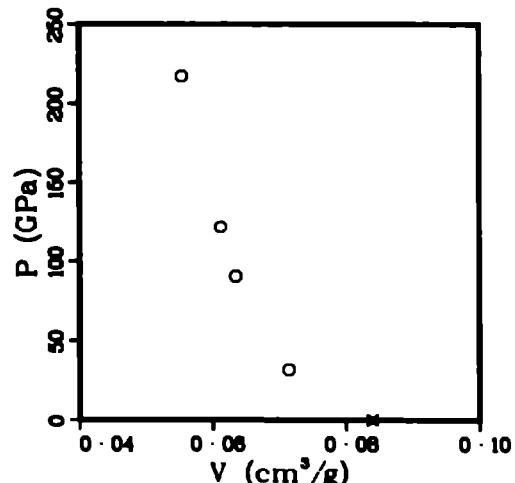
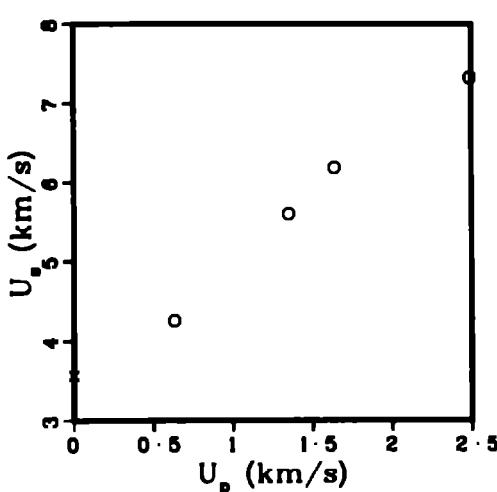
TUNGSTEN CARBIDE, SINTERED-60 WT% INFILTRATED SILVER.

Elkonite G-12

Average $\rho_0 = 11.936 \text{ g/cm}^3$.

Sound velocities longitudinal 4.37 km/s.
shear 2.18 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
11.900	3.572	0.000	0.000	.0840	11.900	1.000	ssp x
11.920	4.251	.632	32.025	.0714	14.002	.851	im1 o
11.950	5.602	1.353	90.575	.0635	15.755	.758	im1 o
12.000	6.185	1.639	121.647	.0613	16.326	.735	im1 o
11.910	7.324	2.489	217.113	.0554	18.041	.680	im1 o



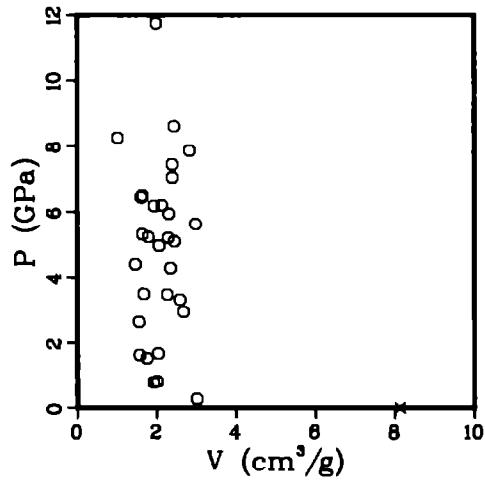
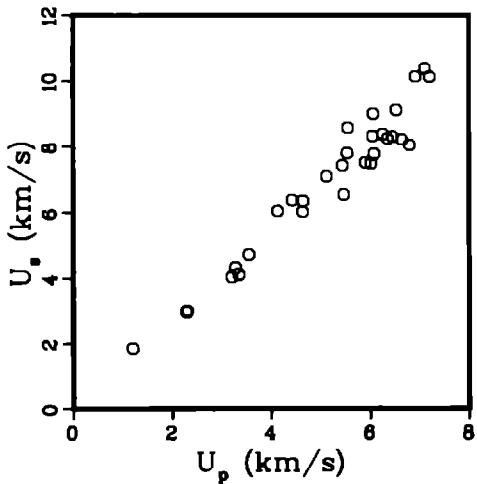
WOODS

BALSA

Average $\rho_0 = 0.123 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.118	1.857	1.197	.262	3.0120	.332	.355	im1 o
.116	2.950	2.292	.784	1.9229	.520	.223	im1 o
.118	3.012	2.296	.816	2.0145	.496	.238	im1 o
.118	4.035	3.201	1.524	1.7516	.571	.207	im1 o
.118	4.316	3.278	1.669	2.0381	.491	.241	im1 o
.118	4.107	3.347	1.622	1.5682	.638	.185	im1 o
.158	4.704	3.548	2.637	1.5554	.643	.246	im1 o
.118	6.040	4.132	2.945	2.6771	.374	.316	im1 o
.118	6.371	4.425	3.327	2.5885	.386	.305	im1 o
.157	6.023	4.639	4.387	1.4636	.683	.230	im1 o
.118	6.349	4.649	3.483	2.2691	.441	.268	im1 o
.118	7.085	5.123	4.283	2.3468	.426	.277	im1 o
.161	7.406	5.442	6.489	1.6471	.607	.265	im1 o
.098	6.541	5.468	3.505	1.6739	.597	.164	im1 o
.118	7.786	5.538	5.088	2.4468	.409	.289	im1 o
.118	8.573	5.554	5.619	2.9843	.335	.352	im1 o
.118	7.494	5.907	5.224	1.7947	.557	.212	im1 o
.118	7.467	6.019	5.303	1.6434	.608	.194	im1 o
.118	8.317	6.052	5.939	2.3079	.433	.272	im1 o
.136	9.002	6.068	7.429	2.3965	.417	.326	im1 o
.105	7.762	6.084	4.959	2.0589	.486	.216	im1 o
.118	8.378	6.262	6.191	2.1404	.467	.253	im1 o

(Continued)



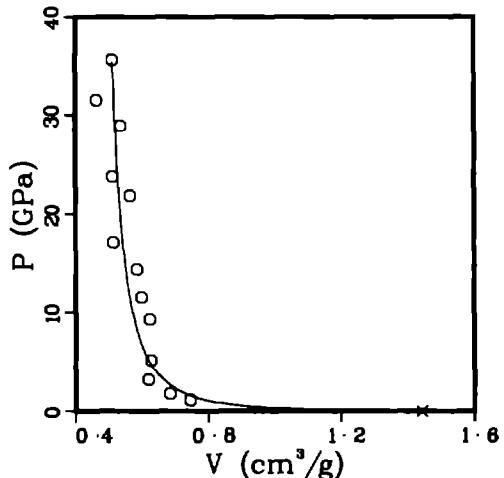
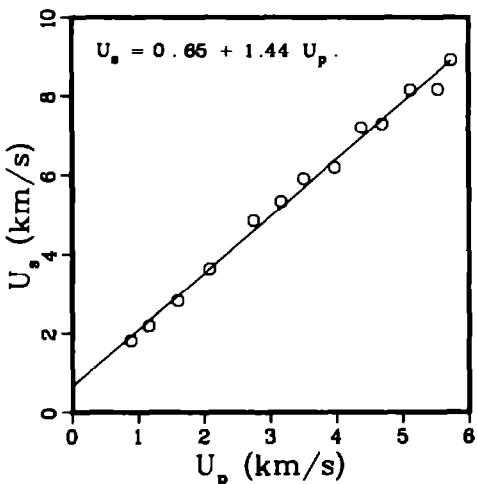
BALSA
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.118	8.238	6.356	6.179	1.9360	.517	.228	im1 o
.097	8.301	6.453	5.196	2.2951	.436	.223	im1 o
.118	9.118	6.534	7.030	2.4017	.416	.283	im1 o
.118	8.209	6.646	6.438	1.6136	.620	.190	im1 o
.151	8.039	6.800	8.254	1.0207	.980	.154	im1 o
.112	10.134	6.917	7.851	2.8343	.353	.317	im1 o
.159	10.396	7.108	11.749	1.9892	.503	.316	im1 o
.118	10.123	7.204	8.605	2.4437	.409	.288	im1 o

BIRCH

Average $\rho_0 = 0.693 \text{ g/cm}^3$.

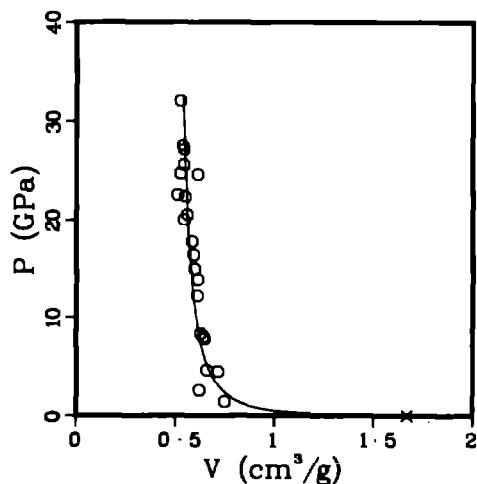
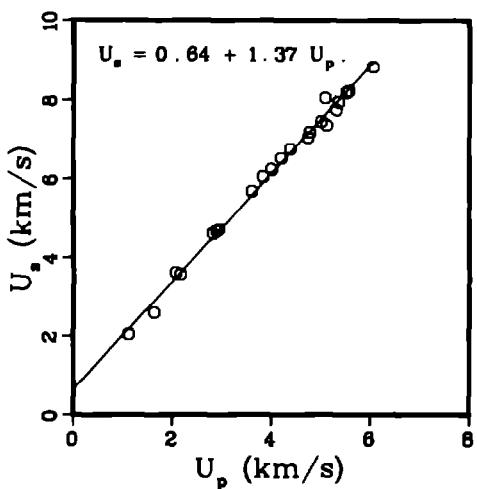
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.688	1.816	.885	1.106	.7452	1.342	.513	i m1 o
.688	2.184	1.157	1.738	.6835	1.463	.470	i m1 o
.703	2.831	1.600	3.184	.6185	1.617	.435	i m1 o
.685	3.635	2.072	5.159	.6277	1.593	.430	i m1 o
.697	4.855	2.745	9.289	.6235	1.604	.435	i m1 o
.682	5.342	3.158	11.505	.5995	1.668	.409	i m1 o
.696	5.914	3.509	14.444	.5843	1.711	.407	i m1 o
.696	6.188	3.973	17.111	.5143	1.944	.358	i m1 o
.694	7.200	4.382	21.896	.5640	1.773	.391	i m1 o
.695	7.292	4.696	23.799	.5122	1.952	.356	i m1 o
.693	8.152	5.120	28.925	.5367	1.863	.372	i m1 o
.697	8.169	5.533	31.504	.4630	2.160	.323	i m1 o
.696	8.912	5.738	35.591	.5117	1.954	.356	i m1 o



CHERRY . $\rho_0 = 0.60 \text{ g/cm}^3$.

Average $\rho_0 = 0.599 \text{ g/cm}^3$.

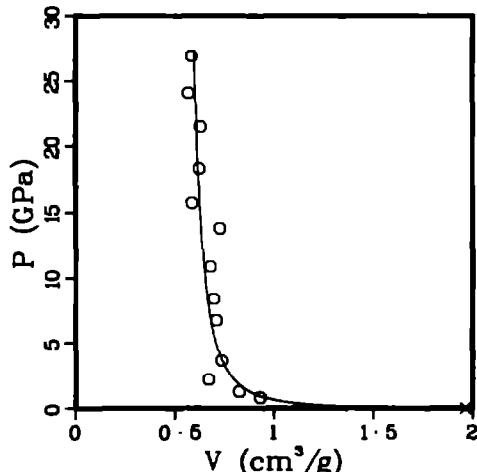
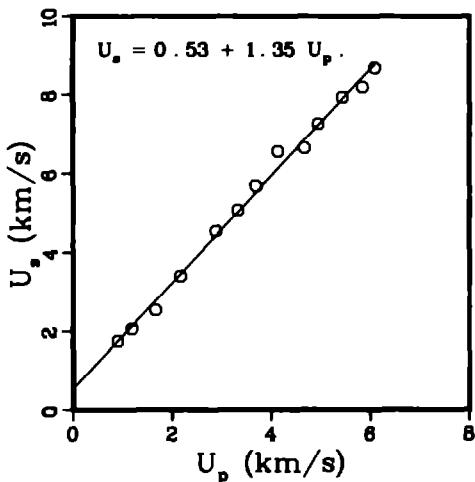
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.599	2.044	1.124	1.376	.7514	1.331	.450	im1 o
.599	2.598	1.633	2.541	.6201	1.613	.371	im1 o
.599	3.619	2.066	4.479	.7164	1.396	.429	im1 o
.599	3.574	2.163	4.631	.6591	1.517	.395	im1 o
.599	4.616	2.823	7.806	.6485	1.542	.388	im1 o
.591	4.681	2.897	8.014	.6449	1.551	.381	im1 o
.599	4.729	2.946	8.345	.6294	1.589	.377	im1 o
.599	5.687	3.600	12.263	.6126	1.632	.367	im1 o
.599	6.052	3.831	13.888	.6127	1.632	.367	im1 o
.599	6.239	4.008	14.979	.5970	1.675	.358	im1 o
.599	6.516	4.202	16.401	.5929	1.687	.355	im1 o
.599	6.758	4.389	17.767	.5852	1.709	.351	im1 o
.599	7.043	4.741	20.001	.5457	1.833	.327	im1 o
.599	7.184	4.767	20.513	.5617	1.780	.336	im1 o
.599	7.453	5.004	22.340	.5486	1.823	.329	im1 o
.599	8.048	5.091	24.542	.6134	1.630	.367	im1 o
.599	7.358	5.110	22.522	.5100	1.961	.306	im1 o
.599	7.750	5.308	24.641	.5260	1.901	.315	im1 o
.599	7.951	5.360	25.528	.5440	1.838	.326	im1 o
.599	8.191	5.518	27.074	.5448	1.836	.326	im1 o
.599	8.234	5.572	27.482	.5397	1.853	.323	im1 o
.599	8.839	6.051	32.037	.5266	1.899	.315	im1 o



CHERRY , $\rho_0 = 0.51 \text{ g/cm}^3$.

Average $\rho_0 = 0.509 \text{ g/cm}^3$.

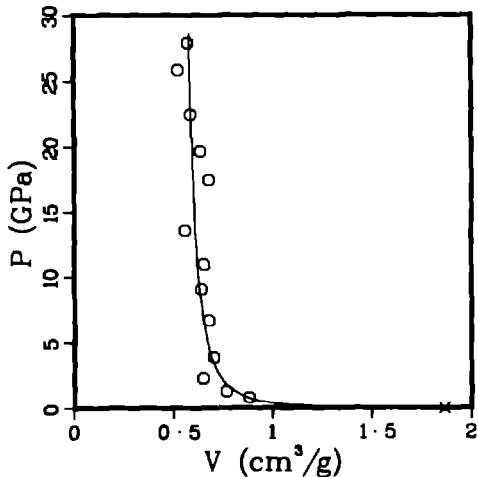
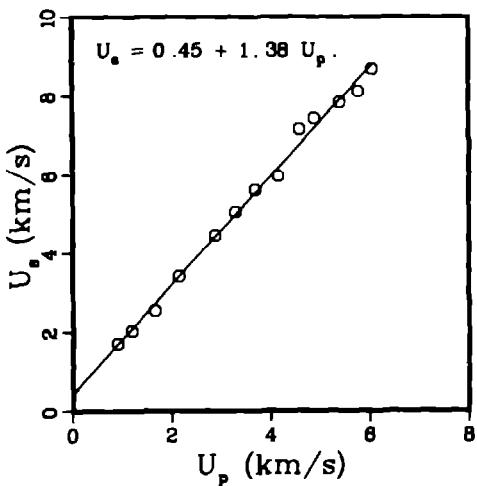
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
522	1.755	.903	.827	.9300	1.075	.485	im1 o
516	2.067	1.188	1.267	.8241	1.213	.425	im1 o
517	2.543	1.662	2.185	.6701	1.492	.346	im1 o
499	3.412	2.161	3.679	.7348	1.361	.367	im1 o
514	4.546	2.886	6.744	.7104	1.408	.365	im1 o
497	5.084	3.324	8.399	.6965	1.436	.346	im1 o
518	5.692	3.691	10.883	.6787	1.473	.352	im1 o
507	6.557	4.138	13.756	.7277	1.374	.369	im1 o
507	6.645	4.672	15.740	.5856	1.708	.297	im1 o
510	7.255	4.948	18.308	.6235	1.604	.318	im1 o
499	7.932	5.442	21.540	.6291	1.590	.314	im1 o
502	8.194	5.851	24.067	.5896	1.756	.286	im1 o
509	8.679	6.096	26.930	.5847	1.710	.298	im1 o



FIR , Douglas

Average $\rho_0 = 0.536 \text{ g/cm}^3$.

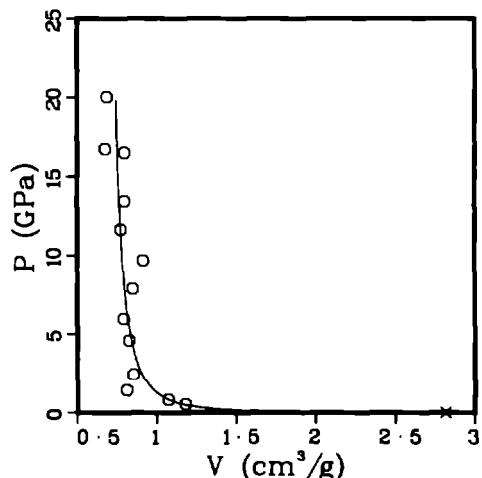
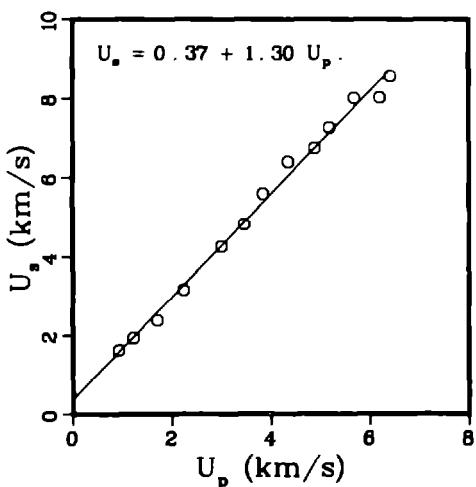
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.535	1.707	.903	.825	.8804	1.136	.471	im1 o
.544	2.029	1.185	1.308	.7646	1.308	.416	im1 o
.543	2.558	1.655	2.299	.6501	1.538	.353	im1 o
.528	3.419	2.149	3.879	.7035	1.421	.371	im1 o
.520	4.464	2.888	6.704	.6789	1.473	.353	im1 o
.545	5.061	3.287	9.066	.6432	1.555	.351	im1 o
.526	5.631	3.689	10.926	.6557	1.525	.345	im1 o
.548	5.980	4.146	13.587	.5597	1.787	.307	im1 o
.530	7.164	4.590	17.428	.6779	1.475	.359	im1 o
.541	7.440	4.884	19.658	.6350	1.575	.344	im1 o
.529	7.842	5.403	22.414	.5879	1.701	.311	im1 o
.551	8.119	5.773	25.826	.5244	1.907	.289	im1 o
.529	8.696	6.056	27.859	.5739	1.742	.304	im1 o



FIR, white

Average $\rho_0 = 0.355 \text{ g/cm}^3$.

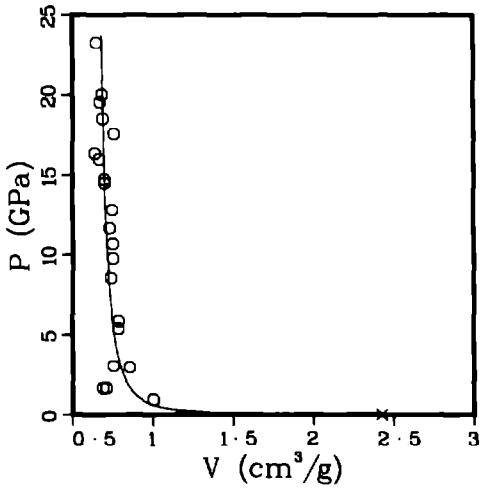
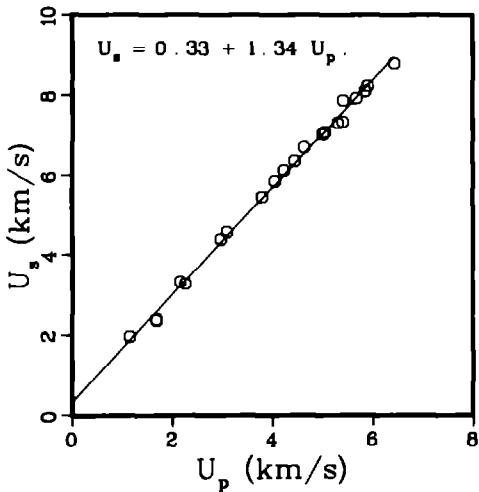
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.366	1.623	.922	.548	1.1801	.847	.432	im1 o
.346	1.935	1.217	.815	1.0724	.932	.371	im1 o
.351	2.389	1.710	1.434	.8097	1.235	.284	im1 o
.343	3.165	2.238	2.430	.8539	1.171	.293	im1 o
.358	4.273	3.010	4.604	.8256	1.211	.296	im1 o
.357	4.831	3.462	5.971	.7938	1.260	.283	im1 o
.368	5.599	3.852	7.937	.8479	1.179	.312	im1 o
.349	6.393	4.351	9.708	.9152	1.093	.319	im1 o
.355	6.730	4.882	11.664	.7735	1.293	.275	im1 o
.358	7.266	5.188	13.495	.7989	1.252	.286	im1 o
.363	7.999	5.684	16.504	.7973	1.254	.289	im1 o
.336	8.023	6.201	16.716	.6759	1.480	.227	im1 o
.365	8.563	6.412	20.041	.6882	1.453	.251	im1 o



MAHOGANY , Honduras

Average $\rho_0 = 0.412 \text{ g/cm}^3$.

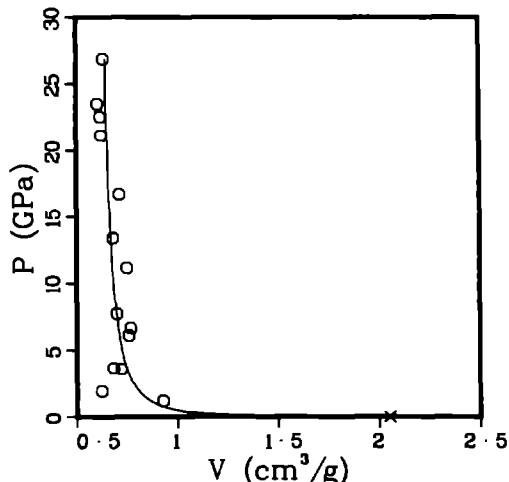
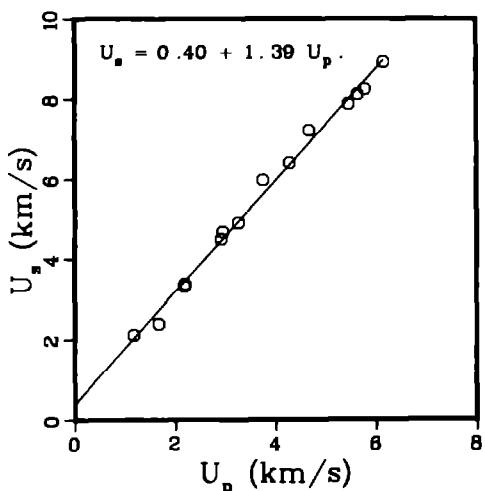
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.412	1.965	1.153	.933	1.0030	.997	.413	im1 o
.412	2.386	1.687	1.658	.7111	1.406	.293	im1 o
.412	2.361	1.690	1.644	.6898	1.450	.284	im1 o
.412	3.331	2.159	2.963	.8540	1.171	.352	im1 o
.412	3.274	2.259	3.047	.7525	1.329	.310	im1 o
.412	4.383	2.964	5.352	.7858	1.273	.324	im1 o
.412	4.572	3.089	5.819	.7873	1.270	.324	im1 o
.412	5.463	3.799	8.551	.7393	1.353	.305	im1 o
.412	5.854	4.046	9.758	.7496	1.334	.309	im1 o
.412	6.121	4.230	10.667	.7498	1.334	.309	im1 o
.412	6.357	4.443	11.637	.7308	1.368	.301	im1 o
.412	6.699	4.636	12.795	.7475	1.338	.308	im1 o
.412	7.028	5.008	14.501	.6976	1.433	.287	im1 o
.412	7.081	5.046	14.721	.6975	1.434	.287	im1 o
.412	7.311	5.305	15.979	.6660	1.502	.274	im1 o
.412	7.338	5.403	16.335	.6400	1.562	.264	im1 o
.412	7.866	5.415	17.549	.7563	1.322	.312	im1 o
.412	7.924	5.680	18.543	.6874	1.455	.283	im1 o
.412	8.096	5.859	19.543	.6707	1.491	.276	im1 o
.412	8.226	5.908	20.023	.6840	1.462	.282	im1 o
.412	8.778	6.433	23.265	.6484	1.542	.267	im1 o



MAHOGANY , Philippine

Average $\rho_0 = 0.487 \text{ g/cm}^3$.

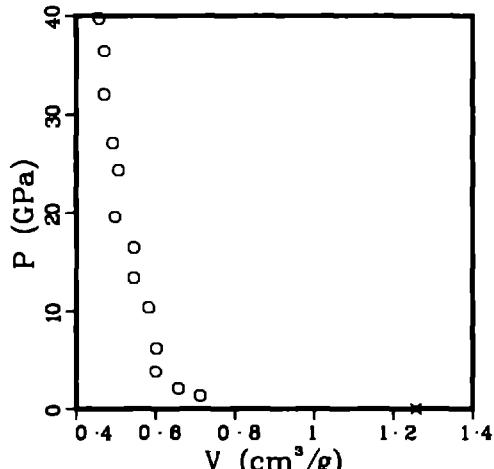
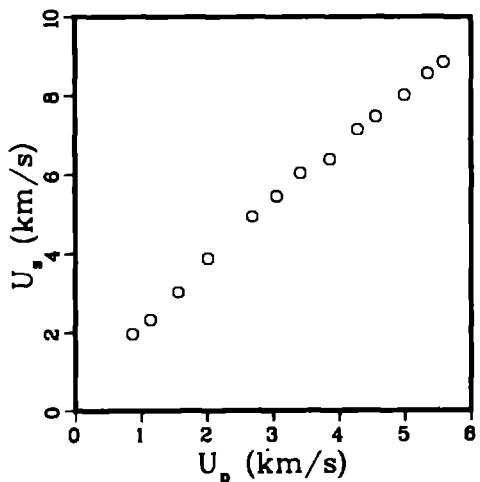
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.481	2.111	1.169	1.187	.9277	1.078	.446	im1 o
.485	2.384	1.665	1.925	.6218	1.608	.302	im1 o
.497	3.316	2.190	3.609	.6832	1.464	.340	im1 o
.482	3.374	2.199	3.576	.7225	1.384	.348	im1 o
.464	4.498	2.915	6.084	.7585	1.318	.352	im1 o
.481	4.675	2.949	6.631	.7676	1.303	.369	im1 o
.481	4.906	3.260	7.693	.6975	1.434	.336	im1 o
.497	5.982	3.753	11.158	.7497	1.334	.373	im1 o
.488	6.407	4.281	13.385	.6800	1.471	.332	im1 o
.495	7.228	4.676	16.730	.7133	1.402	.353	im1 o
.492	7.878	5.460	21.163	.6238	1.603	.307	im1 o
.493	8.116	5.638	22.559	.6193	1.615	.305	im1 o
.493	8.246	5.784	23.514	.6056	1.651	.299	im1 o
.489	8.916	6.154	26.831	.6335	1.579	.310	im1 o



MAPLE

Average $\rho_0 = 0.796 \text{ g/cm}^3$.

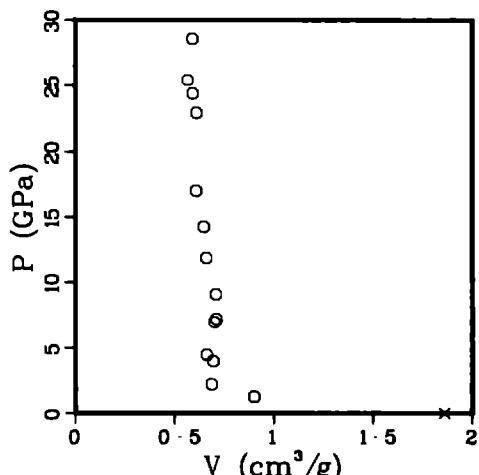
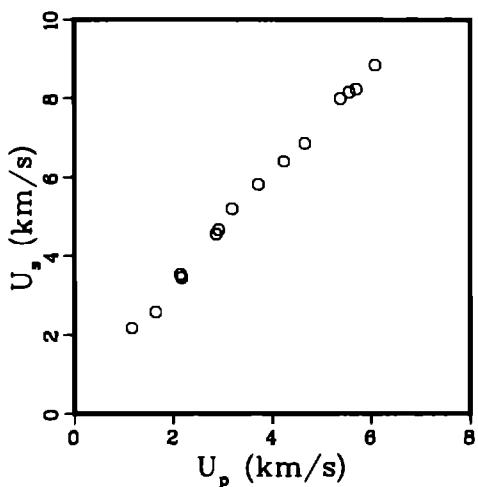
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
780	1.960	.870	1.330	.7130	1.403	.556	im1 o
780	2.333	1.136	2.067	.6578	1.520	.513	im1 o
809	3.031	1.561	3.828	.5995	1.668	.485	im1 o
801	3.883	2.009	6.249	.6025	1.660	.483	im1 o
781	4.929	2.688	10.348	.5821	1.718	.455	im1 o
805	5.455	3.059	13.433	.5456	1.833	.439	im1 o
799	6.040	3.411	16.461	.5448	1.836	.435	im1 o
795	6.387	3.857	19.585	.4983	2.007	.396	im1 o
794	7.155	4.277	24.298	.5066	1.974	.402	im1 o
794	7.485	4.555	27.071	.4930	2.028	.391	im1 o
802	8.014	4.991	32.078	.4703	2.126	.377	im1 o
798	8.551	5.338	36.425	.4709	2.124	.376	im1 o
806	8.844	5.578	39.761	.4582	2.183	.369	im1 o



OAK , white

Average $\rho_0 = 0.537 \text{ g/cm}^3$.

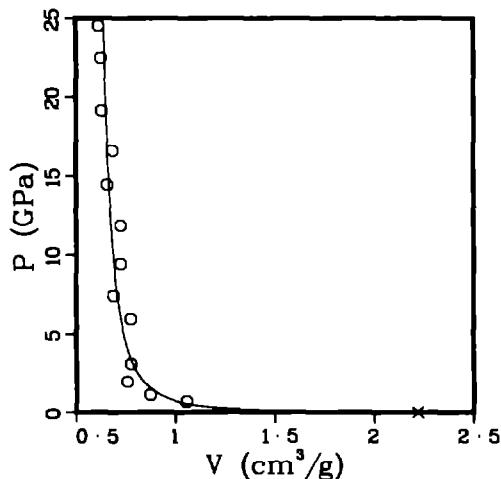
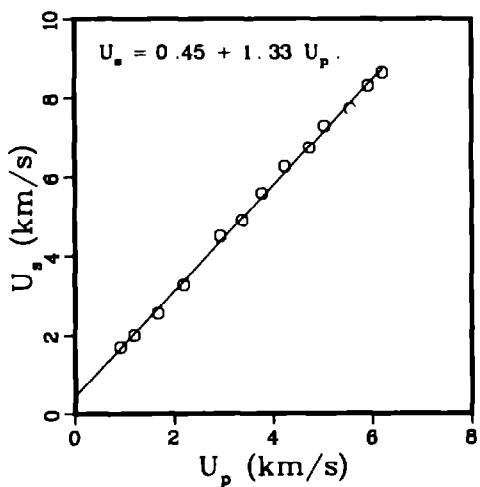
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
518	2.179	1.161	1.310	.9019	1.109	.467	im1 o
528	2.583	1.645	2.243	.6878	1.454	.363	im1 o
591	3.529	2.145	4.474	.6636	1.507	.392	im1 o
535	3.449	2.166	3.997	.6953	1.438	.372	im1 o
531	4.568	2.866	6.952	.7017	1.425	.373	im1 o
528	4.672	2.917	7.196	.7114	1.406	.376	im1 o
547	5.208	3.184	9.071	.7105	1.407	.389	im1 o
546	5.818	3.719	11.814	.6608	1.513	.361	im1 o
524	6.410	4.238	14.235	.6467	1.546	.339	im1 o
529	6.881	4.864	16.977	.6091	1.642	.322	im1 o
534	7.988	5.379	22.945	.6116	1.635	.327	im1 o
538	8.151	5.557	24.369	.5915	1.691	.318	im1 o
542	8.227	5.699	25.412	.5669	1.764	.307	im1 o
531	8.852	6.078	28.569	.5902	1.694	.313	im1 o



PINE, sugar

Average $\rho_0 = 0.450 \text{ g/cm}^3$.

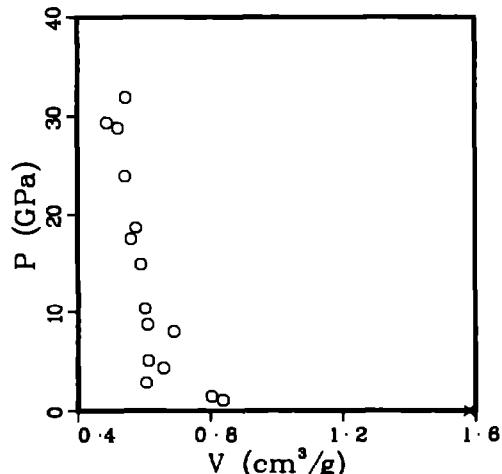
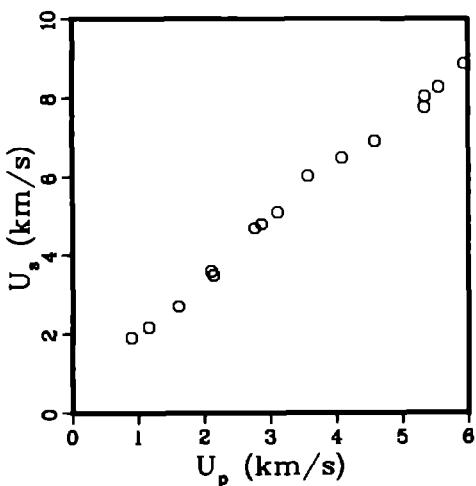
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.440	1.703	.913	.684	1.0543	.949	.464	im1 o
.461	2.002	1.198	1.106	.8711	1.148	.402	im1 o
.457	2.561	1.676	1.962	.7562	1.322	.346	im1 o
.429	3.291	2.196	3.100	.7756	1.289	.333	im1 o
.451	4.500	2.931	5.948	.7731	1.293	.349	im1 o
.451	4.895	3.377	7.455	.6876	1.454	.310	im1 o
.449	5.580	3.769	9.443	.7228	1.383	.325	im1 o
.447	6.261	4.235	11.852	.7239	1.381	.324	im1 o
.453	6.738	4.736	14.456	.6559	1.525	.297	im1 o
.453	7.292	5.030	16.615	.6848	1.460	.310	im1 o
.446	7.724	5.555	19.136	.6296	1.588	.281	im1 o
.458	8.295	5.922	22.498	.6246	1.601	.286	im1 o
.458	8.633	6.203	24.526	.6146	1.627	.281	im1 o



WALNUT

Average $\rho_0 = 0.632 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.633	1.901	.893	1.075	.8377	1.194	.530	im1 o
.583	2.168	1.152	1.456	.8038	1.244	.469	im1 o
.667	2.694	1.605	2.884	.6060	1.650	.404	im1 o
.675	3.592	2.107	5.109	.6125	1.633	.413	im1 o
.586	3.489	2.143	4.381	.6583	1.519	.386	im1 o
.673	4.693	2.767	8.739	.6098	1.640	.410	im1 o
.582	4.797	2.871	8.015	.6899	1.450	.402	im1 o
.650	5.119	3.115	10.365	.6023	1.660	.391	im1 o
.692	6.031	3.565	14.878	.5909	1.692	.409	im1 o
.660	6.479	4.081	17.451	.5608	1.783	.370	im1 o
.587	6.926	4.585	18.641	.5758	1.737	.338	im1 o
.577	7.760	5.336	23.892	.5414	1.847	.312	im1 o
.685	8.028	5.341	29.371	.4886	2.047	.335	im1 o
.629	8.266	5.550	28.856	.5224	1.914	.329	im1 o
.605	8.868	5.940	31.869	.5457	1.832	.330	im1 o



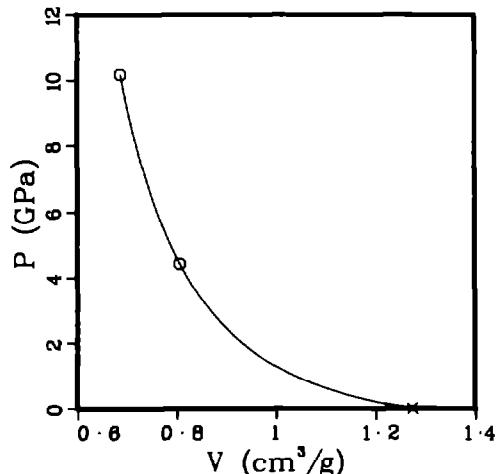
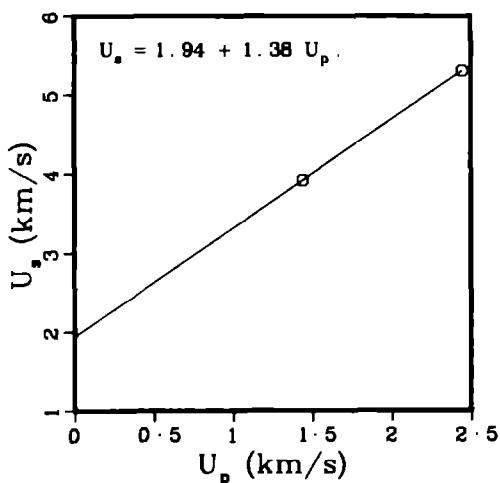
LIQUIDS

ACETONE , C₃H₆O

Average $\rho_0 = 0.785 \text{ g/cm}^3$.

References 6 , 23

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.785	3.922	1.439	4.430	.8065	1.240	.633	im1 o
.785	5.306	2.445	10.184	.6869	1.456	.539	im1 o

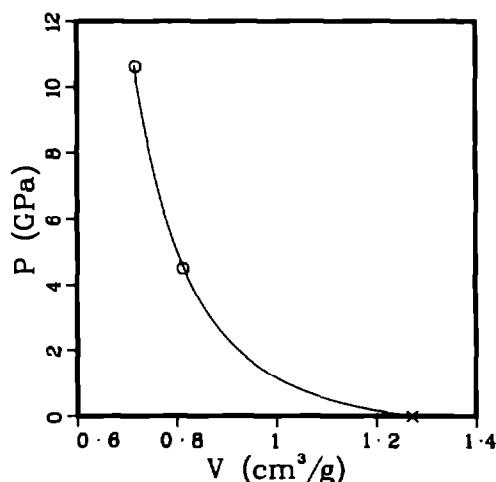
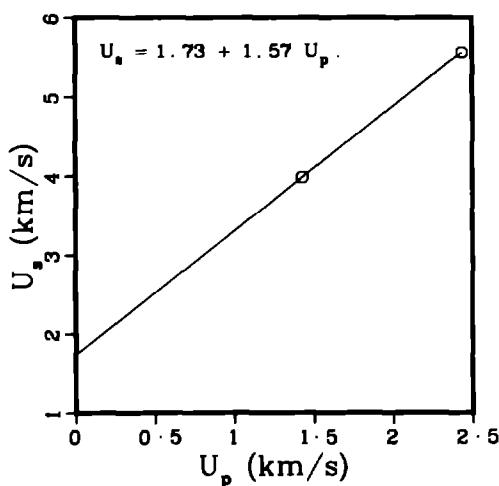


ALCOHOL, ethyl, C_2H_6O

Average $\rho_0 = 0.786 \text{ g/cm}^3$.

References 6, 23

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
789	3.982	1.430	4.493	.8123	1.231	.641	im1 o
784	5.563	2.436	10.624	.7170	1.395	.562	im1 o

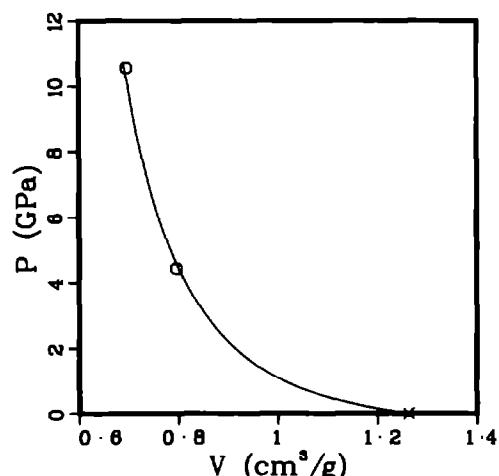
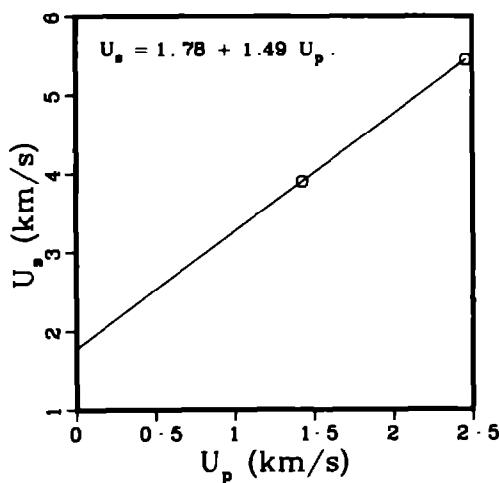


ALCOHOL, methyl, CH_3O

Average $\rho_0 = 0.792 \text{ g/cm}^3$.

References 6, 23

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.797	3.903	1.426	4.436	.7963	1.256	.635	im1 o
.787	5.444	2.461	10.544	.6962	1.436	.548	im1 o

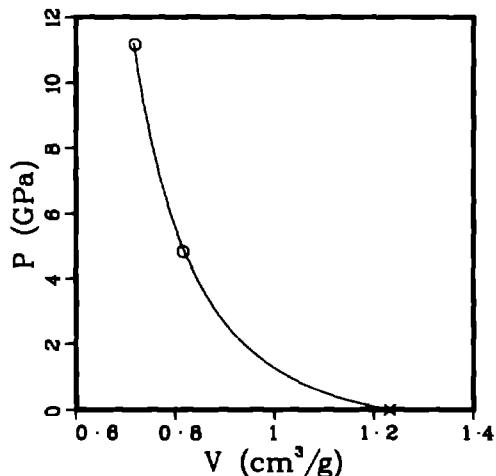
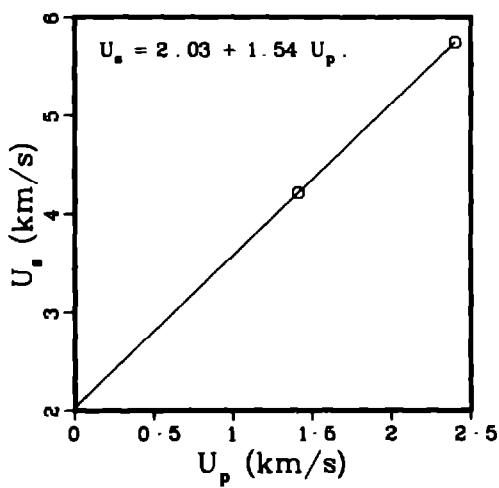


ALCOHOL, n-amyl, $C_5H_{12}O$

Average $\rho_0 = 0.812 \text{ g/cm}^3$.

References 6, 23

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
0.815	4.209	1.410	4.837	0.8160	1.226	0.665	im1 o
0.809	5.740	2.402	11.154	0.7188	1.391	0.582	im1 o

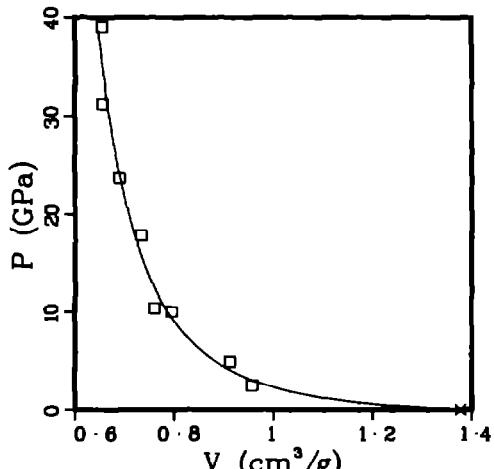
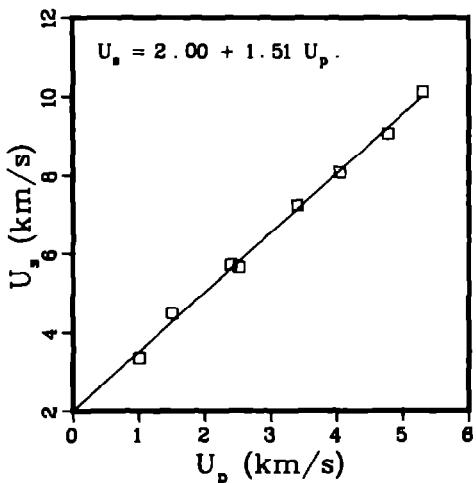


AMMONIA, liquid, $T_0=203K$, NH_3

Average $\rho_0 = 0.726 \text{ g/cm}^3$.

Reference 55

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.730	3.360	1.010	2.477	.9581	1.044	.699	im2 □
.727	4.490	1.510	4.929	.9129	1.095	.664	im2 □
.730	5.730	2.400	10.039	.7961	1.256	.581	im2 □
.729	5.660	2.520	10.398	.7610	1.314	.555	im2 □
.723	7.240	3.400	17.797	.7336	1.363	.530	im2 □
.723	8.080	4.050	23.659	.6899	1.450	.499	im2 □
.720	9.070	4.780	31.215	.6569	1.522	.473	im2 □
.726	10.130	5.310	39.052	.6554	1.526	.476	im2 □



BENZENE, C₆H₆

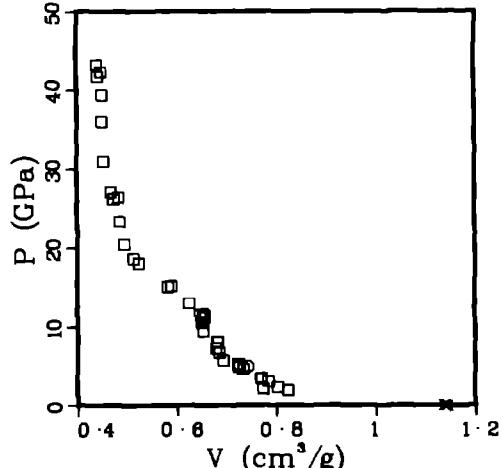
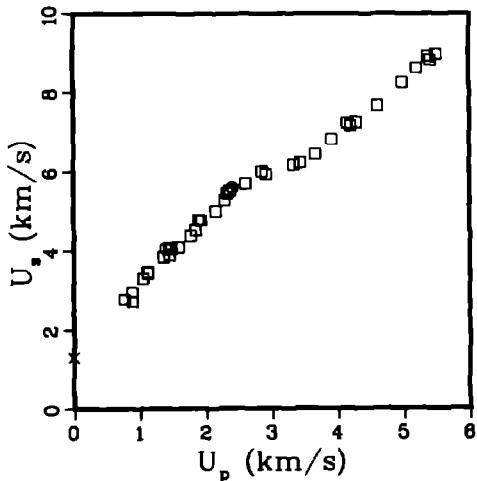
Average $\rho_0 = 0.875 \text{ g/cm}^3$.

Sound velocities longitudinal 1.31 km/s.
shear 0.00 km/s.

References 6, 23, 24, 25, 26, 56

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.879	1.310	0.000	0.000	1.1377	.879	1.000	s s p x
.877	2.780	.770	1.877	.8244	1.213	.723	i m2 □
.870	2.960	.890	2.292	.8038	1.244	.699	i m2 □
.869	2.720	.890	2.104	.7742	1.292	.673	i m2 □
.870	3.310	1.050	3.024	.7848	1.274	.683	i m2 □
.879	3.470	1.120	3.416	.7705	1.298	.677	i m2 □
.875	3.440	1.120	3.371	.7708	1.297	.674	i m2 □
.880	3.840	1.360	4.596	.7339	1.363	.646	i m2 □
.883	4.051	1.393	4.983	.7431	1.346	.656	i m1 ○
.885	4.050	1.450	5.197	.7254	1.379	.642	i m2 □
.866	3.890	1.450	4.885	.7243	1.381	.627	i m2 □
.877	4.050	1.480	5.257	.7236	1.382	.635	i m2 □
.881	4.090	1.590	5.729	.6938	1.441	.611	i m2 □
.869	4.380	1.770	6.737	.6857	1.458	.596	i m2 □
.869	4.520	1.850	7.267	.6798	1.471	.591	i m2 □
.885	4.790	1.900	8.054	.6817	1.467	.603	i m2 □
.871	4.770	1.940	8.060	.6812	1.468	.593	i m2 □
.870	5.000	2.160	9.396	.6529	1.532	.568	i m2 □
.870	5.280	2.290	10.519	.6509	1.536	.566	i m2 □

(Continued)



BENZENE . C₆H₆
 (Continued)

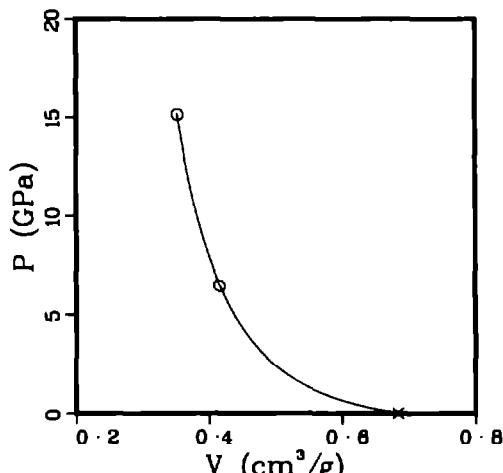
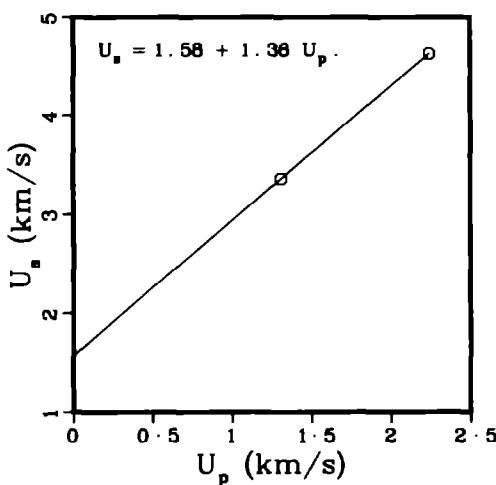
	ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.875	5.460	2.330	11.132	.6552	1.526	.573	i m2	□
.880	5.520	2.370	11.513	.6485	1.542	.571	i m2	□
.866	5.592	2.408	11.661	.6575	1.521	.569	i m1	○
.868	5.710	2.610	12.936	.6255	1.599	.543	i m2	□
.887	6.000	2.860	15.221	.5900	1.695	.523	i m2	□
.871	5.930	2.920	15.082	.5828	1.716	.508	i m2	□
.876	6.170	3.340	18.052	.5236	1.910	.459	i m2	□
.870	6.220	3.440	18.615	.5137	1.947	.447	i m2	□
.870	6.430	3.660	20.474	.4952	2.020	.431	i m2	□
.874	6.820	3.920	23.366	.4865	2.055	.425	i m2	□
.881	7.230	4.150	26.434	.4835	2.068	.426	i m2	□
.872	7.160	4.200	26.223	.4741	2.109	.413	i m2	□
.871	7.250	4.290	27.090	.4687	2.133	.408	i m2	□
.875	7.660	4.610	30.899	.4551	2.198	.398	i m2	□
.876	8.240	4.990	36.019	.4502	2.221	.394	i m2	□
.876	8.610	5.210	39.296	.4508	2.218	.395	i m2	□
.881	8.910	5.380	42.231	.4497	2.224	.396	i m2	□
.871	8.820	5.420	41.638	.4426	2.259	.385	i m2	□
.874	8.970	5.510	43.197	.4413	2.266	.386	i m2	□

BROMOETHANE , C_2H_5Br

Average $\rho_0 = 1.463 \text{ g/cm}^3$.

References 6 , 23

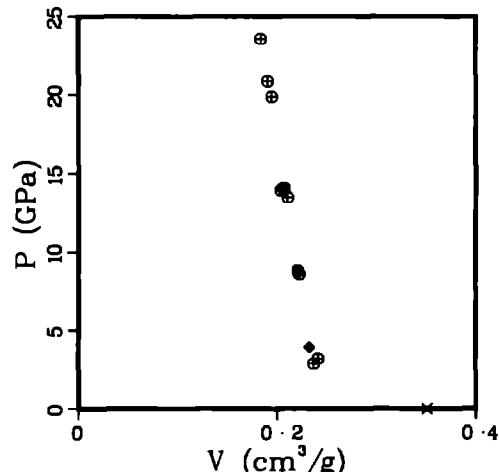
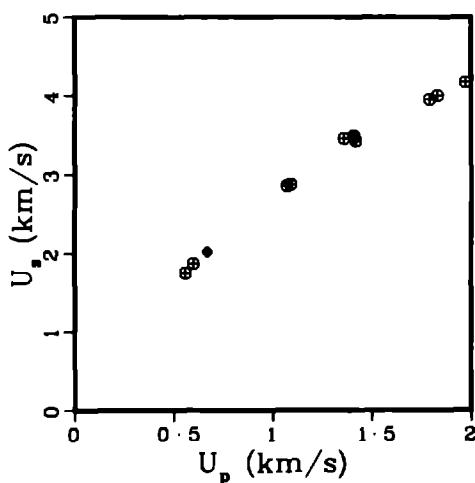
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.466	3.359	1.311	6.456	.4159	2.404	.610	im1 o
1.460	4.624	2.242	15.136	.3528	2.834	.515	im1 o



BROMOFORM , CHBr_3

Average $\rho_0 = 2.849 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
2.870	1.750	.560	2.813	.2369	4.221	.680	s f 1 ⊕
2.810	1.870	.600	3.153	.2417	4.138	.679	s f 1 ⊕
2.870	2.020	.670	3.884	.2329	4.294	.668	w d g ♦
2.810	2.860	1.070	8.599	.2227	4.490	.626	s f 1 ⊕
2.810	2.880	1.090	8.821	.2212	4.521	.622	s f 1 ⊕
2.876	3.450	1.360	13.494	.2106	4.747	.606	s f 1 ⊕
2.870	3.480	1.410	14.083	.2073	4.825	.595	s f 1 ⊕
2.870	3.470	1.410	14.042	.2069	4.834	.594	s f 1 ⊕
2.870	3.420	1.420	13.938	.2038	4.908	.585	s f 1 ⊕
2.810	3.950	1.790	19.868	.1946	5.139	.547	s f 1 ⊕
2.850	4.000	1.830	20.862	.1904	5.253	.542	s f 1 ⊕
2.870	4.170	1.970	23.577	.1838	5.440	.528	s f 1 ⊕



CARBON DISULFIDE, CS₂

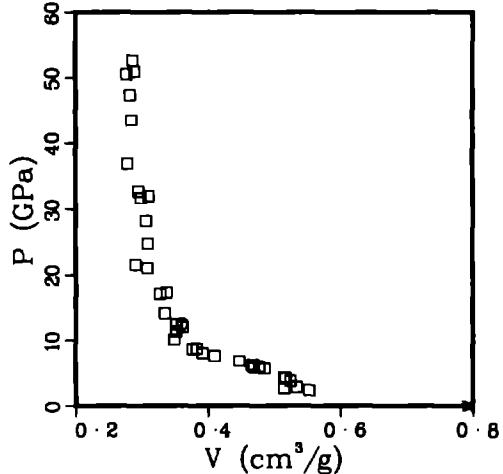
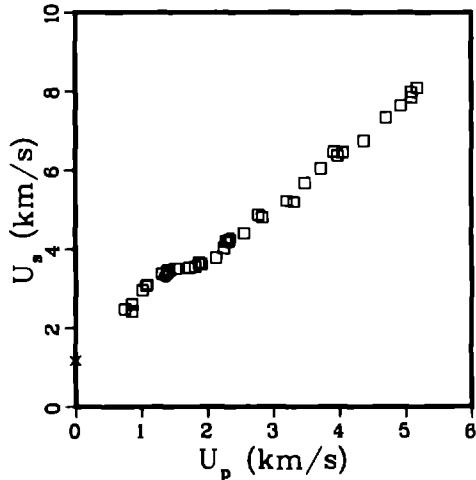
Average $\rho_0 = 1.257 \text{ g/cm}^3$.

Sound velocities longitudinal 1.16 km/s.
shear 0.00 km/s.

References 6, 23, 24, 25, 26

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.263	1.160	0.000	0.000	.7918	1.263	1.000	s s p ×
1.260	2.470	.750	2.334	.5527	1.809	.696	i m2 □
1.251	2.590	.860	2.786	.5339	1.873	.668	i m2 □
1.249	2.410	.860	2.589	.5149	1.942	.643	i m2 □
1.251	2.940	1.010	3.715	.5248	1.906	.656	i m2 □
1.257	3.060	1.070	4.116	.5174	1.933	.650	i m2 □
1.263	3.090	1.080	4.215	.5150	1.942	.650	i m2 □
1.264	3.390	1.310	5.613	.4854	2.060	.614	i m2 □
1.268	3.330	1.362	5.751	.4661	2.146	.591	i m1 ○
1.245	3.430	1.390	5.936	.4777	2.093	.595	i m2 □
1.272	3.470	1.400	6.179	.4690	2.132	.597	i m2 □
1.260	3.470	1.420	6.209	.4689	2.133	.591	i m2 □
1.266	3.510	1.520	6.754	.4478	2.233	.567	i m2 □
1.249	3.530	1.720	7.583	.4105	2.436	.513	i m2 □
1.249	3.550	1.810	8.025	.3924	2.548	.490	i m2 □
1.272	3.650	1.870	8.682	.3834	2.608	.488	i m2 □
1.253	3.620	1.910	8.663	.3770	2.653	.472	i m2 □
1.251	3.780	2.130	10.072	.3489	2.866	.437	i m2 □
1.251	4.020	2.250	11.315	.3520	2.841	.440	i m2 □

(Continued)



CARBON DISULFIDE , CS₂
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.257	4.180	2.280	11.980	.3616	2.765	.455	im2 □
1.264	4.200	2.330	12.370	.3522	2.839	.445	im2 □
1.244	4.268	2.351	12.482	.3611	2.770	.449	im1 ○
1.248	4.400	2.560	14.057	.3351	2.984	.418	im2 □
1.275	4.860	2.770	17.164	.3373	2.965	.430	im2 □
1.253	4.800	2.830	17.021	.3275	3.053	.410	im2 □
1.258	5.230	3.200	21.054	.3085	3.241	.388	im2 □
1.251	5.200	3.310	21.532	.2905	3.442	.363	im2 □
1.251	5.680	3.480	24.728	.3096	3.230	.387	im2 □
1.255	6.040	3.720	28.198	.3061	3.267	.384	im2 □
1.266	6.460	3.920	32.059	.3106	3.220	.393	im2 □
1.254	6.360	3.980	31.742	.2984	3.351	.374	im2 □
1.253	6.440	4.060	32.761	.2949	3.390	.370	im2 □
1.257	6.730	4.370	36.968	.2790	3.585	.351	im2 □
1.258	7.340	4.710	43.491	.2848	3.511	.358	im2 □
1.258	7.640	4.930	47.383	.2820	3.547	.355	im2 □
1.253	7.980	5.090	50.895	.2890	3.460	.362	im2 □
1.266	7.840	5.090	50.520	.2771	3.609	.351	im2 □
1.255	8.090	5.180	52.592	.2866	3.489	.360	im2 □

CARBON TETRACHLORIDE, CCl_4

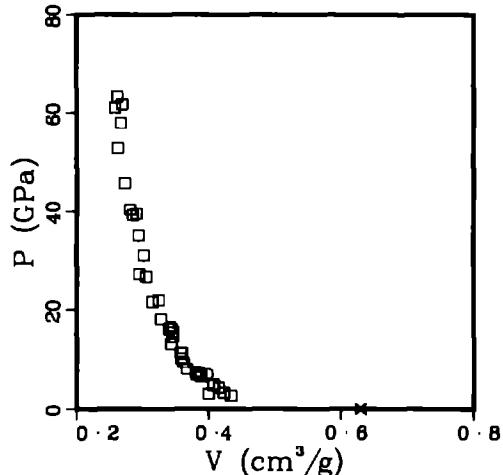
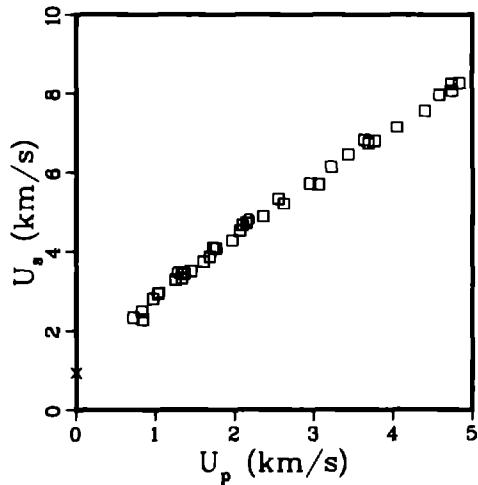
Average $\rho_0 = 1.585 \text{ g/cm}^3$.

Sound velocities longitudinal .93 km/s.
shear 0.00 km/s.

References 6, 23, 24, 25, 26, 56

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.590	.930	0.000	0.000	.6289	1.590	1.000	s s p x
1.590	2.320	.720	2.656	.4337	2.305	.690	im2 □
1.571	2.470	.830	3.221	.4226	2.366	.664	im2 □
1.577	2.270	.840	3.007	.3995	2.503	.630	im2 □
1.571	2.790	.970	4.252	.4152	2.408	.652	im2 □
1.586	2.910	1.030	4.754	.4073	2.455	.646	im2 □
1.594	2.950	1.040	4.890	.4062	2.462	.647	im2 □
1.596	3.280	1.250	6.544	.3878	2.579	.619	im2 □
1.590	3.468	1.275	7.031	.3977	2.514	.632	im1 ○
1.606	3.460	1.330	7.390	.3833	2.609	.616	im2 □
1.571	3.320	1.330	6.937	.3815	2.621	.599	im2 □
1.591	3.440	1.360	7.443	.3800	2.631	.605	im2 □
1.598	3.500	1.450	8.110	.3665	2.728	.586	im2 □
1.577	3.740	1.610	9.496	.3611	2.769	.570	im2 □
1.571	3.860	1.690	10.248	.3578	2.794	.562	im2 □
1.606	4.080	1.730	11.336	.3586	2.788	.576	im2 □
1.580	4.070	1.770	11.382	.3577	2.796	.565	im2 □
1.571	4.270	1.970	13.215	.3429	2.917	.539	im2 □
1.571	4.520	2.070	14.699	.3450	2.898	.542	im2 □

(Continued)



CARBON TETRACHLORIDE , CCl_4
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.586	4.660	2.100	15.521	.3464	2.887	.549	i m2 □
1.596	4.710	2.150	16.162	.3406	2.936	.544	i m2 □
1.587	4.792	2.179	16.571	.3436	2.910	.545	i m1 ○
1.574	4.880	2.360	18.127	.3281	3.048	.516	i m2 □
1.610	5.340	2.550	21.923	.3245	3.082	.522	i m2 □
1.580	5.210	2.620	21.567	.3146	3.178	.497	i m2 □
1.588	5.720	2.950	26.796	.3050	3.279	.484	i m2 □
1.571	5.690	3.060	27.353	.2942	3.399	.462	i m2 □
1.571	6.130	3.220	31.009	.3022	3.309	.475	i m2 □
1.584	6.440	3.440	35.091	.2941	3.400	.466	i m2 □
1.598	6.800	3.640	39.554	.2908	3.439	.465	i m2 □
1.582	6.720	3.690	39.229	.2850	3.509	.451	i m2 □
1.580	6.780	3.770	40.386	.2810	3.559	.444	i m2 □
1.586	7.130	4.050	45.798	.2724	3.671	.432	i m2 □
1.588	7.550	4.400	52.753	.2627	3.806	.417	i m2 □
1.588	7.960	4.580	57.893	.2674	3.740	.425	i m2 □
1.580	8.240	4.740	61.711	.2688	3.720	.425	i m2 □
1.598	8.060	4.740	61.051	.2578	3.879	.412	i m2 □
1.584	8.260	4.840	63.326	.2614	3.826	.414	i m2 □

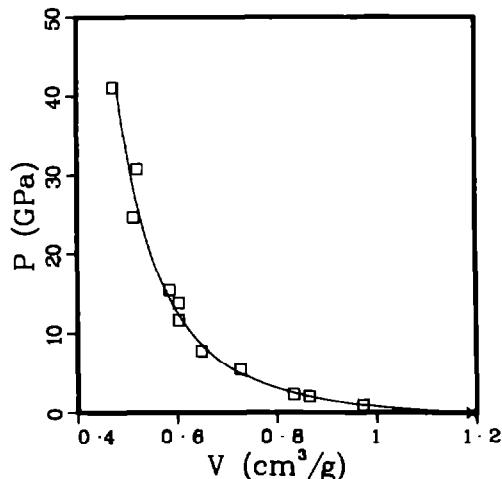
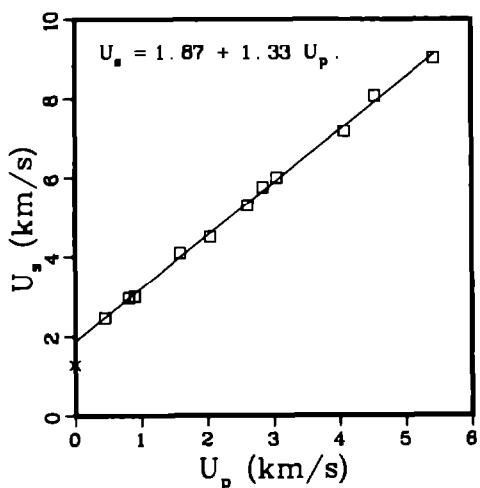
CYCLOHEXADIENE , 1-3 , C₆H₈

Average $\rho_0 = 0.840 \text{ g/cm}^3$.

Sound velocities longitudinal 1.28 km/s.
shear 0.00 km/s.

Reference 57

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.840	1.280	0.000	0.000	1.1905	.840	1.000	s s p x
.840	2.460	.450	.930	.9727	1.028	.817	i m2 □
.840	2.960	.810	2.014	.8647	1.156	.726	i m2 □
.840	3.000	.900	2.268	.8333	1.200	.700	i m2 □
.840	4.090	1.590	5.463	.7277	1.374	.611	i m2 □
.840	4.510	2.050	7.766	.6494	1.540	.545	i m2 □
.840	5.300	2.610	11.620	.6042	1.655	.508	i m2 □
.840	5.760	2.840	13.741	.6035	1.657	.507	i m2 □
.840	6.000	3.050	15.372	.5853	1.708	.492	i m2 □
.840	7.170	4.080	24.573	.5131	1.949	.431	i m2 □
.840	8.070	4.540	30.776	.5207	1.920	.437	i m2 □
.840	9.010	5.430	41.096	.4730	2.114	.397	i m2 □



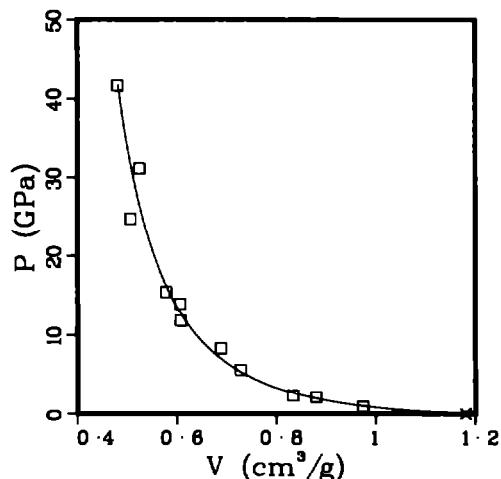
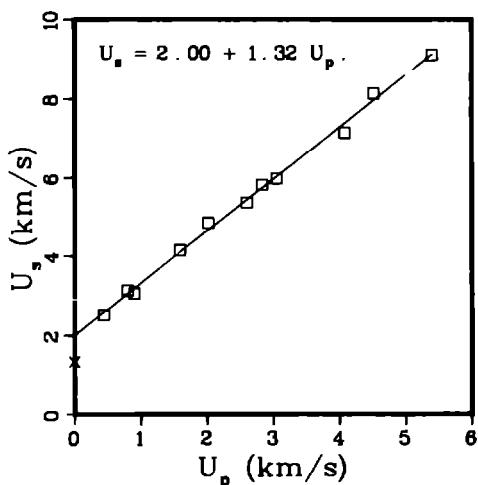
CYCLOHEXADIENE , 1-4 , C₆H₈

Average $\rho_0 = 0.847 \text{ g/cm}^3$.

Sound velocities longitudinal 1.34 km/s .
shear 0.00 km/s .

Reference 57

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
.847	1.340	0.000	0.000	1.1806	.847	1.000	s s p ×
.847	2.520	.440	.939	.9745	1.026	.825	i m2 □
.847	3.140	.800	2.128	.8798	1.137	.745	i m2 □
.847	3.060	.900	2.333	.8334	1.200	.706	i m2 □
.847	4.150	1.590	5.589	.7283	1.373	.617	i m2 □
.847	4.850	2.020	8.298	.6889	1.452	.584	i m2 □
.847	5.360	2.600	11.804	.6079	1.645	.515	i m2 □
.847	5.820	2.830	13.951	.6065	1.649	.514	i m2 □
.847	5.980	3.050	15.448	.5785	1.729	.490	i m2 □
.847	7.150	4.080	24.709	.5069	1.973	.429	i m2 □
.847	8.140	4.520	31.164	.5251	1.905	.445	i m2 □
.847	9.110	5.400	41.667	.4808	2.080	.407	i m2 □



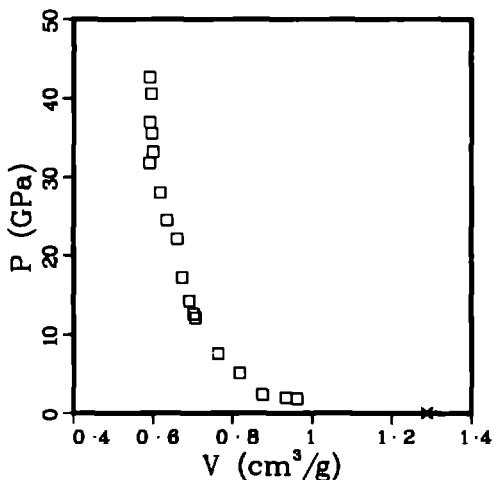
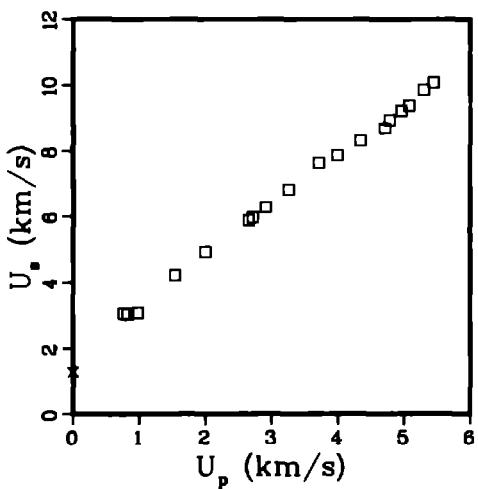
CYCLOHEXANE, C₆H₁₂

Average $\rho_0 = 0.776 \text{ g/cm}^3$.

Sound velocities longitudinal 1.26 km/s.
shear 0.00 km/s.

Reference 57

ρ_0 (g/cm ³)	U _l (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
776	1.260	0.000	0.000	1.2887	.776	1.000	s s p x
776	3.040	.770	1.816	.9623	1.039	.747	im2 □
776	3.020	.830	1.945	.9345	1.070	.725	im2 □
776	3.060	.980	2.327	.8760	1.142	.680	im2 □
776	4.210	1.540	5.031	.8173	1.224	.634	im2 □
776	4.910	2.000	7.620	.7637	1.309	.593	im2 □
776	5.870	2.650	12.071	.7069	1.415	.549	im2 □
776	5.960	2.710	12.534	.7027	1.423	.545	im2 □
776	6.280	2.910	14.181	.6915	1.446	.537	im2 □
776	6.820	3.260	17.253	.6727	1.487	.522	im2 □
776	7.640	3.720	22.055	.6612	1.512	.513	im2 □
776	7.870	4.000	24.428	.6337	1.578	.492	im2 □
776	8.320	4.340	28.020	.6165	1.622	.478	im2 □
776	8.700	4.710	31.798	.5910	1.692	.459	im2 □
776	8.950	4.780	33.198	.6004	1.666	.466	im2 □
776	9.230	4.960	35.526	.5962	1.677	.463	im2 □
776	9.390	5.080	37.016	.5915	1.691	.459	im2 □
776	9.860	5.300	40.552	.5960	1.678	.462	im2 □
776	10.080	5.450	42.630	.5919	1.689	.459	im2 □



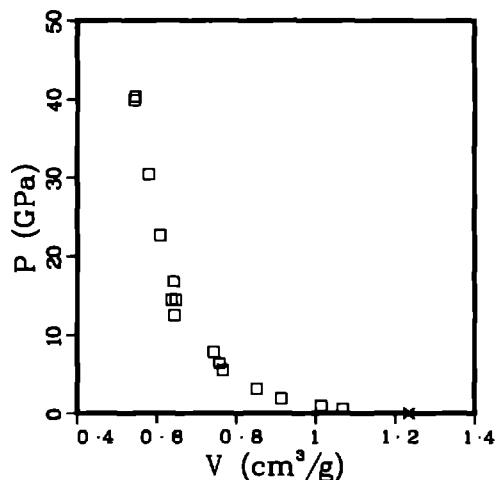
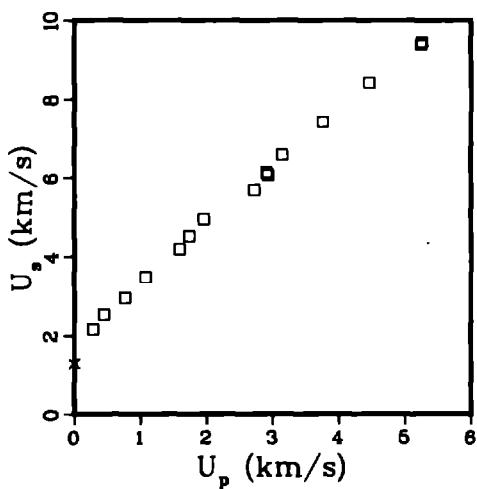
CYCLOHEXENE, C_6H_{10}

Average $\rho_0 = 0.810 \text{ g/cm}^3$.

Sound velocities longitudinal 1.28 km/s.
shear 0.00 km/s.

Reference 57

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
.810	1.280	0.000	0.000	1.2346	.810	1.000	s s p x
.810	2.150	.290	.505	1.0680	.936	.865	i m2 □
.810	2.520	.450	.919	1.0141	.986	.821	i m2 □
.810	2.960	.770	1.846	.9134	1.095	.740	i m2 □
.810	3.490	1.080	3.053	.8525	1.173	.691	i m2 □
.810	4.190	1.590	5.396	.7661	1.305	.621	i m2 □
.810	4.510	1.740	6.356	.7583	1.319	.614	i m2 □
.810	4.930	1.960	7.827	.7437	1.345	.602	i m2 □
.810	5.690	2.720	12.536	.6444	1.552	.522	i m2 □
.810	6.130	2.910	14.449	.6485	1.542	.525	i m2 □
.810	6.060	2.930	14.382	.6377	1.568	.517	i m2 □
.810	6.580	3.150	16.789	.6436	1.554	.521	i m2 □
.810	7.420	3.760	22.598	.6090	1.642	.493	i m2 □
.810	8.420	4.460	30.418	.5806	1.722	.470	i m2 □
.810	9.380	5.250	39.888	.5436	1.840	.440	i m2 □
.810	9.450	5.270	40.339	.5461	1.831	.442	i m2 □

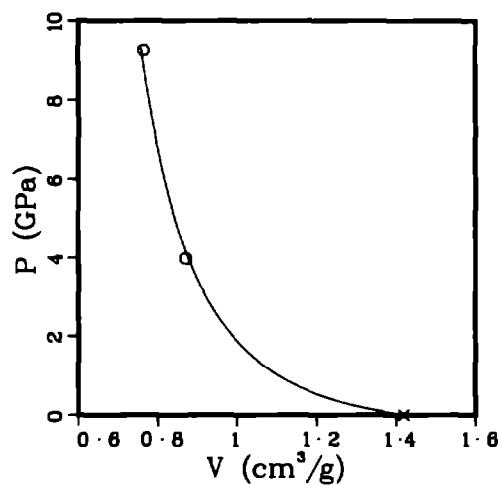
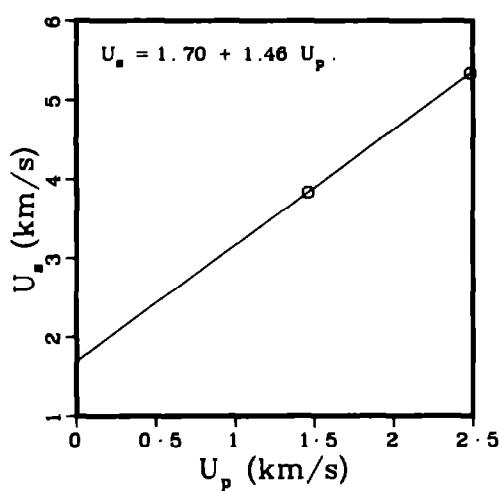


ETHER, ethyl, $C_4H_{10}O$

Average $\rho_0 = 0.704 \text{ g/cm}^3$.

References 6, 23

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.711	3.834	1.460	3.980	.8709	1.148	.619	i m1 o
.698	5.335	2.485	9.254	.7653	1.307	.534	i m1 o

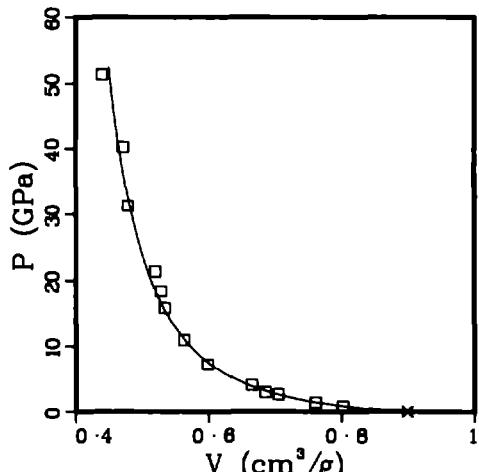
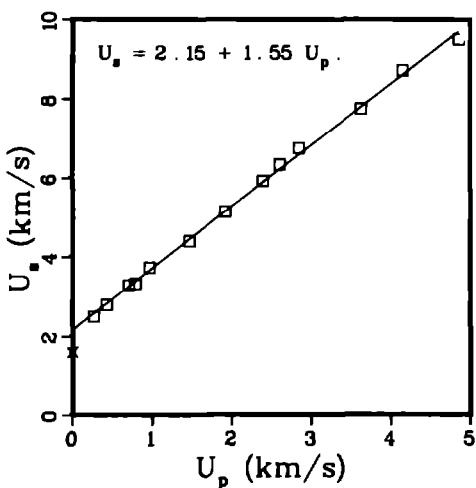


ETHYLENE GLYCOL, $C_2H_6O_2$

Average $\rho_0 = 1.112 \text{ g/cm}^3$.

Sound velocities longitudinal 1.60 km/s.
shear 0.00 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.112	1.600	0.000	0.000	.8993	1.112	1.000	s sp x
1.112	2.490	.270	.748	.8018	1.247	.892	i m2 □
1.112	2.790	.430	1.334	.7607	1.315	.846	i m2 □
1.112	3.280	.710	2.590	.7046	1.419	.784	i m2 □
1.112	3.320	.790	2.917	.6853	1.459	.762	i m2 □
1.112	3.720	.970	4.013	.6648	1.504	.739	i m2 □
1.112	4.390	1.470	7.176	.5982	1.672	.665	i m2 □
1.112	5.130	1.920	10.953	.5627	1.777	.626	i m2 □
1.112	5.910	2.400	15.773	.5341	1.872	.594	i m2 □
1.112	6.330	2.610	18.372	.5285	1.892	.588	i m2 □
1.112	6.750	2.850	21.392	.5196	1.925	.578	i m2 □
1.112	7.750	3.630	31.283	.4781	2.092	.532	i m2 □
1.112	8.720	4.150	40.241	.4713	2.122	.524	i m2 □
1.112	9.500	4.860	51.341	.4392	2.277	.488	i m2 □



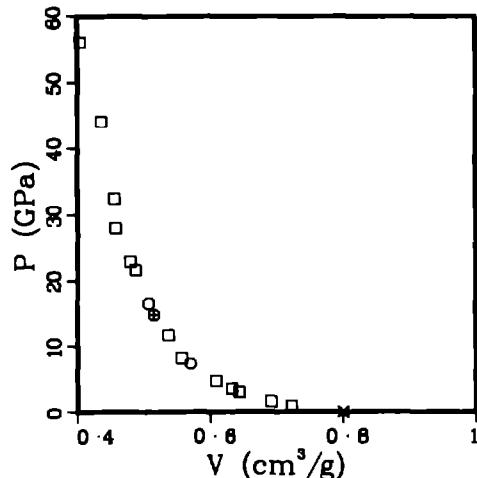
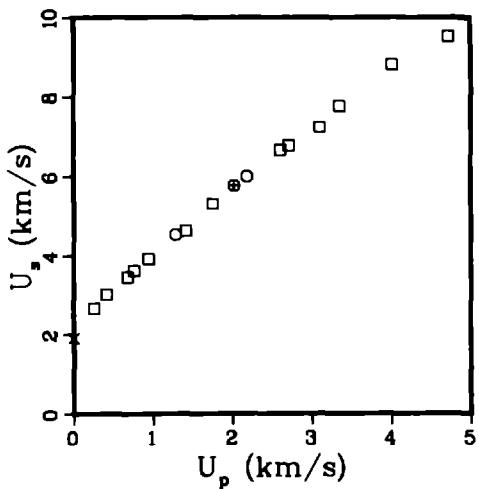
GLYCEROL, C₃H₈O₃

$$\text{Average } \rho_0 = 1.250 \text{ g/cm}^3.$$

Sound velocities longitudinal 1.90 km/s
 shear 0.00 km/s

References 6, 23

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.248	1.900	0.000	0.000	8013	1.248	1.000	s s p x
1.248	2.650	.260	.860	.7227	1.384	.902	i m2 o
1.248	3.000	.410	1.535	.6918	1.446	.863	i m2 o
1.248	3.460	.680	2.936	.6438	1.553	.803	i m2 o
1.248	3.620	.760	3.433	.6331	1.580	.790	i m2 o
1.248	3.920	.940	4.599	.6091	1.642	.760	i m2 o
1.259	4.525	1.278	7.281	.5700	1.755	.718	i m1 o
1.248	4.620	1.410	8.130	.5567	1.796	.695	i m2 o
1.248	5.310	1.750	11.597	.5372	1.861	.670	i m2 o
1.261	5.770	2.020	14.697	.5154	1.940	.650	s f 1 o
1.253	5.997	2.184	16.411	.5074	1.971	.636	i m1 o
1.248	6.650	2.600	21.578	.4880	2.049	.609	i m2 o
1.248	6.760	2.710	22.863	.4801	2.083	.599	i m2 o
1.248	7.220	3.100	27.933	.4572	2.187	.571	i m2 o
1.248	7.770	3.350	32.485	.4558	2.194	.569	i m2 o
1.248	8.800	4.010	44.039	.4362	2.293	.544	i m2 o
1.248	9.530	4.720	56.137	.4044	2.473	.505	i m2 o

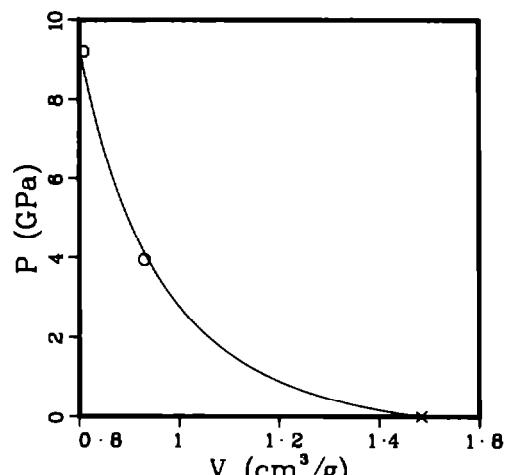
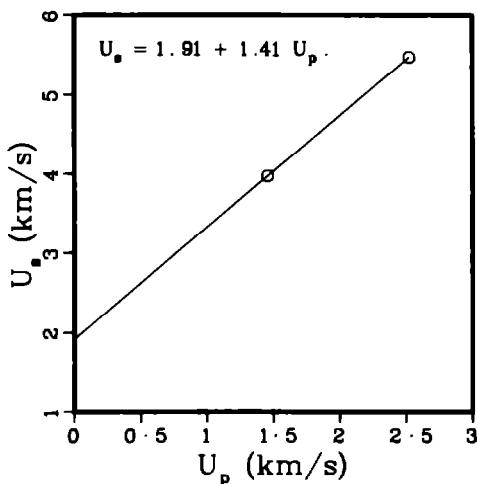


HEXANE , C₆H₁₄

Average $\rho_0 = 0.673 \text{ g/cm}^3$.

References 6 , 23

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
0.680	3.972	1.459	3.941	0.9304	1.075	0.633	im1 o
0.667	5.474	2.524	9.216	0.8080	1.238	0.539	im1 o



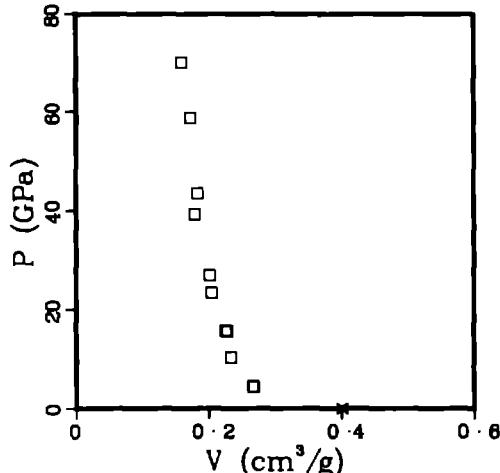
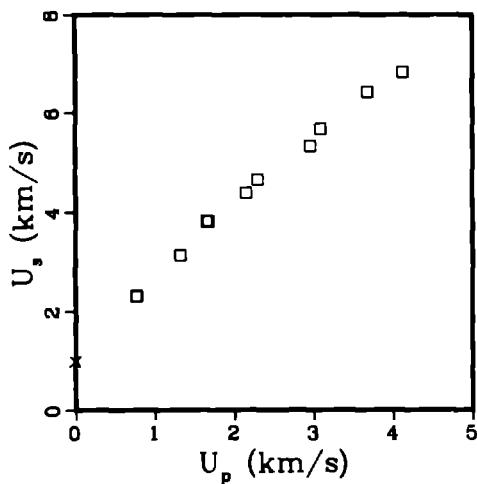
METHANE, dibromo-, CH_2Br_2

Average $\rho_0 = 2.491 \text{ g/cm}^3$.

Sound velocities longitudinal .98 km/s.
shear 0.00 km/s.

Reference 59

ρ_0 (g/cm^3)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.495	.980	0.000	0.000	.4008	2.495	1.000	s s p x
2.491	2.310	.770	4.431	.2676	3.737	.667	i m2 □
2.489	2.300	.770	4.408	.2673	3.742	.665	i m2 □
2.486	3.140	1.320	10.304	.2332	4.289	.580	i m2 □
2.492	3.830	1.650	15.748	.2284	4.378	.569	i m2 □
2.491	3.820	1.670	15.891	.2259	4.426	.563	i m2 □
2.491	4.380	2.150	23.458	.2044	4.893	.509	i m2 □
2.510	4.670	2.300	26.960	.2022	4.946	.507	i m2 □
2.490	5.340	2.960	39.358	.1790	5.587	.446	i m2 □
2.482	5.680	3.090	43.562	.1837	5.443	.456	i m2 □
2.481	6.440	3.680	58.798	.1727	5.789	.429	i m2 □
2.491	6.830	4.120	70.096	.1593	6.278	.397	i m2 □



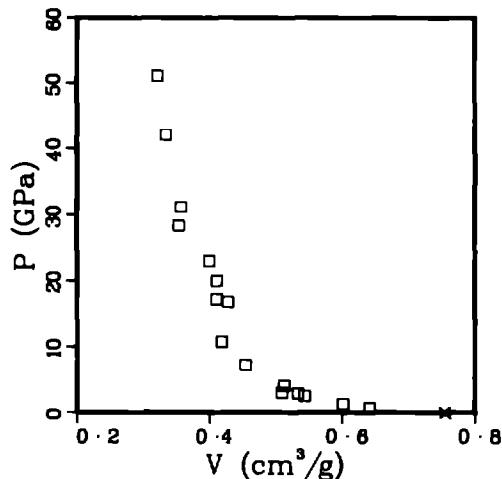
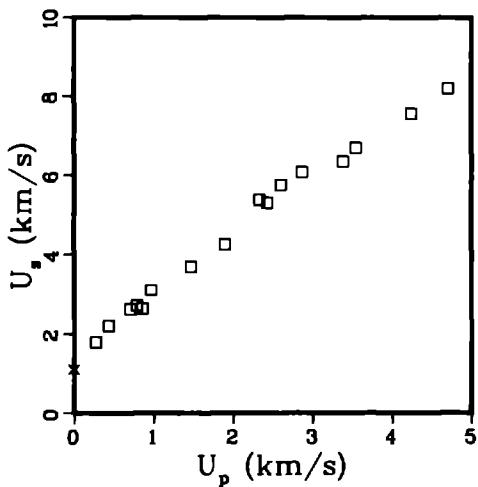
METHANE , dichloro- , CH_2Cl_2

Average $\rho_0 = 1.325 \text{ g/cm}^3$.

Sound velocities longitudinal 1.11 km/s.
shear 0.00 km/s.

Reference 60

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.323	1.110	0.000	0.000	.7559	1.323	1.000	s s p x
1.323	1.790	.270	.639	.6418	1.558	.849	i m2 □
1.337	2.200	.430	1.265	.6018	1.662	.805	i m2 □
1.337	2.600	.710	2.468	.5437	1.839	.727	i m2 □
1.326	2.700	.790	2.828	.5335	1.874	.707	i m2 □
1.321	2.630	.860	2.988	.5095	1.963	.673	i m2 □
1.340	3.100	.970	4.029	.5128	1.950	.687	i m2 □
1.326	3.700	1.470	7.212	.4545	2.200	.603	i m2 □
1.323	4.250	1.900	10.683	.4179	2.393	.553	i m2 □
1.326	5.390	2.330	16.653	.4281	2.336	.568	i m2 □
1.322	5.320	2.430	17.090	.4109	2.434	.543	i m2 □
1.335	5.760	2.600	19.993	.4109	2.433	.549	i m2 □
1.322	6.080	2.870	23.068	.3994	2.504	.528	i m2 □
1.321	6.350	3.380	28.353	.3541	2.824	.468	i m2 □
1.314	6.690	3.550	31.207	.3572	2.800	.469	i m2 □
1.313	7.560	4.240	42.087	.3345	2.990	.439	i m2 □
1.323	8.200	4.710	51.097	.3217	3.108	.426	i m2 □



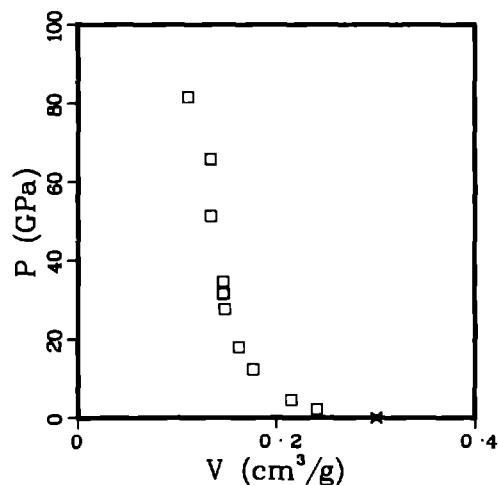
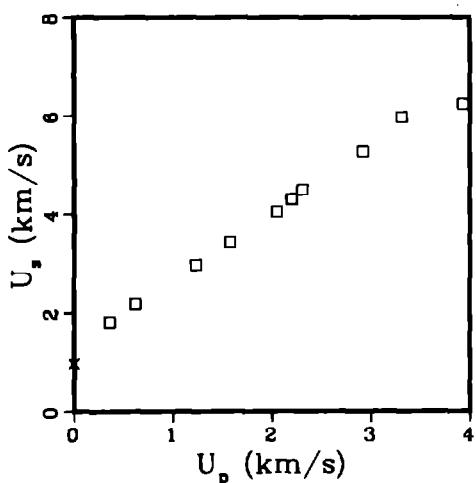
METHANE, diiodo-, CH_2I_2

Average $\rho_0 = 3.325 \text{ g/cm}^3$.

Sound velocities longitudinal .96 km/s.
shear 0.00 km/s.

Reference 59

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
3.325	.960	0.000	0.000	.3008	3.325	1.000	s sp x
3.325	1.810	.360	2.167	.2409	4.151	.801	i m2 □
3.325	2.180	.620	4.494	.2152	4.646	.716	i m2 □
3.325	2.980	1.230	12.187	.1786	5.662	.587	i m2 □
3.325	3.440	1.580	18.072	.1626	6.149	.541	i m2 □
3.325	4.040	2.050	27.538	.1481	6.750	.493	i m2 □
3.325	4.300	2.200	31.455	.1469	6.808	.488	i m2 □
3.325	4.290	2.200	31.381	.1465	6.825	.487	i m2 □
3.325	4.500	2.310	34.563	.1464	6.832	.487	i m2 □
3.325	5.270	2.920	51.166	.1341	7.456	.446	i m2 □
3.325	5.970	3.310	65.704	.1340	7.462	.446	i m2 □
3.325	6.240	3.930	81.540	.1113	8.982	.370	i m2 □



METHANE, trichloro-, chloroform, CHCl_3

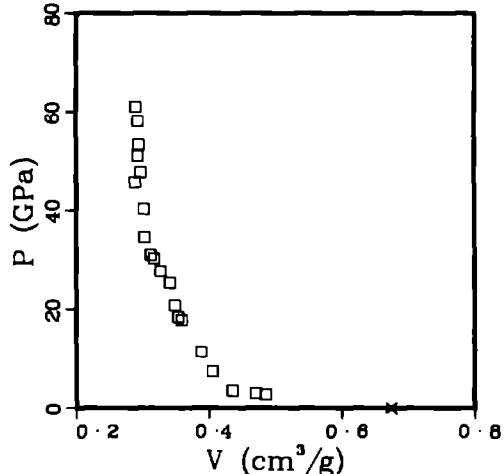
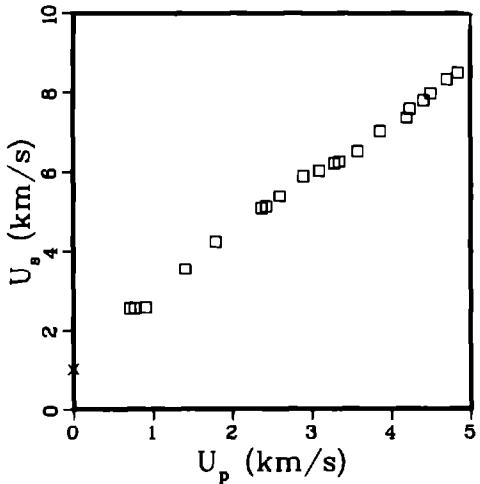
Average $\rho_0 = 1.483 \text{ g/cm}^3$.

Sound velocities longitudinal 1.00 km/s.
shear 0.00 km/s.

References 58, 59

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.483	1.000	0.000	0.000	.6743	1.483	1.000	s s p x
1.483	2.540	.710	2.674	.4858	2.058	.720	i m2 □
1.483	2.550	.770	2.912	.4707	2.125	.698	i m2 □
1.483	2.570	.910	3.468	.4355	2.296	.646	i m2 □
1.483	3.530	1.410	7.381	.4050	2.469	.601	i m2 □
1.483	4.240	1.800	11.318	.3880	2.577	.575	i m2 □
1.483	5.070	2.370	17.820	.3591	2.785	.533	i m2 □
1.483	5.110	2.430	18.415	.3536	2.828	.524	i m2 □
1.483	5.380	2.600	20.744	.3484	2.870	.517	i m2 □
1.483	5.880	2.900	25.288	.3417	2.926	.507	i m2 □
1.483	6.020	3.100	27.676	.3271	3.057	.485	i m2 □
1.483	6.210	3.290	30.299	.3171	3.154	.470	i m2 □
1.483	6.240	3.350	31.001	.3123	3.202	.463	i m2 □
1.483	6.510	3.580	34.563	.3035	3.295	.450	i m2 □
1.483	7.010	3.870	40.232	.3020	3.311	.448	i m2 □
1.483	7.350	4.200	45.780	.2890	3.460	.429	i m2 □
1.483	7.590	4.240	47.725	.2976	3.360	.441	i m2 □
1.483	7.800	4.410	51.012	.2931	3.412	.435	i m2 □
1.483	7.980	4.500	53.255	.2941	3.401	.436	i m2 □

(Continued)



METHANE, trichloro-, chloroform, CHCl_3
(Continued)

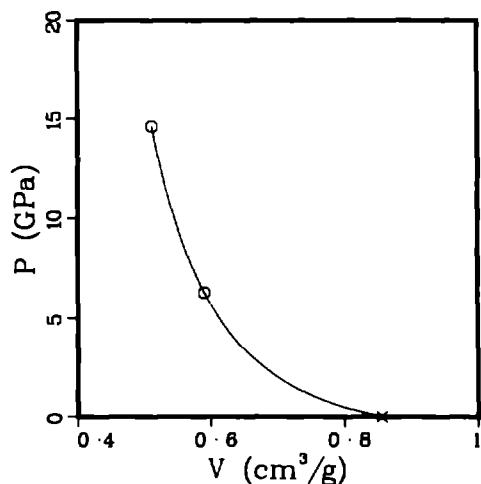
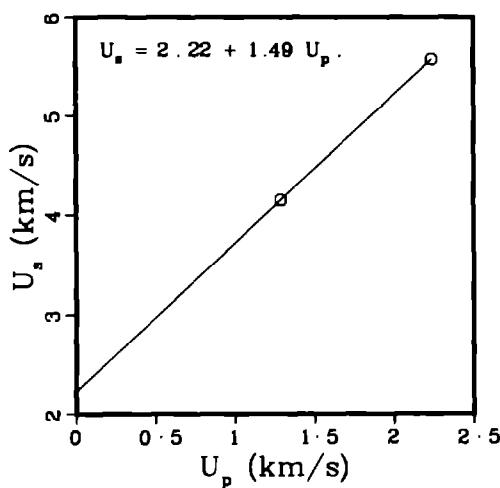
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.483	8.320	4.700	57.991	.2934	3.408	.435	i m2 □
1.483	8.490	4.840	60.939	.2899	3.449	.430	i m2 □

MONONITROTOLUENE

Average $\rho_0 = 1.168 \text{ g/cm}^3$.

References 6, 23

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.168	4.150	1.289	6.248	.5902	1.694	.689	im1 o
1.168	5.572	2.241	14.585	.5118	1.954	.598	im1 o



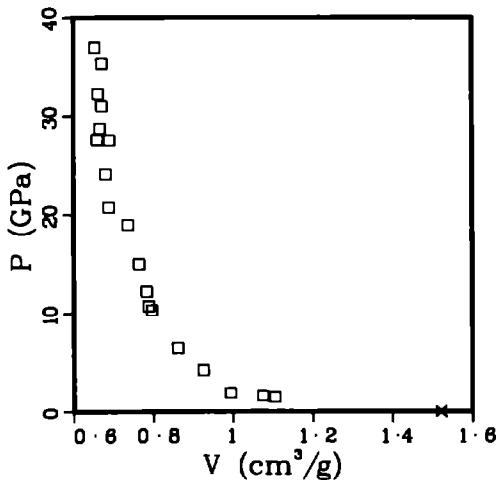
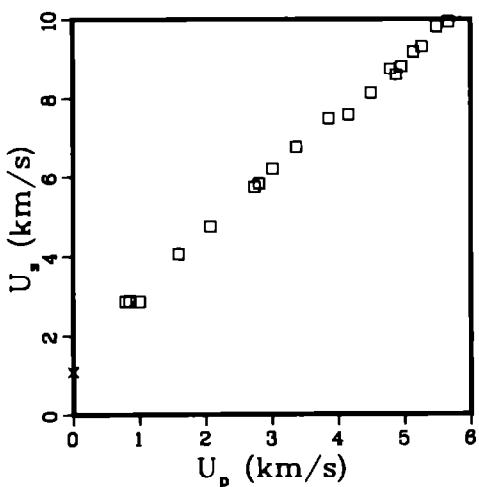
N-HEXANE , C₆H₁₄

Average $\rho_0 = 0.657 \text{ g/cm}^3$.

Sound velocities longitudinal 1.09 km/s.
shear 0.00 km/s.

References 57 , 58

ρ_0 (g/cm ³)	U _l (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.657	1.090	0.000	0.000	1.5221	.657	1.000	s s p x
.657	2.880	.790	1.495	1.1046	.905	.726	i m2 □
.657	2.890	.850	1.614	1.0744	.931	.706	i m2 □
.657	2.880	1.000	1.892	.9936	1.006	.653	i m2 □
.657	4.060	1.590	4.241	.9260	1.080	.608	i m2 □
.657	4.770	2.070	6.487	.8615	1.161	.566	i m2 □
.657	5.750	2.740	10.351	.7968	1.255	.523	i m2 □
.657	5.830	2.810	10.763	.7884	1.268	.518	i m2 □
.657	6.200	3.010	12.261	.7831	1.277	.515	i m2 □
.657	6.770	3.370	14.989	.7644	1.308	.502	i m2 □
.657	7.480	3.860	18.969	.7366	1.358	.484	i m2 □
.657	7.590	4.160	20.744	.6878	1.454	.452	i m2 □
.657	8.140	4.500	24.066	.6806	1.469	.447	i m2 □
.657	8.760	4.790	27.568	.6898	1.450	.453	i m2 □
.657	8.610	4.880	27.605	.6594	1.517	.433	i m2 □
.657	8.820	4.960	28.742	.6661	1.501	.438	i m2 □
.657	9.190	5.140	31.034	.6708	1.491	.441	i m2 □
.657	9.320	5.270	32.263	.6614	1.512	.435	i m2 □
.657	9.820	5.490	35.420	.6711	1.490	.441	i m2 □
.657	9.940	5.670	37.028	.6538	1.529	.430	i m2 □



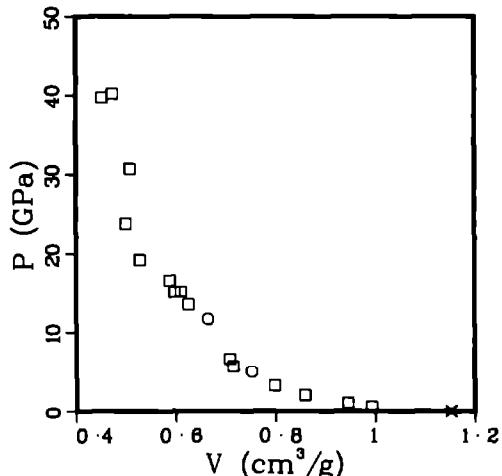
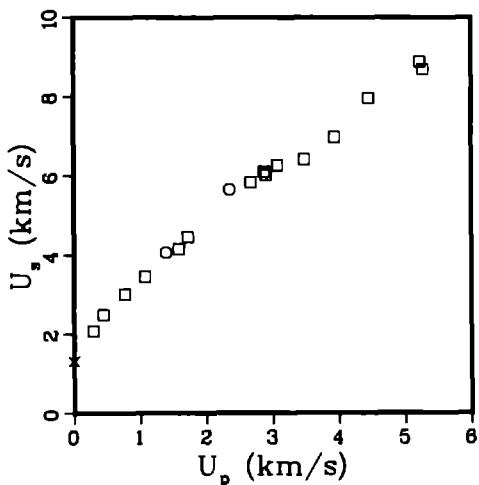
TOLUENE, $C_6H_5CH_3$

Average $\rho_0 = 0.868 \text{ g/cm}^3$.

Sound velocities longitudinal 1.31 km/s .
 shear 0.00 km/s .

References 6, 23, 57

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
.867	1.310	0.000	0.000	1.1534	.867	1.000	s s p x
.867	2.080	.290	.523	.9926	1.007	.861	i m2
.867	2.490	.450	.971	.9450	1.058	.819	i m2
.867	3.010	.770	2.009	.8583	1.165	.744	i m2
.867	3.470	1.070	3.219	.7977	1.254	.692	i m2
.876	4.071	1.387	4.946	.7526	1.329	.659	i m1 o
.867	4.160	1.580	5.699	.7153	1.398	.620	i m2
.867	4.460	1.720	6.651	.7086	1.411	.614	i m2
.879	5.661	2.351	11.699	.6652	1.503	.585	i m1 o
.867	5.840	2.670	13.519	.6261	1.597	.543	i m2
.867	6.100	2.870	15.179	.6107	1.637	.530	i m2
.867	6.020	2.900	15.136	.5978	1.673	.518	i m2
.867	6.260	3.070	16.662	.5878	1.701	.510	i m2
.867	6.400	3.470	19.254	.5280	1.894	.458	i m2
.867	6.960	3.940	23.775	.5005	1.998	.434	i m2
.867	7.960	4.450	30.711	.5086	1.966	.441	i m2
.867	8.870	5.230	40.220	.4733	2.113	.410	i m2
.867	8.680	5.280	39.735	.4518	2.213	.392	i m2



WATER, H_2O

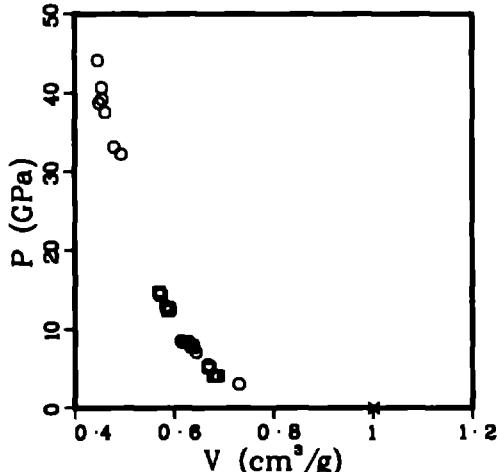
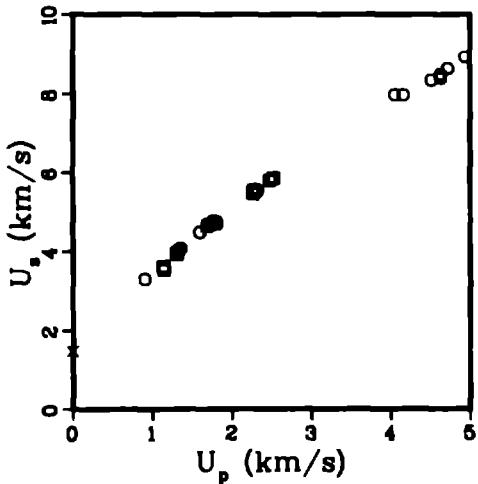
Average $\rho_0 = 0.998 \text{ g/cm}^3$.

Sound velocities longitudinal 1.48 km/s.
shear 0.00 km/s.

References 6, 23, 60

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
0.998	1.480	0.000	0.000	1.0018	0.998	1.000	s s p x
0.998	3.314	.900	2.977	.7297	1.370	.728	i m1 o
0.998	3.617	1.136	4.101	.6873	1.455	.686	i m2 o
0.998	3.608	1.140	4.105	.6854	1.459	.684	i m2 o
0.998	3.620	1.144	4.133	.6853	1.459	.684	i m2 o
0.998	3.534	1.144	4.035	.6776	1.476	.676	i m2 o
0.998	3.944	1.306	5.141	.6702	1.492	.669	i m2 o
0.998	3.936	1.311	5.150	.6683	1.496	.667	i m2 o
0.998	3.972	1.316	5.217	.6700	1.492	.669	i m2 o
0.998	4.044	1.339	5.405	.6701	1.492	.669	i m1 o
0.998	4.077	1.357	5.523	.6684	1.496	.667	i m1 o
0.998	4.482	1.600	7.158	.6442	1.552	.643	i m1 o
0.998	4.635	1.689	7.813	.6369	1.570	.636	i m2 o
0.998	4.674	1.713	7.991	.6348	1.575	.634	i m2 o
0.998	4.700	1.741	8.168	.6307	1.586	.630	i m1 o
0.998	4.720	1.749	8.240	.6306	1.586	.629	i m1 o
0.998	4.755	1.773	8.415	.6283	1.592	.627	i m1 o
0.998	4.727	1.779	8.393	.6249	1.600	.624	i m2 o
0.998	4.715	1.792	8.432	.6212	1.610	.620	i m2 o

(Continued)



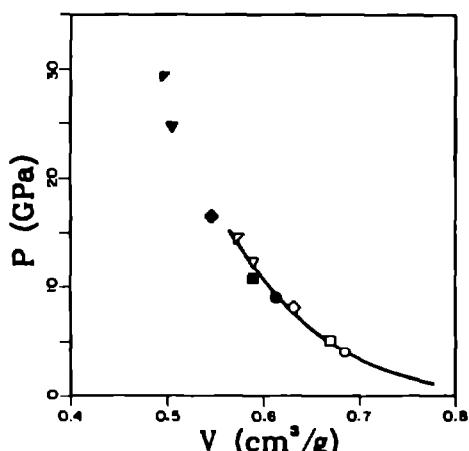
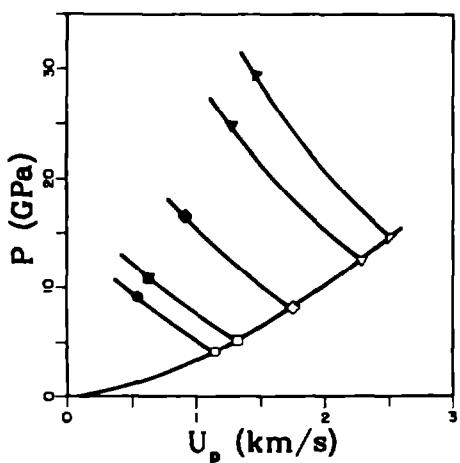
WATER . H₂O
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.000	4.689	1.814	8.506	.6131	1.631	.613	i m1 o
.998	5.481	2.266	12.395	.5877	1.701	.587	i m2 o
.998	5.466	2.266	12.361	.5866	1.705	.585	i m2 o
.998	5.545	2.274	12.584	.5911	1.692	.590	i m2 o
.998	5.534	2.275	12.587	.5900	1.695	.589	i m1 o
.998	5.558	2.299	12.752	.5875	1.702	.588	i m2 o
.998	5.537	2.310	12.767	.5839	1.713	.583	i m1 o
.998	5.559	2.324	12.896	.5830	1.715	.582	i m1 o
.998	5.804	2.479	14.359	.5740	1.742	.573	i m2 o
.998	5.839	2.514	14.650	.5706	1.753	.569	i m2 o
.998	5.869	2.530	14.819	.5701	1.754	.569	i m2 o
.998	7.973	4.051	32.240	.4928	2.029	.492	i m1 o
.998	7.973	4.160	33.108	.4791	2.087	.478	i m1 o
.998	8.349	4.514	37.620	.4602	2.173	.459	i m1 o
.998	8.388	4.632	38.783	.4486	2.229	.448	i m1 o
.998	8.487	4.633	39.249	.4549	2.198	.454	i m1 o
.998	8.635	4.722	40.701	.4540	2.203	.453	i m1 o
1.000	8.929	4.942	44.127	.4465	2.240	.447	i m1 o

WATER, reflected-shock data
 $\rho_0 = 0.998 \text{ g/cm}^3$.

Initial Shock			Reflected Shock			Std.*
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	
1.136	0.687	4.09	○	0.536	0.613	9.02
1.140	0.686	4.10		0.538	0.613	9.06
1.144	0.685	4.13		0.535	0.611	9.00
1.144	0.677	4.03		0.552	0.611	9.33
1.306	0.670	5.14	□	0.628	0.589	10.80
1.311	0.668	5.14	□	0.634	0.589	10.91
1.316	0.670	5.21	□	0.635	0.589	10.93
1.689	0.637	7.81	◊	0.879	0.555	15.93
1.713	0.635	7.98	◊	0.885	0.550	16.05
1.792	0.621	8.42	◊	0.941	0.539	17.25
1.779	0.625	8.39	◊	0.923	0.538	16.87
2.266	0.587	12.35	▽	1.285	0.512	25.21
2.266	0.588	12.38	▽	1.277	0.509	25.02
2.274	0.591	12.57	▽	1.234	0.496	23.98
2.299	0.587	12.74	▽	1.283	0.504	25.17
2.479	0.574	14.38	▽	1.452	0.504	29.57
2.514	0.571	14.64	▽	1.449	0.493	29.32
2.530	0.570	14.80	▽	1.456	0.492	29.50

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).



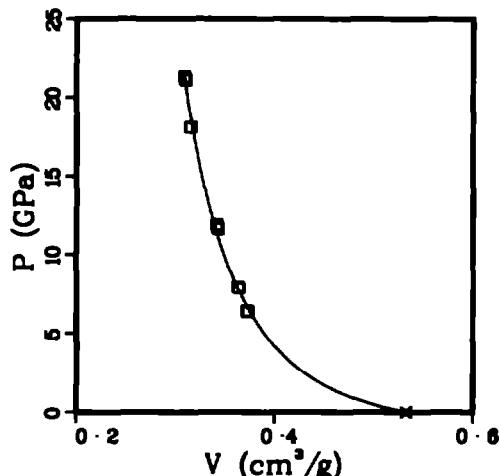
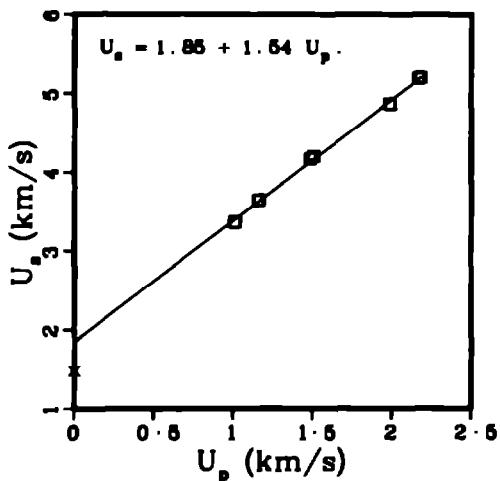
AQUEOUS SOLUTIONS

CESIUM CHLORIDE, 7.0 molar aqueous solution

Average $\rho_0 = 1.877 \text{ g/cm}^3$.

Sound velocities longitudinal 1.48 km/s.
shear 0.00 km/s.

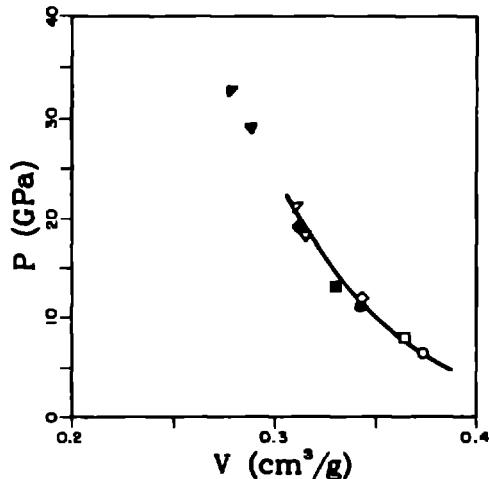
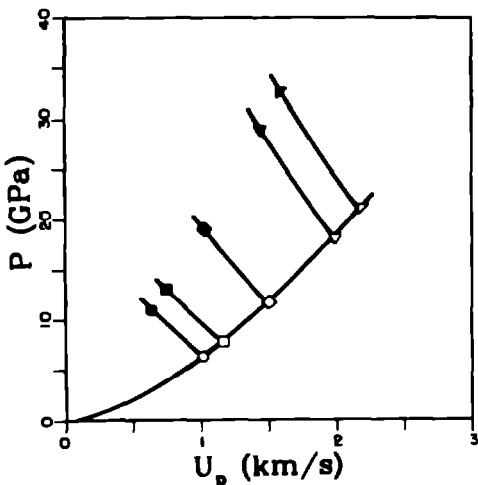
ρ_0 (g/cm ³)	U_L (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.877	1.480	0.000	0.000	.5328	1.877	1.000	ssp x
1.877	3.364	1.008	6.365	.3731	2.680	.700	im2 □
1.877	3.368	1.013	6.400	.3724	2.685	.699	im2 □
1.877	3.641	1.156	7.900	.3636	2.750	.683	im2 □
1.877	3.646	1.163	7.959	.3628	2.756	.681	im2 □
1.877	4.172	1.487	11.644	.3429	2.917	.844	im2 □
1.877	4.202	1.508	11.894	.3416	2.928	.841	im2 □
1.877	4.864	1.987	18.141	.3151	3.173	.591	im2 □
1.877	4.868	1.988	18.165	.3152	3.173	.592	im2 □
1.877	5.190	2.168	21.120	.3102	3.224	.582	im2 □
1.877	5.201	2.184	21.321	.3090	3.236	.580	im2 □



CESIUM CHLORIDE, 7.0 molar aqueous solution, reflected-shock data
 $\rho_0 = 1.877 \text{ g/cm}^3$.

Initial Shock			Reflected Shock				Std.*
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{ps} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)		
1.008	0.373	6.37	0.636	0.343	10.95	●	Al
1.013	0.372	6.40	0.634	0.341	10.90	○	Al
1.156	0.364	7.90	0.742	0.331	13.07	■	Al
1.163	0.363	7.96	0.746	0.329	13.14	□	Al
1.487	0.343	11.64	1.023	0.314	19.08	◆	Al
1.508	0.342	11.89	1.024	0.309	19.10	◆	Al
1.987	0.315	18.14	1.434	0.287	28.95	▼	Al
1.988	0.315	18.17	1.437	0.288	29.03	▼	Al
2.168	0.310	21.12	1.598	0.283	33.23	▶	Al
2.184	0.309	21.31	1.556	0.272	32.12	▶	Al

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).

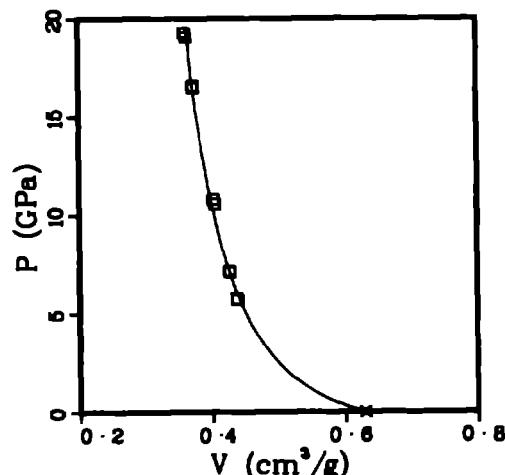
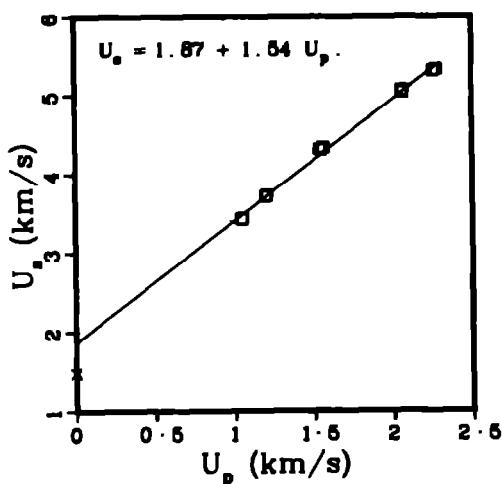


CESIUM CHLORIDE , 4 . 7 molar aqueous solution

Average $\rho_0 = 1.587 \text{ g/cm}^3$.

Sound velocities longitudinal 1.48 km/s.
shear 0.00 km/s.

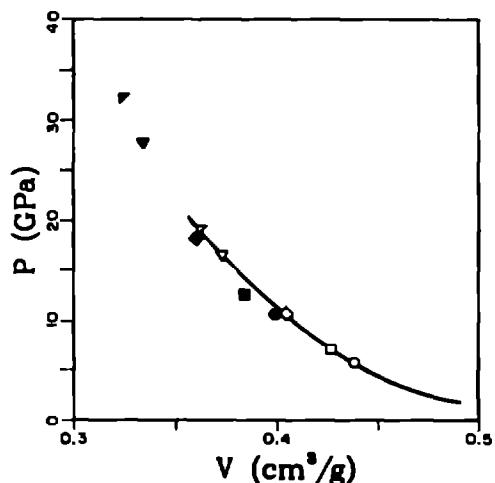
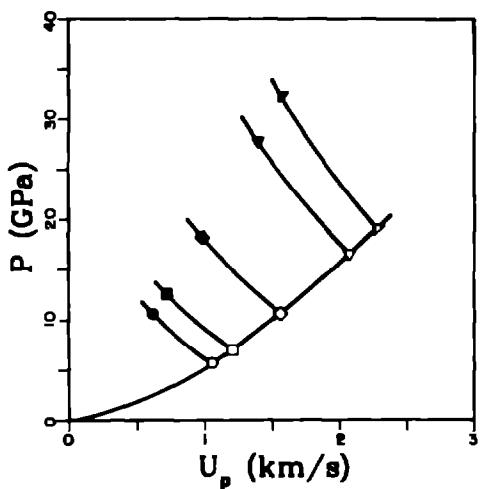
ρ_0 (g/cm ³)	U ₀ (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.587	1.480	0.000	0.000	.6301	1.587	1.000	s s p x
1.587	3.430	1.047	5.699	.4378	2.284	.695	i m2 □
1.587	3.437	1.051	5.733	.4374	2.286	.694	i m2 □
1.587	3.718	1.200	7.081	.4267	2.343	.677	i m2 □
1.587	3.734	1.207	7.153	.4264	2.345	.677	i m2 □
1.587	4.311	1.542	10.550	.4047	2.471	.642	i m2 □
1.587	4.338	1.585	10.769	.4027	2.483	.639	i m2 □
1.587	5.087	2.082	16.581	.3737	2.676	.593	i m2 □
1.587	5.038	2.063	16.494	.3721	2.687	.591	i m2 □
1.587	5.310	2.280	19.045	.3619	2.763	.574	i m2 □
1.587	5.325	2.278	19.251	.3608	2.773	.572	i m2 □ 1.2 A



CESIUM CHLORIDE, 4.7 molar aqueous solution, reflected-shock data
 $\rho_0 = 1.587 \text{ g/cm}^3$.

Initial Shock			Reflected Shock				Std.*	I_1	I_2
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{ps} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)				
1.047	0.438	5.70] o	0.620	0.401	10.63] •		Al	55.21	46.05
1.051	0.437	5.73] o	0.616	0.398	10.56] •		Al		
1.200	0.427	7.08] □	0.718	0.384	12.58] ■		Al	77.42	11.14
1.207	0.426	7.15] □	0.720	0.383	12.61] ■		Al		
1.542	0.405	10.55] ◊	0.984	0.364	18.34] •		Al		
1.565	0.403	10.77] ◊	0.983	0.357	18.19] •		Al		
2.062	0.374	16.58] ▽	1.387	0.333	27.74] ▽		Al		
2.063	0.372	16.50] ▽	1.395	0.334	27.94] ▽		Al		
2.260	0.362	19.05] ▽	1.551	0.324	31.99] ▽		Al		
2.278	0.361	19.25] ▽	1.577	0.324	32.83] ▽		Al		

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).

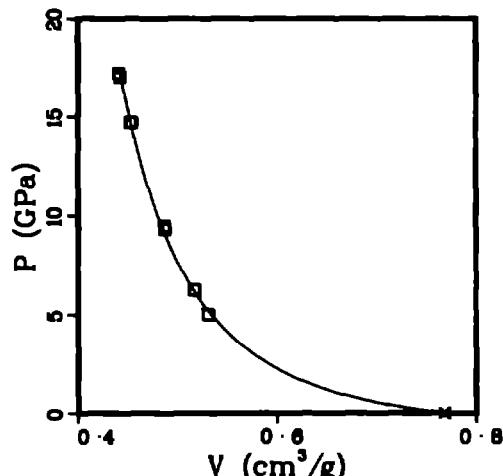
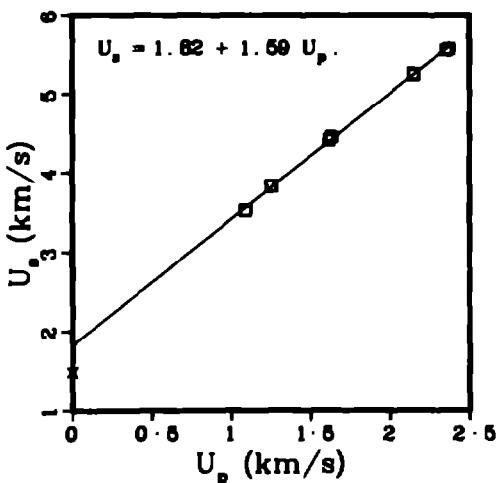


CESIUM CHLORIDE, 2.4 molar aqueous solution

Average $\rho_0 = 1.302 \text{ g/cm}^3$.

Sound velocities longitudinal 1.48 km/s.
shear 0.00 km/s.

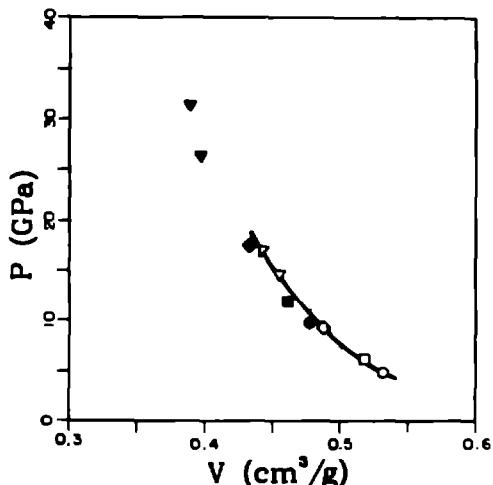
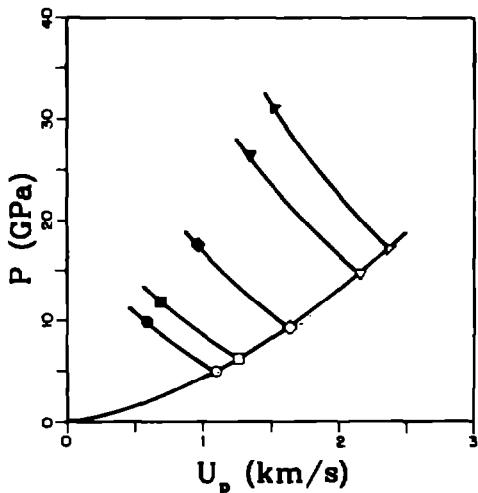
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.302	1.480	0.000	0.000	.7680	1.302	1.000	s s p x
1.302	3.522	1.088	4.989	.5308	1.884	.691	im2 □
1.302	3.532	1.092	5.022	.5308	1.885	.691	im2 □
1.302	3.828	1.249	6.222	.5173	1.933	.674	im2 □
1.302	3.835	1.258	6.271	.5165	1.936	.672	im2 □
1.302	4.417	1.616	9.294	.4871	2.053	.634	im2 □
1.302	4.459	1.632	9.475	.4869	2.054	.634	im2 □
1.302	5.260	2.148	14.711	.4544	2.201	.592	im2 □
1.302	5.241	2.152	14.885	.4527	2.209	.589	im2 □
1.302	5.552	2.354	17.016	.4424	2.260	.576	im2 □
1.302	5.573	2.372	17.211	.4411	2.267	.574	im2 □



CESIUM CHLORIDE, 2.4 molar aqueous solution, reflected-shock data
 $P_0 = 1.302 \text{ g/cm}^3$.

Initial Shock			Reflected Shock				Std.*
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)		
1.088 1.092	0.531 0.531	4.99 5.02]	○	0.580 0.579	0.478 0.476	9.86 9.84]	Al Al
1.249 1.256	0.517 0.516	6.22 6.27]	□	0.686 0.688	0.462 0.460	11.94 11.97]	Al Al
1.616 1.632	0.487 0.487	9.29 9.48]	○	0.953 0.954	0.434 0.430	17.52 17.55]	Al Al
2.148 2.152	0.454 0.453	14.71 14.68]	▽	1.358 1.312	0.403 0.390	27.01 25.89]	Al Al
2.354 2.372	0.442 0.441	17.01 17.21]	▽	1.503 1.524	0.390 0.390	30.83 31.27]	Al Al

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).

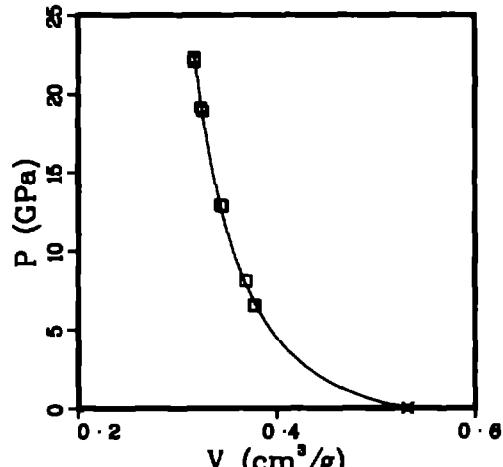
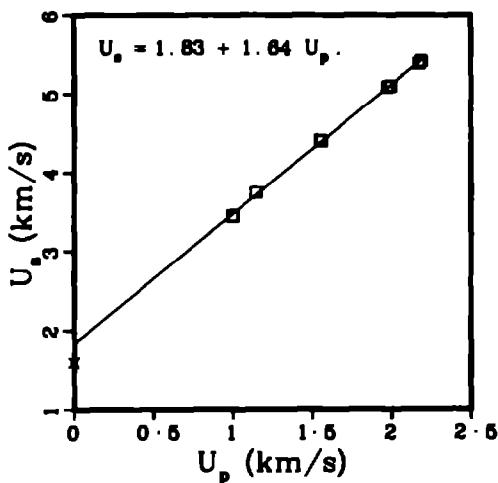


ZINC CHLORIDE , 9 . 1 molar aqueous solution

Average $\rho_0 = 1.880 \text{ g/cm}^3$.

Sound velocities longitudinal 1.59 km/s.
shear 0.00 km/s.

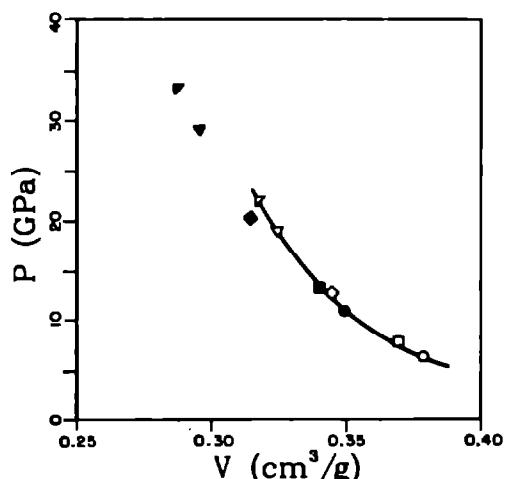
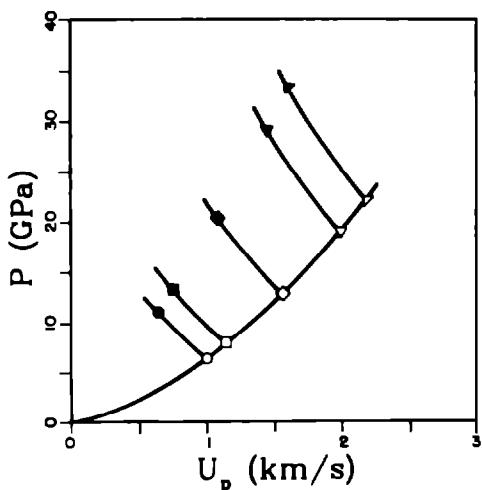
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp.
1.880	1.590	0.000	0.000	.5319	1.880	1.000	s s p x
1.880	3.447	.999	6.474	.3778	2.647	.710	i m2 □
1.880	3.451	1.002	6.501	.3775	2.649	.710	i m2 □
1.880	3.741	1.144	8.048	.3693	2.708	.694	i m2 □
1.880	4.409	1.548	12.831	.3452	2.897	.649	i m2 □
1.880	4.398	1.558	12.882	.3435	2.911	.646	i m2 □
1.880	5.086	1.974	18.875	.3255	3.073	.612	i m2 □
1.880	5.096	1.995	19.113	.3237	3.089	.609	i m2 □
1.880	5.385	2.175	22.019	.3171	3.154	.596	i m2 □
1.880	5.418	2.188	22.287	.3171	3.154	.596	i m2 □



ZINC CHLORIDE, 9.1 molar aqueous solution, reflected-shock data
 $\rho_0 = 1.880 \text{ g/cm}^3$.

Initial Shock			Reflected Shock				Std.*
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)		
0.999 1.002	0.378 0.378	6.47 6.50] ○	0.640 0.641	0.349 0.349	11.03 11.04] ●	Al Al	
1.444	0.369	8.03 □	0.757	0.340	13.38 ■	Al	
1.548 1.558	0.345 0.343	12.83 12.93] ◇	1.060 1.100	0.311 0.317	19.91 20.82] ♦	Al Al	
1.974 1.995	0.325 0.323	18.87 19.17] ▽	1.445 1.439	0.298 0.292	29.22 29.08] ▼	Al Al	
2.175 2.188	0.317 0.317	22.02 22.28] ▽	1.609 1.596	0.289 0.285	33.52 33.17] ▾	Al Al	

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).

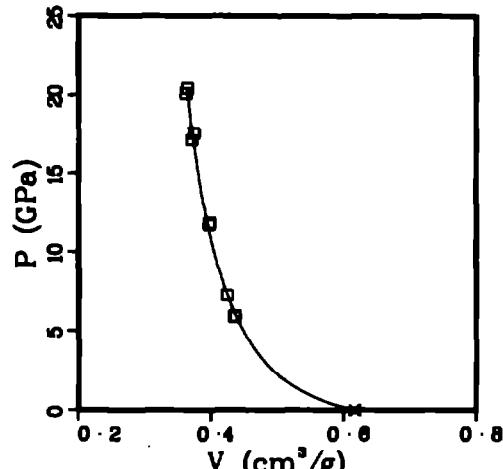
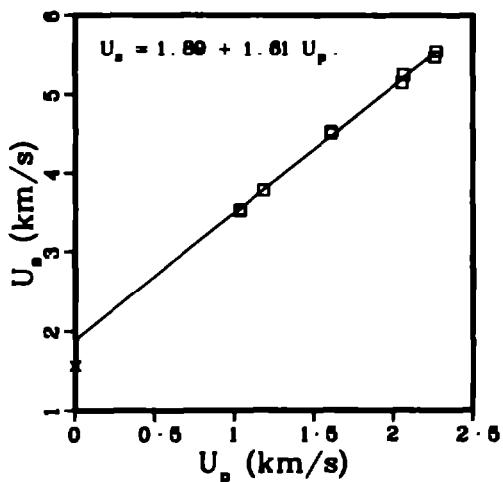


ZINC CHLORIDE , 6.2 molar aqueous solution

Average $\rho_0 = 1.621 \text{ g/cm}^3$.

Sound velocities longitudinal 1.57 km/s .
shear 0.00 km/s .

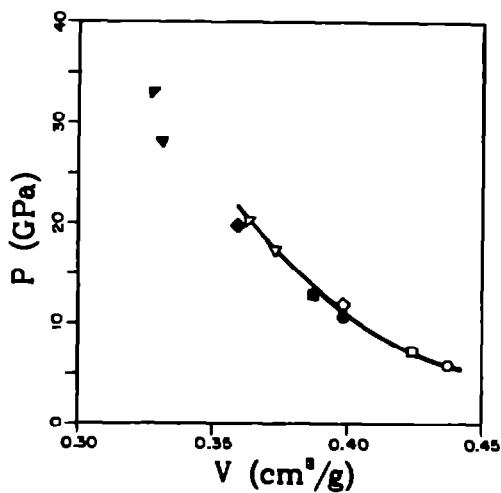
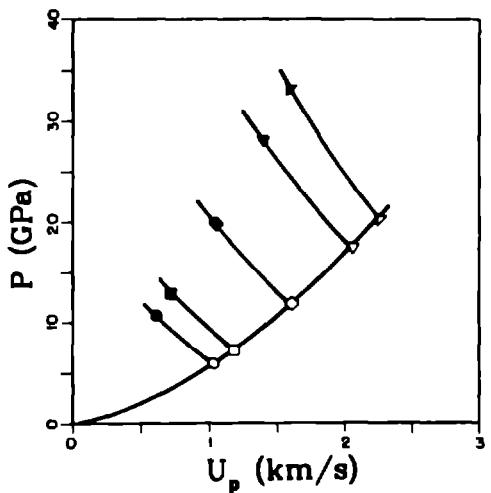
ρ_0 (g/cm ³)	U ₀ (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.621	1.570	0.000	0.000	6169	1.621	1.000	s s p x
1.621	3.516	1.033	5.888	4357	2.295	.706	im2 □
1.621	3.537	1.034	5.928	4366	2.291	.706	im2 □
1.621	3.785	1.183	7.258	4241	2.358	.687	im2 □
1.621	4.505	1.605	11.721	3971	2.518	.644	im2 □
1.621	4.534	1.610	11.833	3978	2.514	.645	im2 □
1.621	5.148	2.054	17.134	3707	2.698	.601	im2 □
1.621	5.247	2.066	17.572	3740	2.674	.606	im2 □
1.621	5.472	2.262	20.064	3619	2.763	.587	im2 □
1.621	5.545	2.270	20.404	3644	2.745	.591	im2 □



ZINC CHLORIDE, 6.2 molar aqueous solution, reflected-shock data
 $\rho_0 = 1.621 \text{ g/cm}^3$.

Initial Shock			Reflected Shock			
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	Std.*
1.033	0.436	5.89] ○	0.616	0.399	10.56] •	Al
1.034	0.437	5.93] ○	0.612	0.397	10.48] •	Al
1.183	0.424	7.26 □	0.731	0.387	12.83 ■	Al
1.605	0.397	11.72] ◊	1.059	0.361	19.90] ♦	Al
1.610	0.398	11.87] ◊	1.046	0.356	19.59] ♦	Al
2.054	0.371	17.15] ▽	1.394	0.330	27.92] ▽	Al
2.066	0.374	17.60] ▽	1.404	0.332	28.18] ▽	Al
2.262	0.362	20.07] ▽	1.571	0.323	32.50] ▽	Al
2.270	0.364	20.40] ▽	1.615	0.332	33.67] ▽	Al

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).

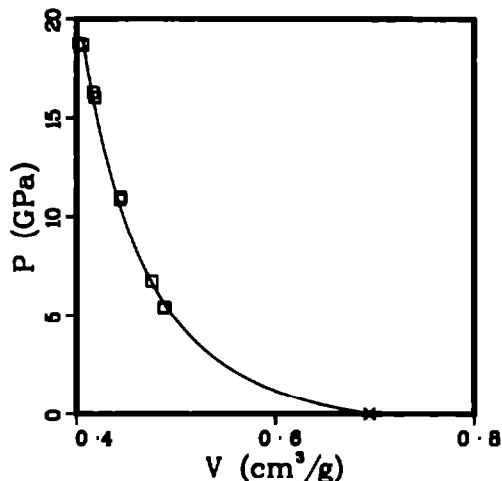
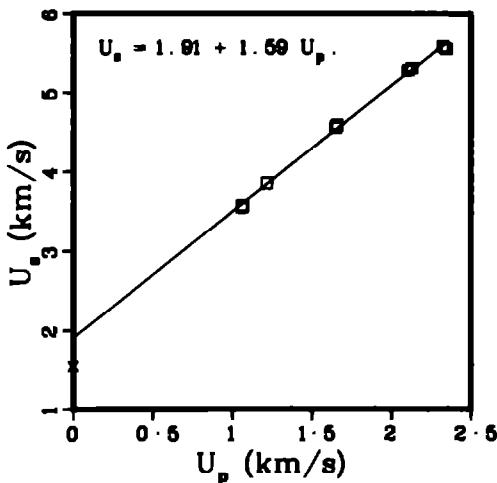


ZINC CHLORIDE , 4 . 3 molar aqueous solution

Average $\rho_0 = 1.439 \text{ g/cm}^3$.

Sound velocities longitudinal 1.55 km/s .
shear 0.00 km/s .

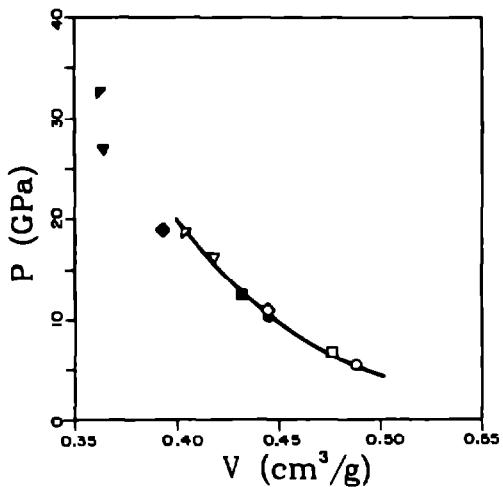
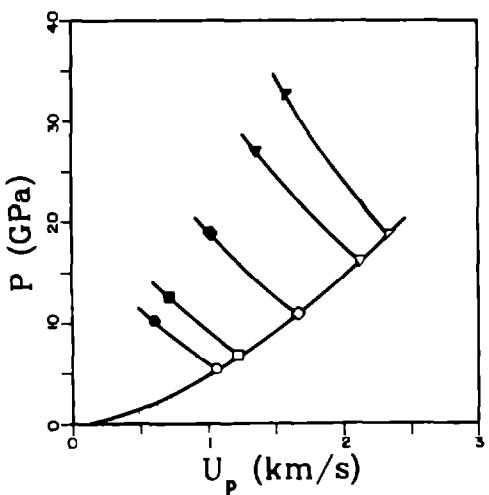
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.439	1.550	0.000	0.000	.6949	1.439	1.000	s s p x
1.439	3.554	1.059	5.418	.4879	2.050	.702	i m2 □
1.439	3.573	1.061	5.455	.4886	2.047	.703	i m2 □
1.439	3.854	1.215	6.738	.4758	2.102	.685	i m2 □
1.439	4.565	1.850	10.839	.4437	2.254	.639	i m2 □
1.439	4.595	1.858	10.963	.4442	2.251	.639	i m2 □
1.439	5.289	2.105	16.021	.4183	2.390	.602	i m2 □
1.439	5.316	2.128	16.279	.4167	2.400	.600	i m2 □
1.439	5.594	2.324	18.708	.4062	2.462	.585	i m2 □
1.439	5.566	2.343	18.786	.4024	2.485	.579	i m2 □



ZINC CHLORIDE, 4.3 molar aqueous solution, reflected-shock data
 $\rho_0 = 1.439 \text{ g/cm}^3$.

Initial Shock			Reflected Shock			
U_{p1} (km/s)	V_1 (cm ³ /g)	P_1 (GPa)	U_{p2} (km/s)	V_2 (cm ³ /g)	P_2 (GPa)	Std.*
1.059	0.488	5.42] o	0.601	0.445	10.27] •	Al
1.061	0.488	5.46] o	0.601	0.444	10.27] •	Al
1.215	0.476	6.74 □	0.714	0.432	12.49 ■	Al
1.650	0.444	10.84] o	1.006	0.391	18.70] ♦	Al
1.658	0.444	10.95] o	1.023	0.395	19.09] ♦	Al
2.105	0.418	16.02] ▽	1.350	0.365	26.82] ▽	Al
2.128	0.417	16.26] ▽	1.361	0.362	27.09] ▽	Al
2.324	0.406	18.70] ▽	1.535	0.357	31.56] ▽	Al
2.343	0.402	18.77] ▽	1.618	0.367	33.75] ▽	Al

*Standard used for reflected-shock measurements was 2024 aluminum alloy (Al).



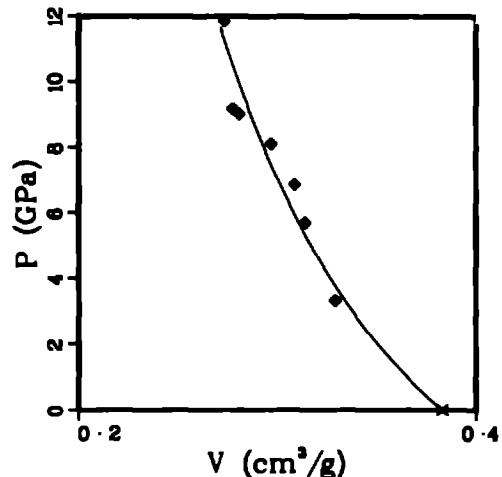
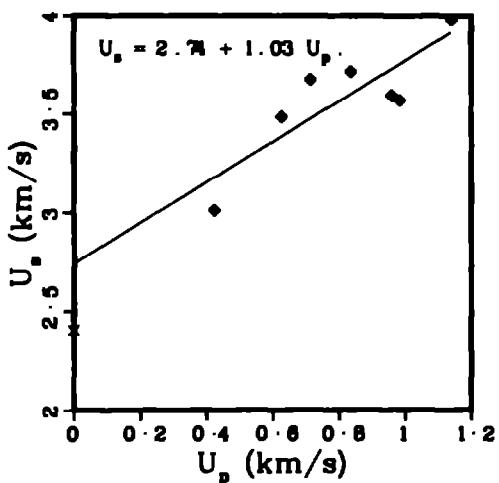
HIGH EXPLOSIVES, HIGH-EXPLOSIVE SIMULANTS, AND PROPELLANTS

BARATOL, barium nitrate-24 wt% TNT

Average $\rho_0 = 2.611 \text{ g/cm}^3$.

Sound velocities longitudinal 2.95 km/s.
shear 1.48 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
2.611	2.405	0.000	0.000	.3830	2.611	1.000	ssp x
2.611	3.011	.424	3.333	.3291	3.039	.859	wdg •
2.611	3.485	.627	5.705	.3141	3.184	.820	wdg •
2.611	3.675	.714	6.851	.3086	3.241	.806	wdg •
2.611	3.714	.836	8.107	.2968	3.369	.775	wdg •
2.611	3.594	.959	8.999	.2808	3.581	.733	wdg •
2.611	3.569	.983	9.160	.2775	3.604	.725	wdg •
2.611	3.977	1.140	11.838	.2732	3.680	.713	wdg •

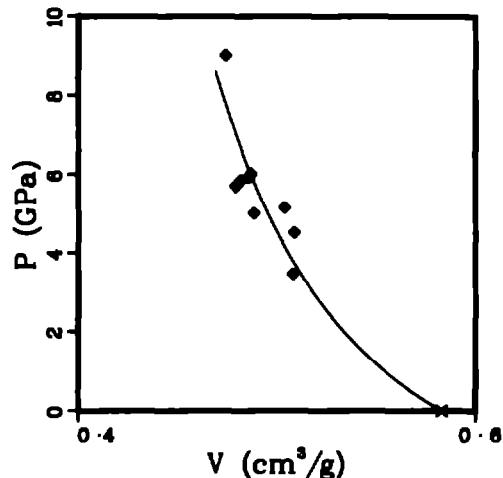
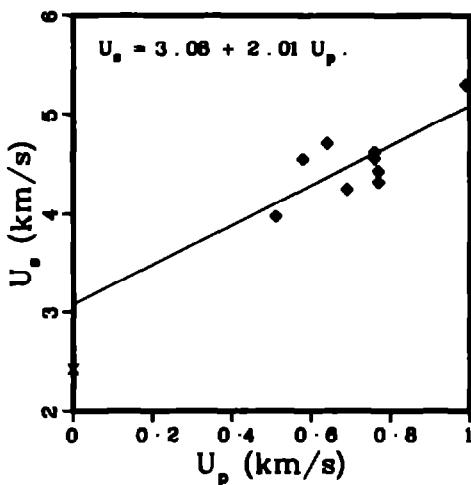


COMPOSITION B, RDX-36 wt% TNT-1 wt% wax

Average $\rho_0 = 1.715 \text{ g/cm}^3$.

Sound velocities longitudinal 3.12 km/s.
shear 1.71 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.715	2.416	0.000	0.000	.5831	1.715	1.000	s sp x
1.715	3.970	.510	3.472	.5082	1.968	.872	wdg ♦
1.715	4.550	.580	4.528	.5088	1.988	.873	wdg ♦
1.715	4.710	.640	5.170	.5039	1.985	.884	wdg ♦
1.715	4.250	.690	5.029	.4884	2.047	.838	wdg ♦
1.715	4.620	.760	6.022	.4872	2.053	.835	wdg ♦
1.715	4.580	.760	5.944	.4859	2.058	.833	wdg ♦
1.715	4.430	.770	5.850	.4817	2.076	.826	wdg ♦
1.715	4.320	.770	5.705	.4792	2.087	.822	wdg ♦
1.715	5.300	.990	8.999	.4742	2.109	.813	wdg ♦

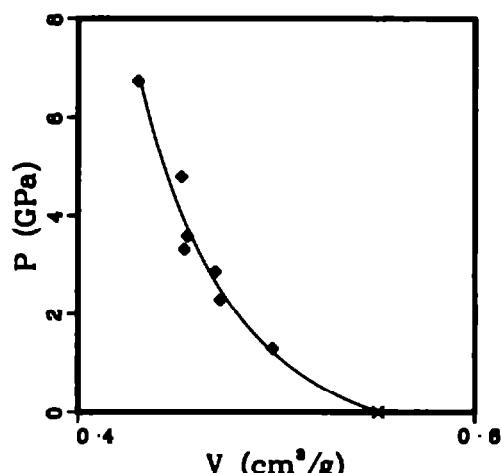
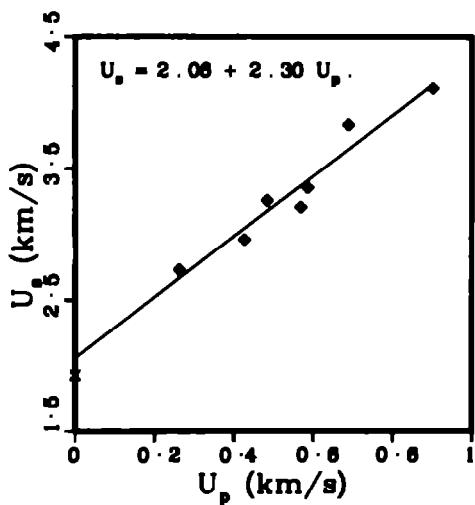


FKM PROPELLANT

Average $\rho_0 = 1.814 \text{ g/cm}^3$.

Sound velocities longitudinal 1.93 km/s.
shear 0.00 km/s.

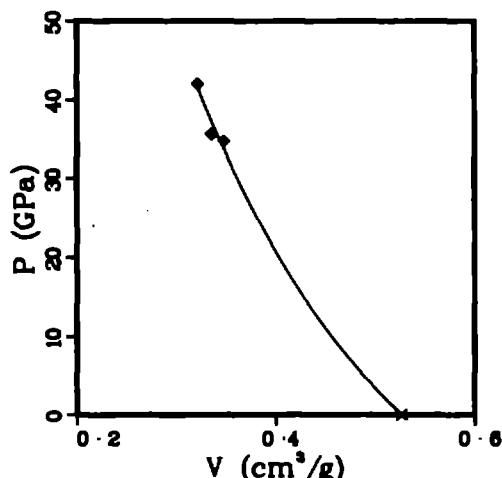
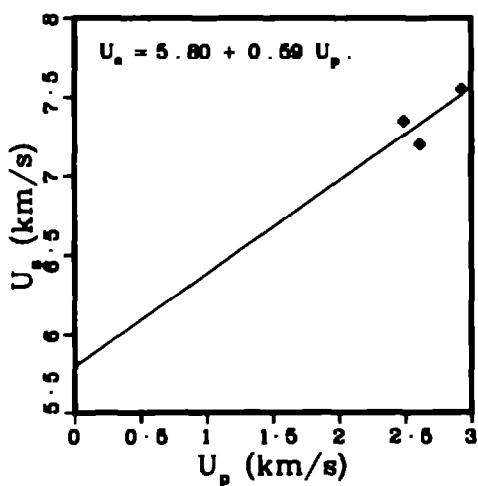
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.814	1.930	0.000	0.000	.5513	1.814	1.000	ssp x
1.814	2.726	.263	1.301	.4981	2.008	.904	wdg ♦
1.814	2.956	.427	2.290	.4716	2.120	.856	wdg ♦
1.814	3.258	.484	2.859	.4693	2.131	.851	wdg ♦
1.814	3.205	.568	3.302	.4538	2.205	.823	wdg ♦
1.814	3.355	.586	3.568	.4550	2.198	.825	wdg ♦
1.814	3.831	.689	4.788	.4521	2.212	.820	wdg ♦
1.814	4.111	.902	6.727	.4303	2.324	.781	wdg ♦



HMX , single-crystal

Average $\rho_0 = 1.900 \text{ g/cm}^3$.

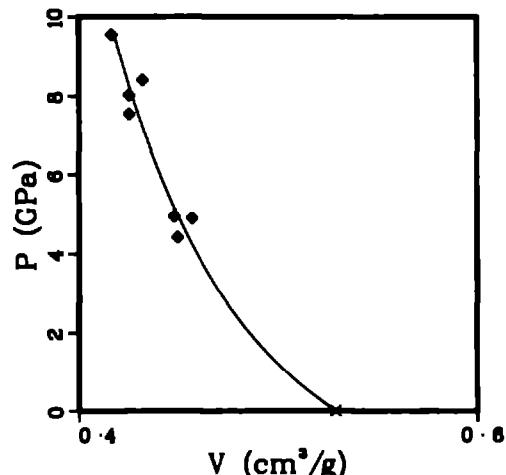
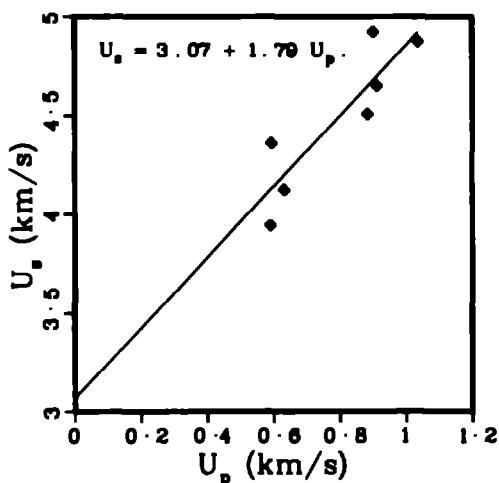
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.900	7.350	2.490	34.773	.3480	2.873	.661	wdg ♦
1.900	7.200	2.610	35.705	.3355	2.980	.637	wdg ♦
1.900	7.550	2.930	42.031	.3221	3.105	.612	wdg ♦



HMX, solvent-pressed

Average $\rho_0 = 1.891 \text{ g/cm}^3$.

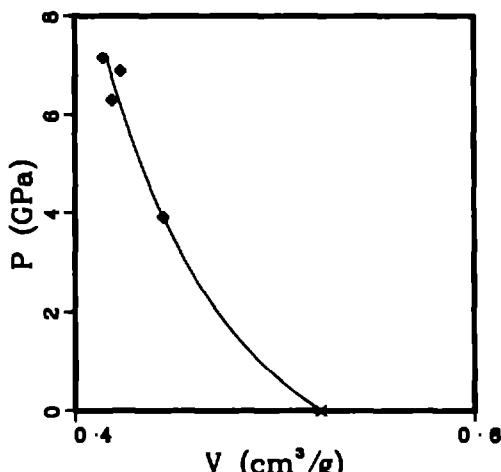
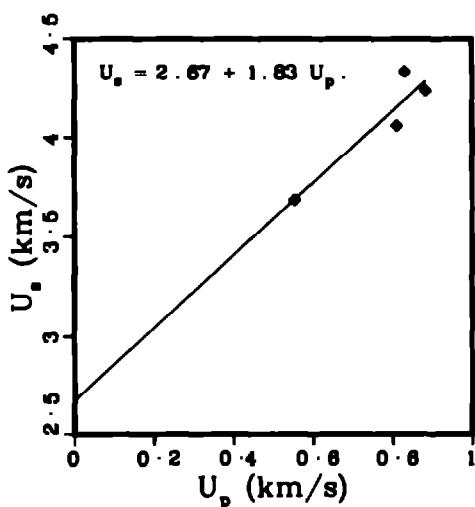
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.891	3.943	.591	4.407	.4496	2.224	.850	wdg ◆
1.891	4.359	.593	4.888	.4569	2.189	.864	wdg ◆
1.891	4.126	.632	4.931	.4478	2.233	.847	wdg ◆
1.891	4.511	.884	7.541	.4252	2.352	.804	wdg ◆
1.891	4.924	.902	8.399	.4319	2.315	.817	wdg ◆
1.891	4.651	.912	8.021	.4251	2.352	.804	wdg ◆
1.891	4.877	1.036	9.554	.4165	2.401	.788	wdg ◆



HMX-40 wt% TATB-10 wt% Kel F 800

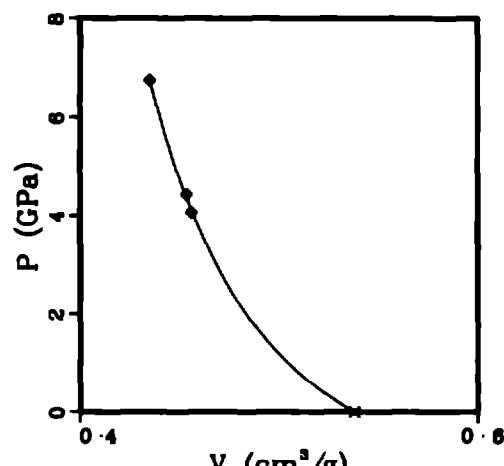
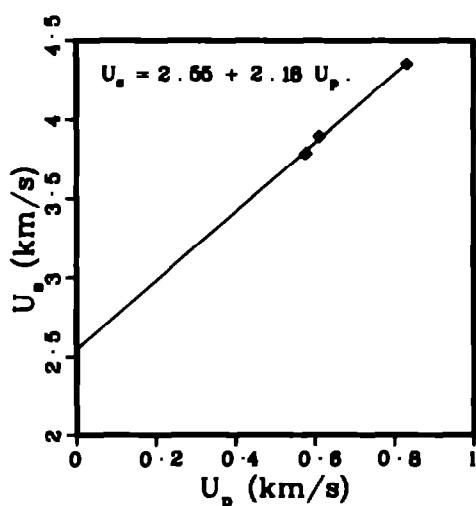
Average $\rho_0 = 1.912 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.912	3.683	.554	3.901	.4443	2.251	.850	wdg ♦
1.912	4.062	.811	6.299	.4186	2.389	.800	wdg ♦
1.912	4.336	.831	6.889	.4228	2.365	.808	wdg ♦
1.912	4.237	.883	7.153	.4140	2.415	.792	wdg ♦



LX-04, HMX-15 wt% Viton, solvent-pressed,
fine-grain HMX
Average $\rho_0 = 1.859 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.859	3.785	.577	4.060	.4559	2.193	.848	wdg ♦
1.859	3.895	.611	4.424	.4535	2.205	.843	wdg ♦
1.859	4.354	.832	6.734	.4351	2.298	.809	wdg ♦

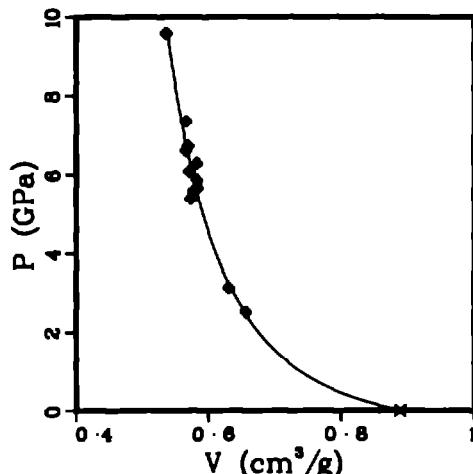
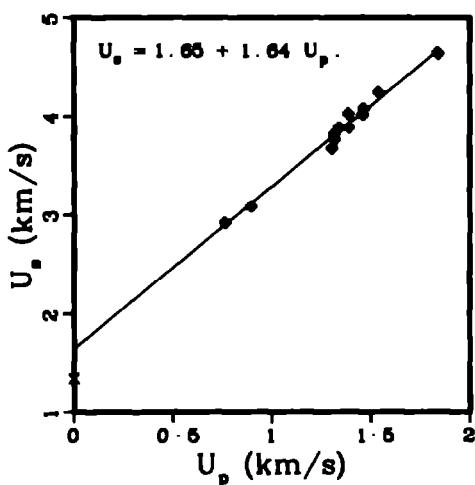


NITROMETHANE

Average $\rho_0 = 1.125 \text{ g/cm}^3$.

Sound velocities longitudinal 1.34 km/s.
shear 0.00 km/s.

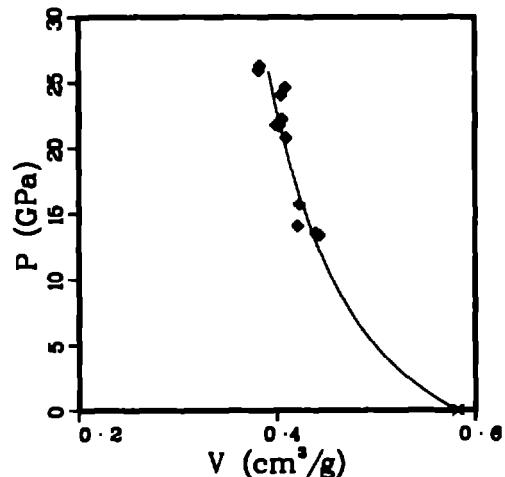
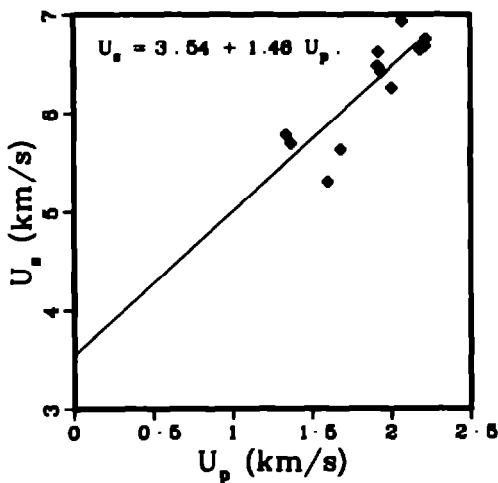
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	U_s/U_p	Exp.
1.125	1.335	0.000	0.000	.8889	1.125	1.000	ssp ×
1.125	2.918	.762	2.501	.6568	1.523	.739	wdg •
1.125	3.080	.896	3.105	.6303	1.587	.709	wdg •
1.125	3.670	1.304	5.384	.5731	1.745	.645	wdg •
1.125	3.819	1.315	5.650	.5828	1.716	.656	wdg •
1.125	3.761	1.319	5.581	.5772	1.733	.649	wdg •
1.125	3.885	1.340	5.857	.5823	1.717	.655	wdg •
1.125	4.025	1.387	6.281	.5828	1.716	.655	wdg •
1.125	3.882	1.390	6.070	.5706	1.753	.642	wdg •
1.125	4.016	1.460	6.596	.5657	1.768	.636	wdg •
1.125	4.077	1.465	6.719	.5695	1.758	.641	wdg •
1.125	4.243	1.540	7.351	.5663	1.766	.637	wdg •
1.125	4.639	1.839	9.598	.5365	1.864	.604	wdg •
1.125	4.629	1.841	9.587	.5354	1.868	.602	wdg •



NQ, commercial-grain

Average $\rho_0 = 1.717 \text{ g/cm}^3$.

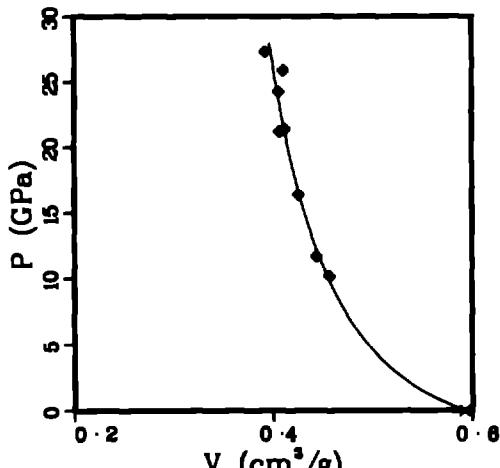
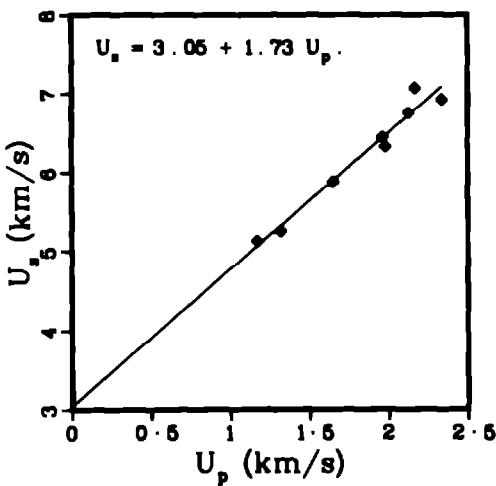
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.751	5.780	1.337	13.531	.4390	2.278	.769	wdg •
1.715	5.692	1.368	13.354	.4430	2.258	.760	wdg •
1.659	5.300	1.601	14.077	.4207	2.377	.698	wdg •
1.659	5.630	1.683	15.720	.4226	2.366	.701	wdg •
1.751	6.473	1.914	21.694	.4022	2.486	.704	wdg •
1.751	6.469	1.920	21.748	.4016	2.490	.703	wdg •
1.751	6.618	1.921	22.261	.4053	2.467	.710	wdg •
1.751	6.416	1.935	21.739	.3989	2.507	.698	wdg •
1.659	6.251	2.003	20.772	.4096	2.441	.680	wdg •
1.715	6.932	2.072	24.633	.4088	2.446	.701	wdg •
1.659	6.640	2.184	24.058	.4045	2.472	.671	wdg •
1.751	6.678	2.215	25.900	.3817	2.620	.668	wdg •
1.751	6.757	2.220	26.266	.3835	2.608	.671	wdg •



NQ, 1964 commercial-grain

Average $\rho_0 = 1.688 \text{ g/cm}^3$.

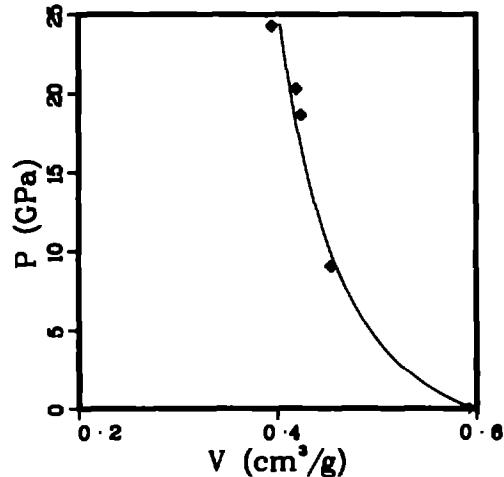
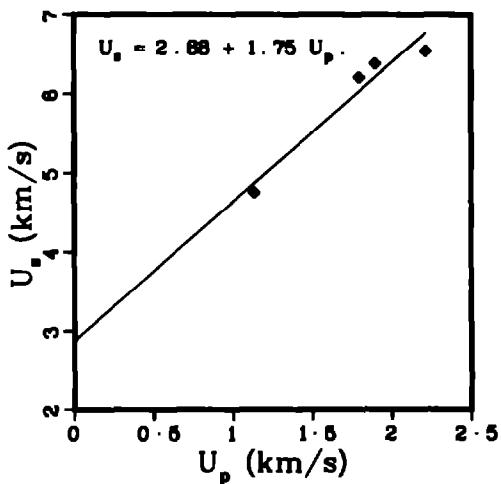
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.688	5.131	1.172	10.151	.4571	2.188	.772	wdg ♦
1.688	5.257	1.320	11.713	.4437	2.254	.749	wdg ♦
1.688	5.880	1.650	16.377	.4262	2.346	.719	wdg ♦
1.688	6.445	1.982	21.345	.4121	2.427	.696	wdg ♦
1.688	6.325	1.982	21.161	.4068	2.458	.687	wdg ♦
1.688	6.751	2.128	24.250	.4057	2.485	.685	wdg ♦
1.688	7.067	2.167	25.850	.4108	2.435	.693	wdg ♦
1.688	6.918	2.336	27.279	.3924	2.549	.662	wdg ♦



NQ-2 wt% B square wax-2 wt% Elvax , large-grain NQ

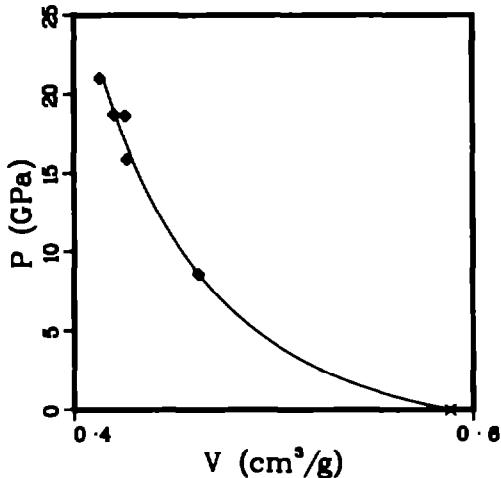
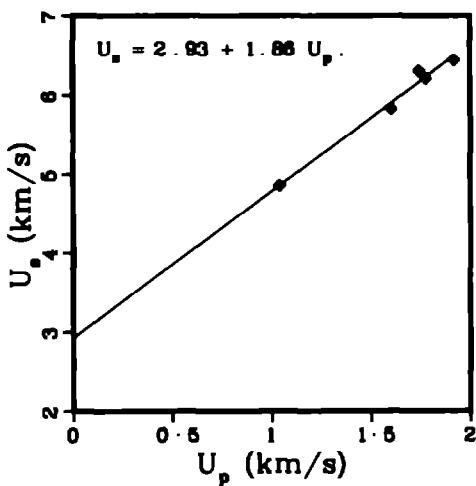
Average $\rho_0 = 1.676 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.676	4.753	1.136	9.049	.4541	2.202	.781	wdg •
1.676	6.206	1.794	18.660	.4242	2.357	.711	wdg •
1.676	6.380	1.898	20.295	.4192	2.386	.703	wdg •
1.676	6.539	2.216	24.286	.3945	2.535	.661	wdg •



NQ-5 wt% Estane, 1968 commercial-grain NQ, $\rho_0 = 1.70 \text{ g/cm}^3$.
 Average $\rho_0 = 1.699 \text{ g/cm}^3$.

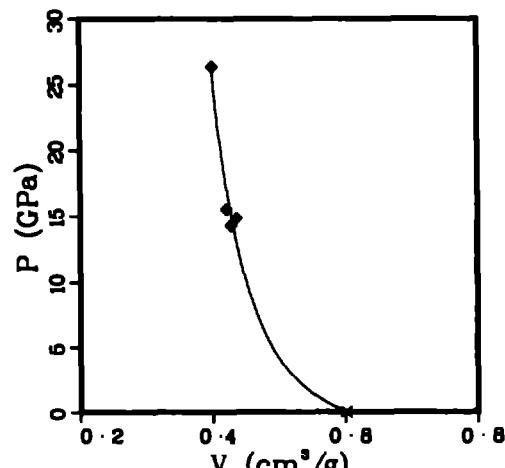
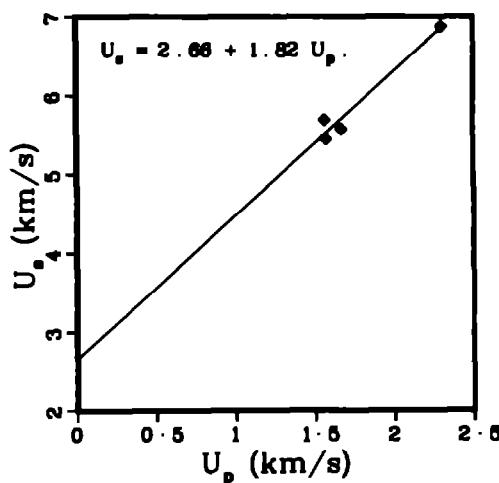
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.699	4.859	1.041	8.594	4825	2.162	.786	wdg •
1.699	5.828	1.603	15.873	4267	2.344	.725	wdg •
1.699	6.303	1.744	18.676	4257	2.349	.723	wdg •
1.699	6.208	1.778	18.753	4200	2.381	.714	wdg •
1.699	6.438	1.920	21.001	4130	2.421	.702	wdg •



NQ-5 wt% Estane, 1968 commercial-grain NQ, $\rho_0 = 1.66 \text{ g/cm}^3$.

Average $\rho_0 = 1.663 \text{ g/cm}^3$.

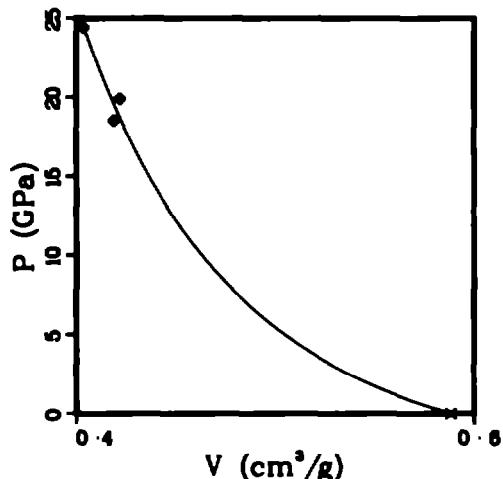
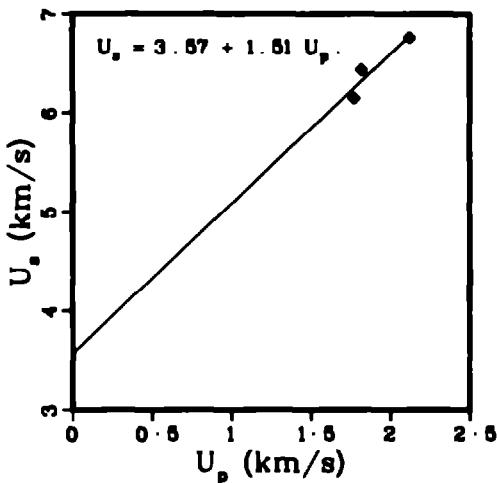
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	v/v ₀	Exp
1.663	5.695	1.585	14.822	.4381	2.293	.725	wdg •
1.663	5.449	1.571	14.236	.4280	2.337	.712	wdg •
1.663	5.576	1.672	15.504	.4210	2.375	.700	wdg •
1.663	6.874	2.302	26.315	.3999	2.500	.685	wdg •



NQ-5 wt% Estane, 1968 large-grain NQ

Average $\rho_0 = 1.700 \text{ g/cm}^3$.

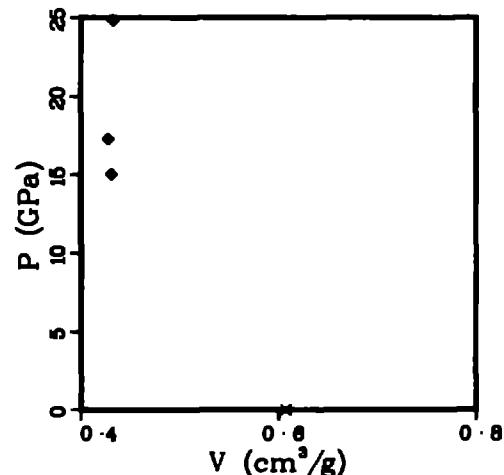
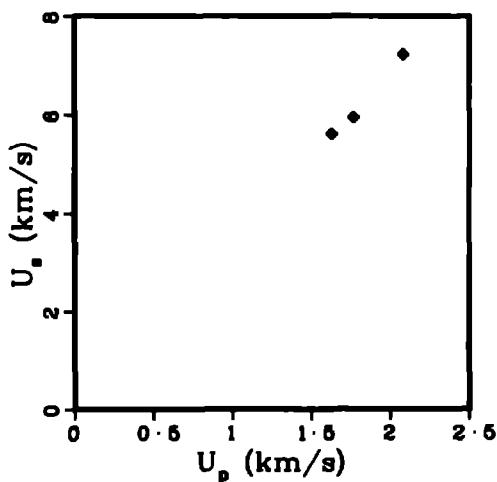
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.700	6.147	1.772	18.517	.4187	2.389	.712	wdg •
1.700	6.434	1.820	19.907	.4218	2.371	.717	wdg •
1.700	6.764	2.125	24.435	.4034	2.479	.686	wdg •



NQ-10 wt% Estane, commercial-grain NQ

Average $\rho_0 = 1.647 \text{ g/cm}^3$.

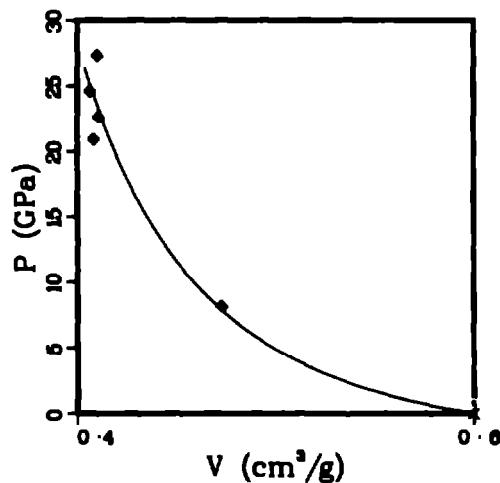
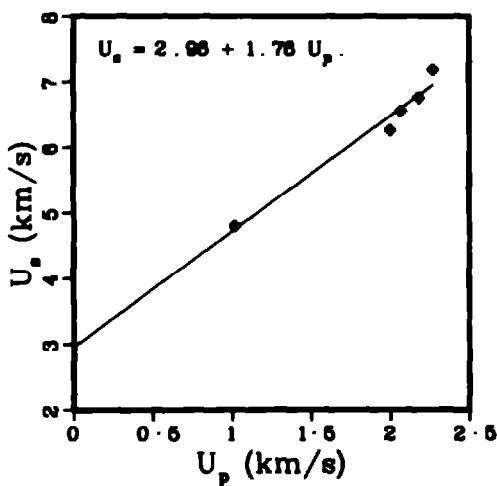
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	y/V ₀	Exp
1.647	5.606	1.628	15.031	.4308	2.321	.710	wdg •
1.647	5.954	1.766	17.318	.4271	2.342	.703	wdg •
1.647	7.238	2.083	24.831	.4324	2.313	.712	wdg •



NQ-10 wt% Estane, large-grain NQ

Average $\rho_0 = 1.667 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp.
1.667	4.804	1.018	8.152	.4728	2.115	.788	wdg •
1.667	6.266	2.001	20.901	.4083	2.449	.681	wdg •
1.667	6.558	2.068	22.808	.4107	2.435	.685	wdg •
1.667	6.761	2.181	24.581	.4064	2.461	.677	wdg •
1.667	7.186	2.274	27.240	.4100	2.439	.684	wdg •

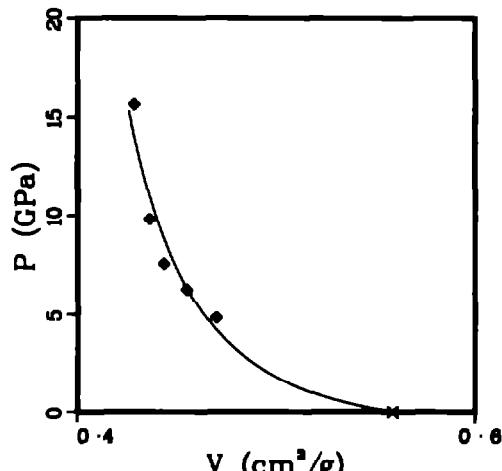
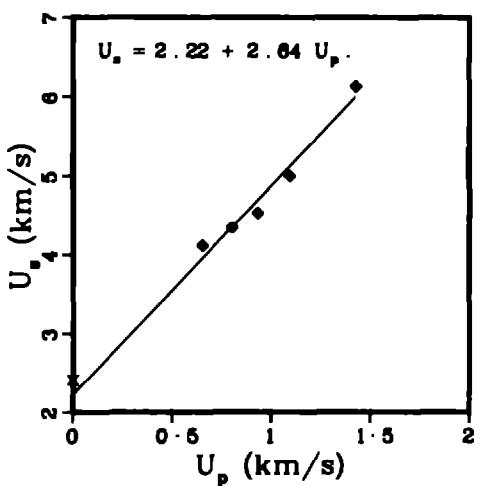


PBX 9011-06 , HMX-10 wt% Estane

Average $\rho_0 = 1.790 \text{ g/cm}^3$.

Sound velocities longitudinal 2.89 km/s .
shear 1.38 km/s .

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.790	2.411	0.000	0.000	.5587	1.790	1.000	ssp x
1.790	4.115	.654	4.817	.4899	2.128	.841	wdg ♦
1.790	4.340	.803	6.238	.4553	2.198	.815	wdg ♦
1.790	4.528	.932	7.554	.4437	2.254	.794	wdg ♦
1.790	5.001	1.098	9.811	.4362	2.292	.781	wdg ♦
1.790	6.126	1.427	15.648	.4285	2.334	.767	wdg ♦

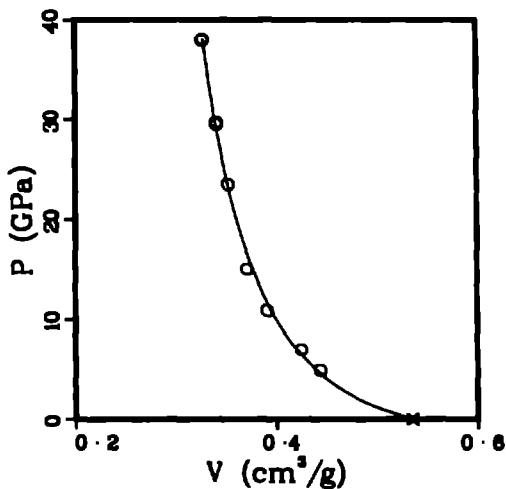
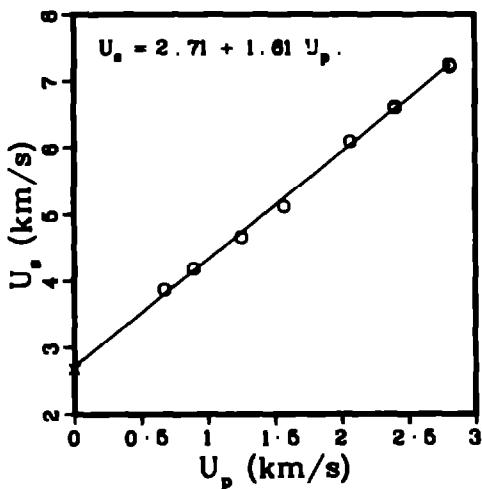


PBX 9404 DENSITY MOCKUP, 900-10

Average $\rho_0 = 1.867 \text{ g/cm}^3$.

Sound velocities longitudinal 3.22 km/s.
shear 1.56 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.870	2.669	0.000	0.000	.5348	1.870	1.000	ssp x
1.861	3.866	.676	4.864	.4434	2.255	.825	im1 o
1.852	4.184	.893	6.920	.4247	2.355	.787	im1 o
1.873	4.654	1.249	10.887	.3906	2.580	.732	im1 o
1.871	5.119	1.571	15.046	.3704	2.699	.693	im1 o
1.876	6.085	2.085	23.573	.3522	2.840	.661	im1 o
1.867	6.613	2.401	29.644	.3412	2.931	.637	im1 o
1.868	6.802	2.402	29.623	.3406	2.936	.638	im1 o
1.863	6.588	2.405	29.518	.3408	2.934	.635	im1 o
1.870	7.246	2.809	38.062	.3275	3.054	.612	im1 o
1.868	7.217	2.814	37.937	.3286	3.062	.610	im1 o

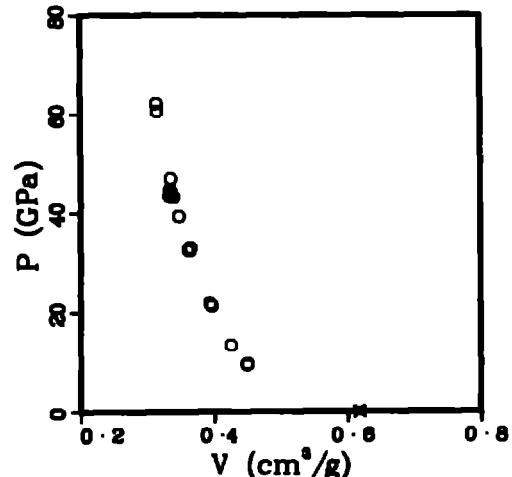
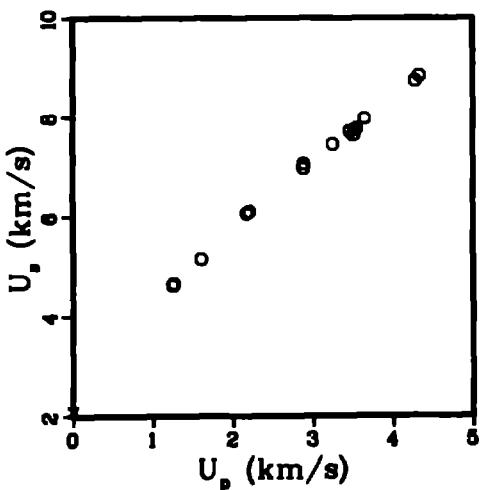


PBX 9404 NEUTRONIC MOCKUP . 905-03

Average $\rho_0 = 1.621 \text{ g/cm}^3$.

Sound velocities longitudinal 2.70 km/s.
shear 1.48 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.618	2.080	0.000	0.000	.6180	1.618	1.000	s s p x
1.623	4.614	1.250	9.381	.4492	2.228	.729	im1 o
1.622	4.653	1.285	9.547	.4489	2.228	.728	im1 o
1.620	5.155	1.603	13.387	.4253	2.351	.689	im1 o
1.621	6.080	2.171	21.326	.3959	2.528	.642	im1 o
1.622	6.094	2.202	21.766	.3937	2.540	.639	im1 o
1.620	6.974	2.882	32.560	.3622	2.761	.587	im1 o
1.621	7.086	2.884	33.033	.3651	2.739	.592	im1 o
1.623	7.457	3.253	39.370	.3474	2.679	.584	im1 o
1.622	7.718	3.463	43.352	.3399	2.942	.551	im1 o
1.617	7.639	3.513	43.393	.3340	2.994	.540	im1 o
1.623	7.743	3.524	44.288	.3357	2.979	.545	im1 o
1.624	7.765	3.546	44.716	.3346	2.989	.543	im1 o
1.618	7.975	3.648	47.072	.3353	2.982	.543	im1 o
1.621	8.734	4.281	60.610	.3145	3.179	.510	im1 o
1.624	8.838	4.334	62.206	.3138	3.187	.510	im1 o



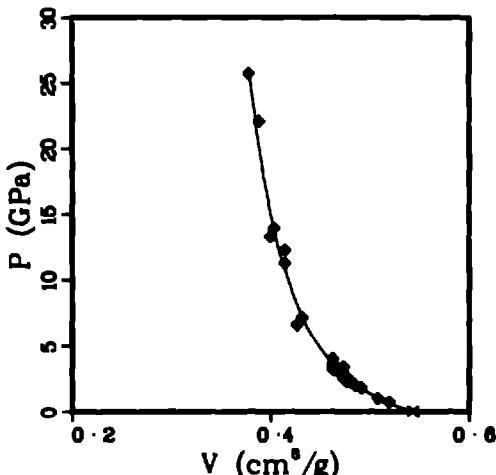
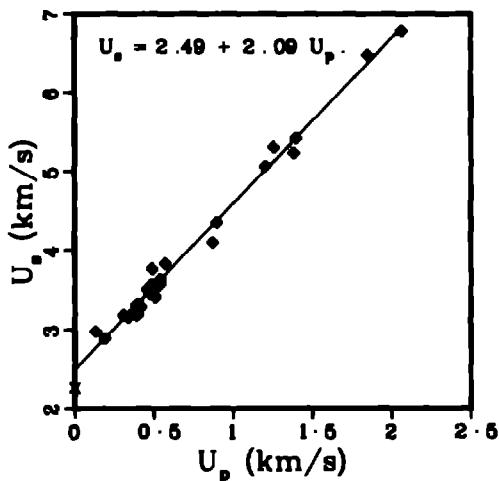
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF, $\rho_0 = 1.84 \text{ g/cm}^3$.

Average $\rho_0 = 1.840 \text{ g/cm}^3$.

Sound velocities longitudinal 2.90 km/s.
shear 1.57 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.840	2.284	0.000	0.000	.5435	1.840	1.000	ssp x
1.840	2.877	.133	.729	.5192	1.926	.955	wdg •
1.840	2.885	.190	1.009	.5077	1.970	.934	wdg •
1.840	3.189	.307	1.801	.4912	2.036	.904	wdg •
1.840	3.161	.340	1.978	.4850	2.062	.892	wdg •
1.840	3.244	.380	2.268	.4798	2.084	.883	wdg •
1.840	3.183	.393	2.302	.4764	2.099	.877	wdg •
1.839	3.317	.393	2.397	.4793	2.086	.882	wdg •
1.840	3.285	.407	2.480	.4761	2.100	.876	wdg •
1.845	3.289	.417	2.530	.4733	2.113	.873	wdg •
1.840	3.504	.458	2.953	.4724	2.117	.869	wdg •
1.839	3.454	.474	3.011	.4692	2.132	.863	wdg •
1.840	3.557	.481	3.148	.4700	2.128	.865	wdg •
1.840	3.762	.488	3.378	.4730	2.114	.870	wdg •
1.845	3.447	.497	3.161	.4639	2.158	.856	wdg •
1.840	3.413	.508	3.190	.4628	2.162	.851	wdg •
1.839	3.584	.538	3.513	.4620	2.165	.850	wdg •
1.840	3.628	.538	3.591	.4629	2.160	.852	wdg •
1.840	3.829	.571	4.023	.4624	2.162	.851	wdg •
1.845	4.098	.873	6.601	.4265	2.344	.787	wdg •

(Continued)



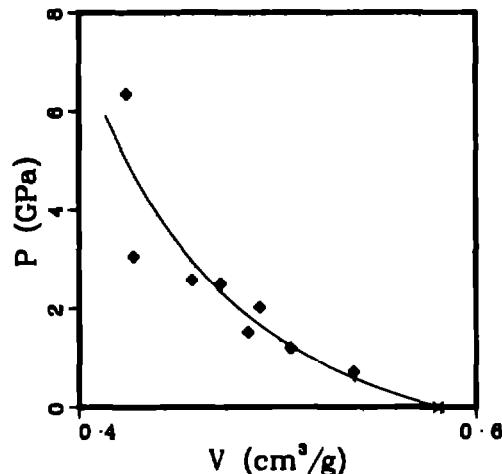
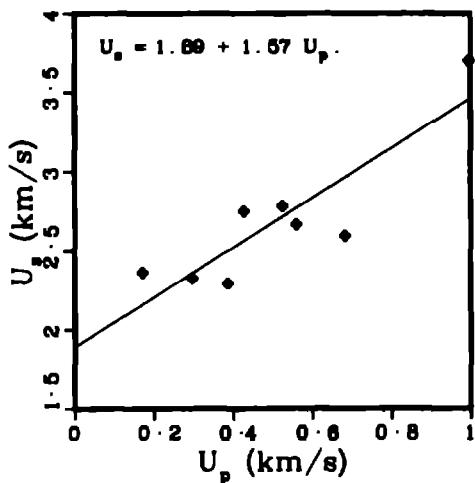
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF, $\rho_0 = 1.84 \text{ g/cm}^3$.
 (Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.839	4.351	.897	7.177	.4317	2.317	.794	wdg •
1.840	5.062	1.202	11.198	.4144	2.413	.763	wdg •
1.840	5.305	1.256	12.280	.4148	2.411	.763	wdg •
1.840	5.233	1.382	13.307	.3999	2.500	.738	wdg •
1.840	5.420	1.397	13.932	.4034	2.479	.742	wdg •
1.840	6.473	1.850	22.034	.3882	2.576	.714	wdg •
1.840	6.775	2.063	25.717	.3780	2.646	.695	wdg •

PBX 9404-03, HMX-3 wt% NC-3 wt% CEF, $\rho_0 = 1.72 \text{ g/cm}^3$.

Average $\rho_0 = 1.722 \text{ g/cm}^3$.

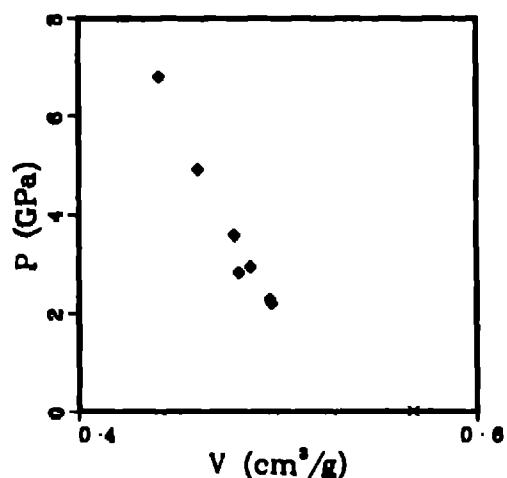
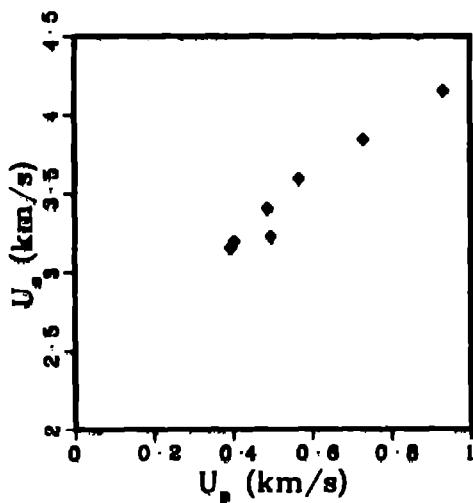
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.722	2.365	.172	.700	.5385	1.857	.927	wdg ♦
1.722	2.326	.297	1.190	.5066	1.974	.872	wdg ♦
1.714	2.294	.387	1.522	.4850	2.062	.831	wdg ♦
1.720	2.749	.427	2.019	.4911	2.036	.845	wdg ♦
1.720	2.782	.525	2.512	.4717	2.120	.811	wdg ♦
1.728	2.664	.580	2.578	.4571	2.188	.790	wdg ♦
1.724	2.594	.682	3.050	.4275	2.339	.737	wdg ♦
1.724	3.699	.995	6.345	.4240	2.358	.731	wdg ♦



PBX 9405-01, RDX-3 wt% NC-3 wt% CEF

Average $\rho_0 = 1.761 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.761	3.152	.394	2.187	.4969	2.013	.875	wdg •
1.761	3.195	.404	2.273	.4961	2.016	.874	wdg •
1.761	3.400	.488	2.922	.4864	2.056	.856	wdg •
1.761	3.225	.496	2.817	.4805	2.081	.846	wdg •
1.761	3.594	.567	3.589	.4783	2.091	.842	wdg •
1.761	3.841	.730	4.938	.4599	2.174	.810	wdg •
1.761	4.152	.932	6.814	.4404	2.271	.776	wdg •

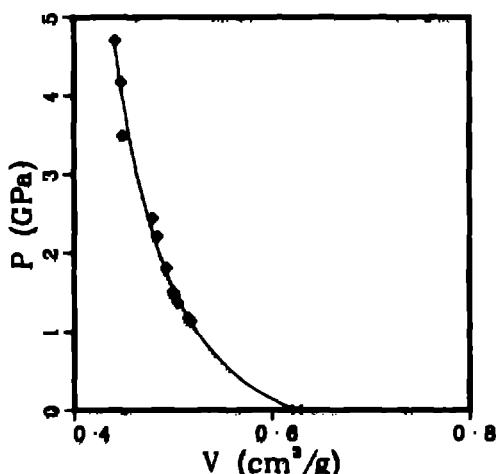
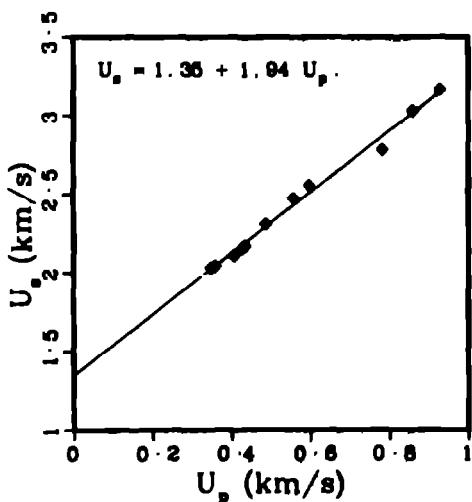


PBX 9407, 94/8 wt% RDX/Exon

Average $\rho_0 = 1.600 \text{ g/cm}^3$.

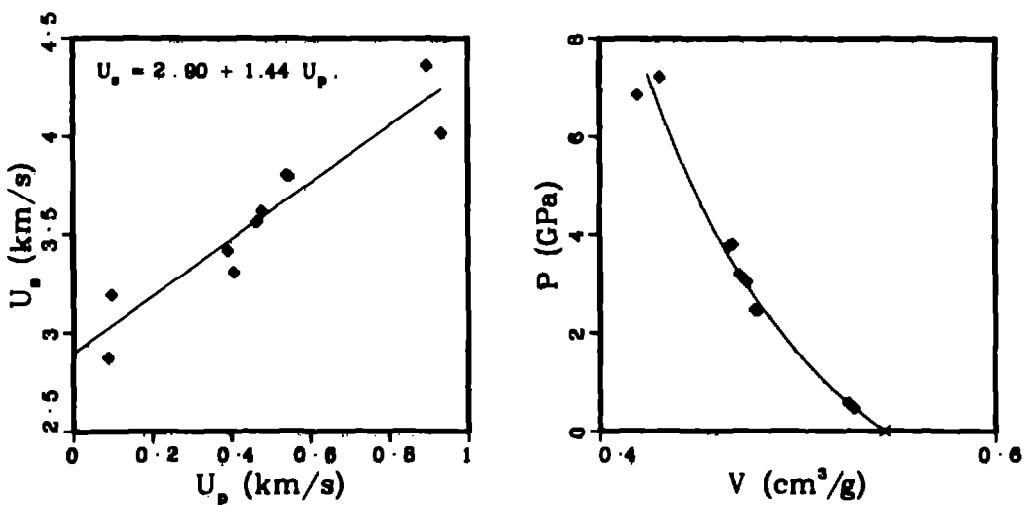
Reference 61

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.600	2.033	.349	1.135	.5177	1.932	.828	wdg ◆
1.600	2.046	.359	1.175	.5153	1.940	.825	wdg ◆
1.600	2.110	.406	1.371	.5047	1.981	.808	wdg ◆
1.600	2.152	.426	1.467	.5013	1.995	.802	wdg ◆
1.600	2.171	.433	1.504	.5003	1.999	.801	wdg ◆
1.600	2.310	.487	1.800	.4932	2.027	.789	wdg ◆
1.600	2.475	.568	2.210	.4841	2.066	.775	wdg ◆
1.600	2.557	.597	2.442	.4791	2.087	.767	wdg ◆
1.600	2.783	.783	3.487	.4492	2.226	.719	wdg ◆
1.600	3.032	.860	4.172	.4477	2.234	.716	wdg ◆
1.600	3.163	.928	4.696	.4416	2.284	.707	wdg ◆



PBX 9501-01, HMX-2.5 wt% Estane-2.5 wt% BDNPF,
 BDNPF-bisdinitropropyl formal
 Average $\rho_0 = 1.838 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.833	2.873	.089	.469	.5287	1.892	.969	wdg •
1.844	3.192	.097	.571	.5258	1.902	.970	wdg •
1.844	3.418	.392	2.471	.4801	2.083	.885	wdg •
1.833	3.308	.407	2.468	.4784	2.090	.877	wdg •
1.833	3.563	.466	3.043	.4742	2.109	.869	wdg •
1.844	3.617	.478	3.188	.4706	2.125	.868	wdg •
1.844	3.803	.539	3.780	.4654	2.149	.858	wdg •
1.833	3.798	.546	3.801	.4671	2.141	.856	wdg •
1.844	4.358	.897	7.208	.4307	2.322	.794	wdg •
1.833	4.017	.932	6.862	.4190	2.387	.768	wdg •

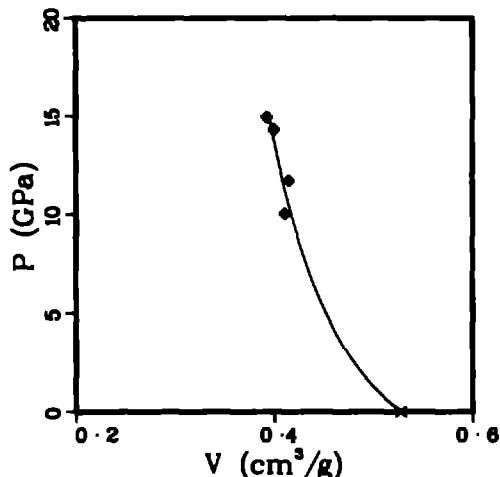
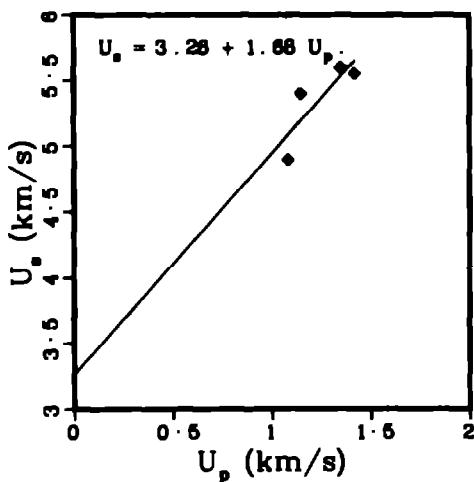


PBX 9502 , TATB-5 wt% Kel F 800 .

Pantex standard TATB

Average $\rho_0 = 1.896 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.896	4.894	1.083	10.049	.4107	2.435	.779	wdg ♦
1.896	5.401	1.148	11.756	.4153	2.408	.787	wdg ♦
1.896	5.595	1.349	14.310	.4003	2.498	.759	wdg ♦
1.896	5.552	1.421	14.958	.3924	2.548	.744	wdg ♦



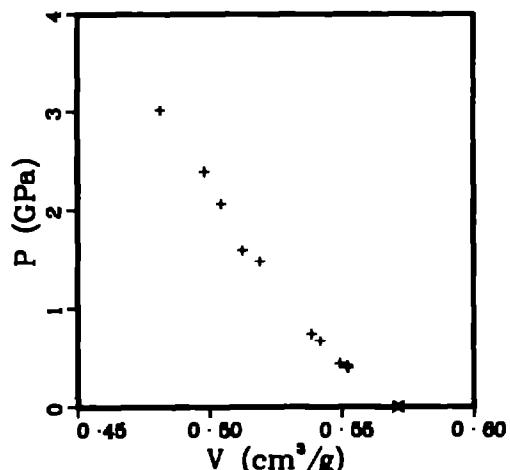
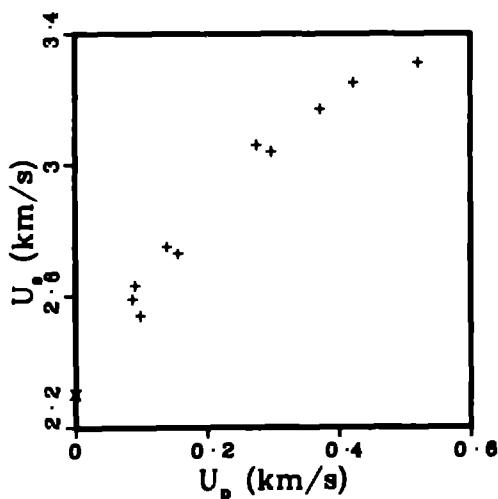
PETN, pressed, $\rho_0 = 1.75 \text{ g/cm}^3$.

Average $\rho_0 = 1.751 \text{ g/cm}^3$.

Sound velocities longitudinal 2.98 km/s.
shear 1.64 km/s.

Reference 63

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.750	2.301	0.000	0.000	.5714	1.750	1.000	s s p x
1.750	2.590	.087	.394	.5522	1.811	.986	q z i +
1.749	2.630	.091	.419	.5520	1.812	.985	q z i +
1.750	2.540	.099	.440	.5492	1.821	.981	q z i +
1.752	2.750	.139	.670	.5419	1.845	.949	q z i +
1.750	2.730	.156	.745	.5388	1.856	.943	q z i +
1.753	3.060	.278	1.481	.5190	1.927	.910	q z i +
1.760	3.040	.298	1.594	.5125	1.951	.902	q z i +
1.750	3.170	.372	2.064	.5044	1.983	.883	q z i +
1.748	3.250	.423	2.400	.4982	2.007	.870	q z i +
1.750	3.310	.521	3.018	.4815	2.077	.843	q z i +



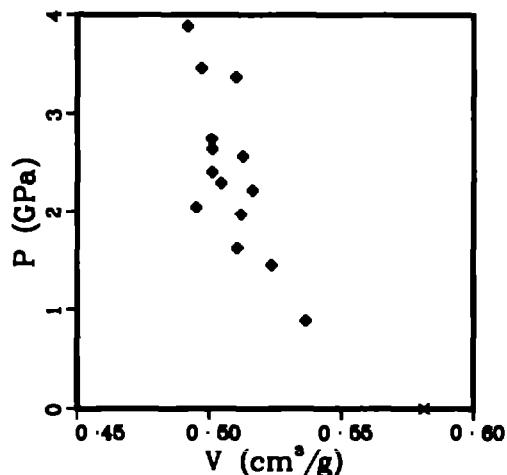
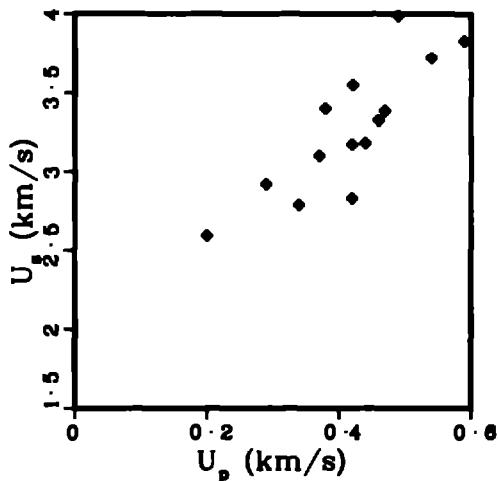
PETN, pressed, $\rho_0 = 1.72 \text{ g/cm}^3$.

Average $\rho_0 = 1.720 \text{ g/cm}^3$.

Sound velocities longitudinal 2.82 km/s.
shear 1.48 km/s.

Reference 64

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.720	2.590	.200	.891	.5365	1.864	.923	wdg ♦
1.720	2.820	.290	1.458	.5237	1.910	.901	wdg ♦
1.720	2.790	.340	1.632	.5105	1.959	.878	wdg ♦
1.720	3.100	.370	1.973	.5120	1.953	.881	wdg ♦
1.720	3.400	.380	2.222	.5164	1.936	.888	wdg ♦
1.720	3.170	.420	2.290	.5044	1.983	.868	wdg ♦
1.720	3.550	.420	2.565	.5128	1.951	.882	wdg ♦
1.720	2.830	.420	2.044	.4951	2.020	.852	wdg ♦
1.720	3.180	.440	2.407	.5010	1.998	.862	wdg ♦
1.720	3.330	.460	2.635	.5011	1.998	.862	wdg ♦
1.720	3.390	.470	2.740	.5008	1.997	.861	wdg ♦
1.720	3.990	.490	3.363	.5100	1.961	.877	wdg ♦
1.720	3.720	.540	3.455	.4970	2.012	.855	wdg ♦
1.720	3.830	.590	3.887	.4918	2.033	.848	wdg ♦

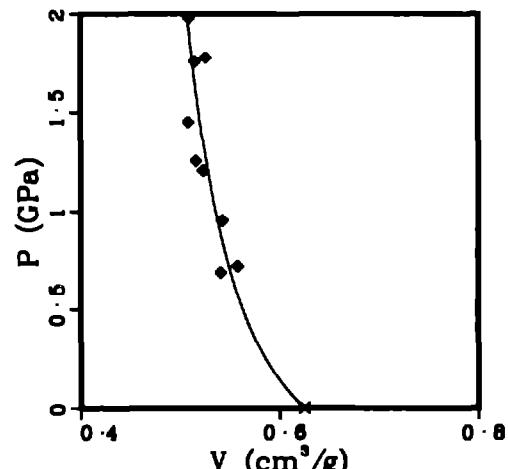
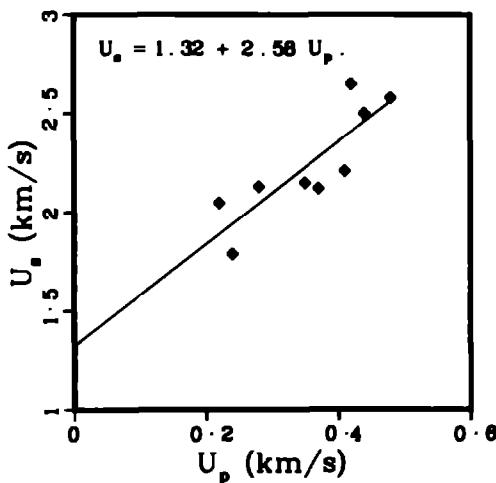


PETN, pressed, $\rho_0 = 1.60 \text{ g/cm}^3$.

Average $\rho_0 = 1.600 \text{ g/cm}^3$.

Reference 64

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.600	2.050	.220	.722	.5579	1.792	.893	wdg •
1.600	1.790	.240	.687	.5412	1.848	.866	wdg •
1.600	2.130	.280	.954	.5428	1.842	.869	wdg •
1.600	2.150	.350	1.204	.5233	1.911	.837	wdg •
1.600	2.120	.370	1.255	.5159	1.938	.825	wdg •
1.600	2.210	.410	1.450	.5090	1.964	.814	wdg •
1.600	2.650	.420	1.781	.5259	1.901	.842	wdg •
1.600	2.500	.440	1.760	.5150	1.942	.824	wdg •
1.600	2.580	.480	1.981	.5087	1.966	.814	wdg •



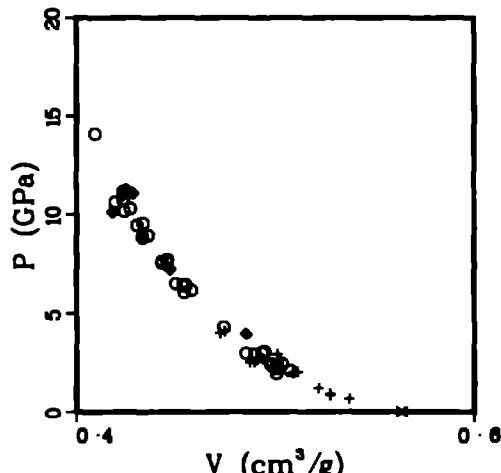
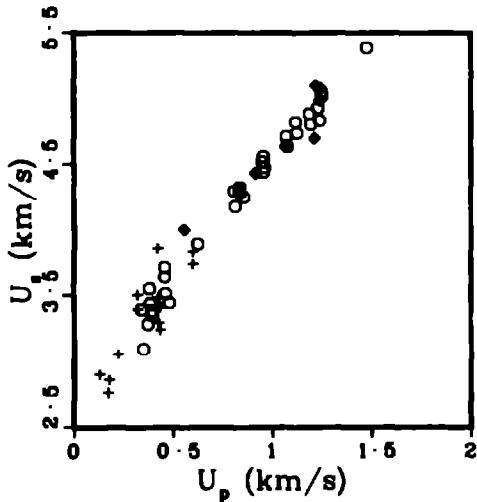
PETN, single-crystal

Average $\rho_0 = 1.774 \text{ g/cm}^3$.

Reference 62

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.778	2.900	.130	.670	.5372	1.861	.955	q z i +
1.778	2.760	.171	.839	.5276	1.895	.938	q z i +
1.778	2.860	.177	.900	.5276	1.895	.938	q z i +
1.778	3.054	.221	1.200	.5217	1.917	.928	q z i +
1.778	3.504	.321	2.000	.5109	1.957	.908	q z i +
1.778	3.398	.323	1.950	.5089	1.985	.905	q z i +
1.773	3.394	.341	2.052	.5073	1.971	.900	im1 o
1.773	3.093	.349	1.914	.5004	1.999	.887	im1 o
1.773	3.282	.372	2.165	.5001	2.000	.887	im1 o
1.773	3.550	.382	2.404	.5033	1.987	.892	im1 o
1.773	3.437	.385	2.346	.5008	1.997	.888	im1 o
1.773	3.354	.394	2.343	.4978	2.009	.883	im1 o
1.773	3.383	.394	2.363	.4983	2.007	.884	im1 o
1.778	3.861	.421	2.890	.5011	1.996	.891	q z i +
1.778	3.486	.426	2.640	.4937	2.026	.878	q z i +
1.778	3.293	.427	2.500	.4895	2.043	.870	q z i +
1.778	3.240	.434	2.500	.4871	2.053	.866	q z i +
1.778	3.414	.435	2.640	.4908	2.038	.873	q z i +
1.773	3.640	.456	2.943	.4934	2.027	.875	im1 o
1.773	3.718	.457	3.011	.4947	2.022	.877	im1 o
1.773	3.513	.463	2.884	.4897	2.042	.868	im1 o

(Continued)



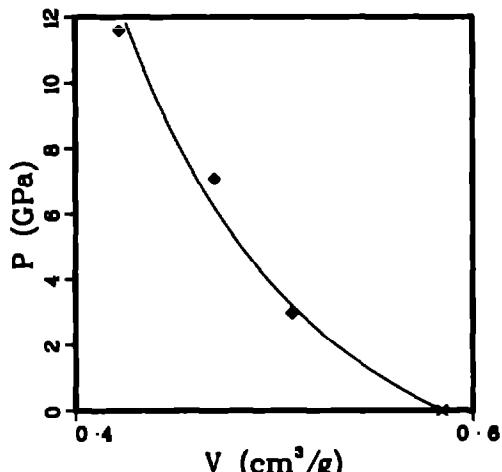
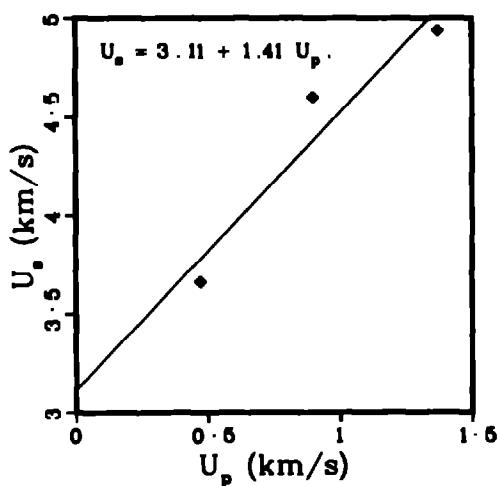
PETN, single-crystal
(Continued)

ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.773	3.445	.481	2.938	.4853	2.061	.860	im1 o
1.775	4.000	.555	3.940	.4852	2.061	.861	wdg ♦
1.778	3.743	.601	4.000	.4721	2.118	.839	qz i +
1.778	3.837	.601	4.100	.4743	2.108	.843	qz i +
1.773	3.894	.622	4.294	.4739	2.110	.840	im1 o
1.773	4.298	.809	6.165	.4579	2.184	.812	im1 o
1.773	4.179	.814	6.031	.4542	2.202	.805	im1 o
1.773	4.325	.836	6.411	.4550	2.198	.807	im1 o
1.773	4.303	.837	6.386	.4543	2.201	.805	im1 o
1.773	4.281	.838	6.361	.4536	2.205	.804	im1 o
1.773	4.249	.858	6.464	.4501	2.222	.798	im1 o
1.775	4.432	.914	7.190	.4472	2.236	.794	wdg ♦
1.773	4.518	.949	7.602	.4455	2.244	.790	im1 o
1.773	4.441	.954	7.512	.4429	2.258	.785	im1 o
1.773	4.558	.956	7.728	.4457	2.244	.790	im1 o
1.773	4.477	.961	7.628	.4429	2.258	.785	im1 o
1.775	4.630	1.068	8.777	.4334	2.307	.769	wdg ♦
1.773	4.709	1.069	8.925	.4360	2.294	.773	im1 o
1.773	4.638	1.076	8.848	.4332	2.309	.768	im1 o
1.773	4.821	1.117	9.548	.4333	2.308	.768	im1 o
1.773	4.736	1.123	9.430	.4303	2.324	.763	im1 o
1.773	4.886	1.187	10.283	.4270	2.342	.757	im1 o
1.773	4.803	1.193	10.159	.4239	2.359	.752	im1 o
1.775	4.696	1.212	10.103	.4180	2.392	.742	wdg ♦
1.775	5.100	1.221	11.053	.4285	2.334	.761	wdg ♦
1.773	4.930	1.229	10.743	.4234	2.362	.751	im1 o
1.773	4.833	1.238	10.608	.4195	2.384	.744	im1 o
1.775	4.990	1.240	10.983	.4234	2.362	.752	wdg ♦
1.775	5.078	1.246	11.231	.4251	2.352	.755	wdg ♦
1.773	5.053	1.247	11.172	.4248	2.354	.753	im1 o
1.773	5.021	1.250	11.128	.4236	2.361	.751	im1 o
1.773	5.385	1.476	14.092	.4094	2.442	.726	im1 o

RDX-2.5 wt% B square wax-2.5 wt% Elvax

Average $\rho_0 = 1.711 \text{ g/cm}^3$.

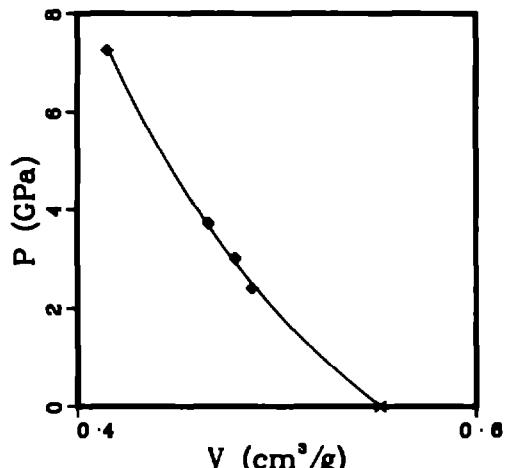
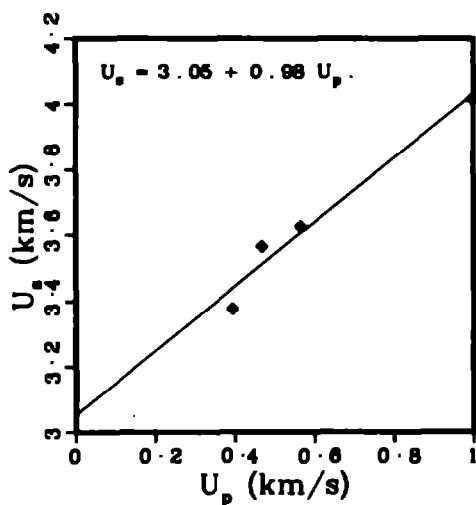
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.711	3.662	.473	2.984	.5090	1.965	.871	wdg ♦
1.711	4.599	.899	7.074	.4702	2.127	.805	wdg ♦
1.711	4.936	1.371	11.579	.4221	2.369	.722	wdg ♦



RDX-20 wt% aluminum-6 wt% wax, 30-micron aluminum

Average $\rho_0 = 1.812 \text{ g/cm}^3$.

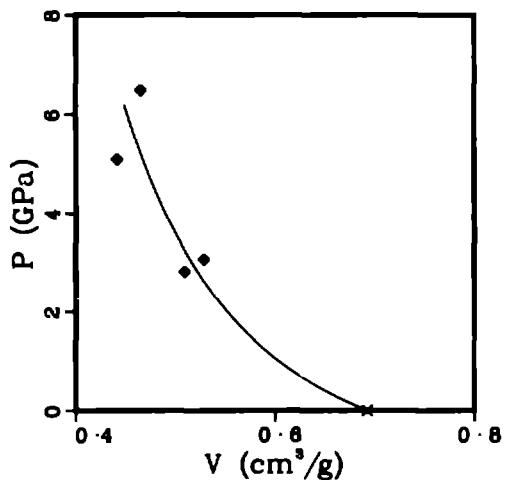
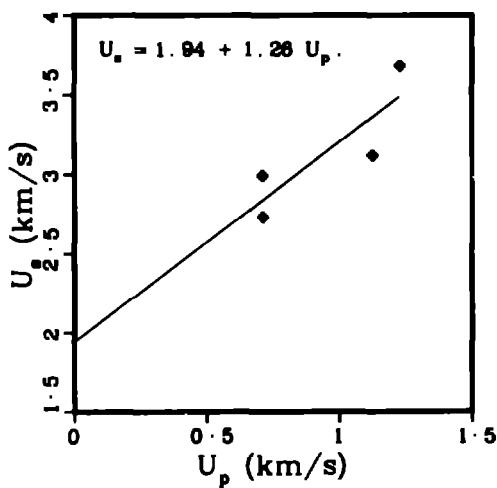
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.812	3.377	.394	2.411	.4875	2.051	.883	wdg •
1.812	3.564	.468	3.022	.4794	2.086	.869	wdg •
1.812	3.627	.565	3.713	.4859	2.146	.844	wdg •
1.812	4.016	.997	7.255	.4149	2.410	.752	wdg •



RDX-40 .4 wt% cyanuric acid-19 .4 wt% Sylgard

Average $\rho_0 = 1.444 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.442	2.990	.710	3.061	.5288	1.891	.763	wdg ♦
1.453	2.731	.711	2.821	.5091	1.964	.740	wdg ♦
1.447	3.117	1.126	5.079	.4414	2.265	.639	wdg ♦
1.433	3.682	1.228	6.479	.4651	2.150	.666	wdg ♦

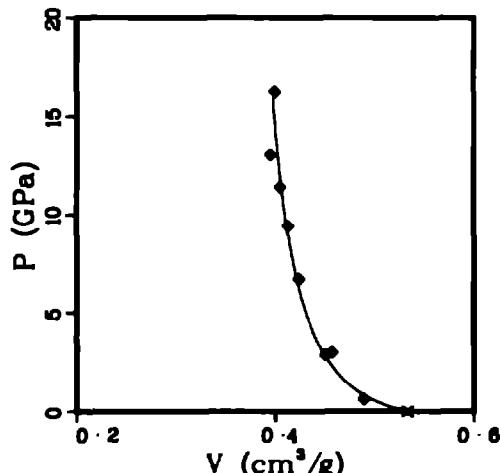
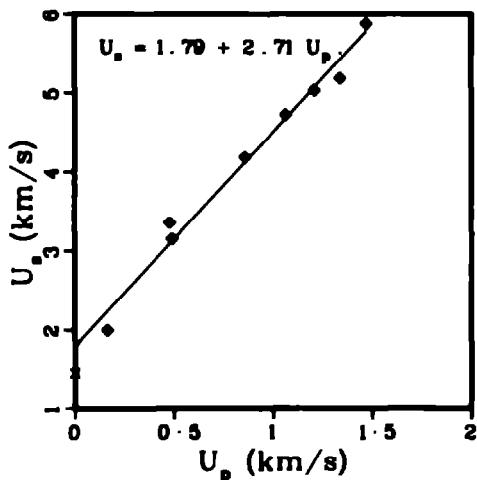


TATB, purified 1972

Average $\rho_0 = 1.876 \text{ g/cm}^3$.

Sound velocities longitudinal 1.98 km/s.
shear 1.16 km/s.

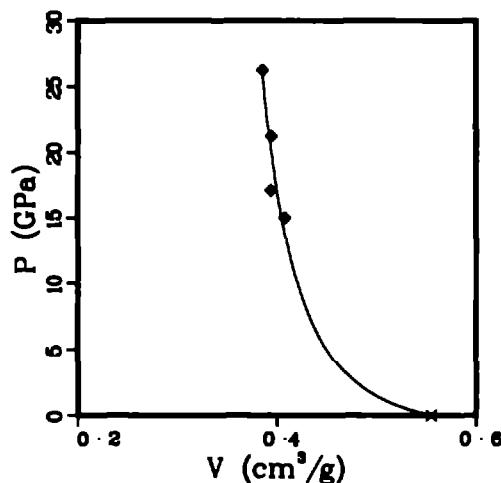
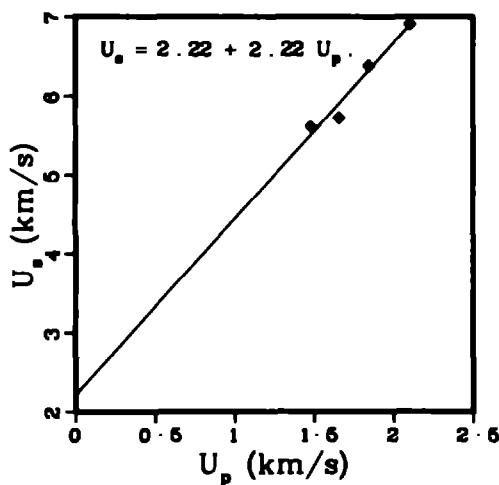
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.876	1.458	0.000	0.000	.5330	1.876	1.000	ssp ×
1.876	1.999	.165	.619	.4891	2.045	.917	wdg •
1.876	3.358	.480	3.022	.4568	2.189	.857	wdg •
1.876	3.151	.489	2.891	.4503	2.221	.845	wdg •
1.876	4.186	.858	6.738	.4238	2.360	.795	wdg •
1.876	4.723	1.063	9.419	.4131	2.421	.775	wdg •
1.876	5.030	1.208	11.399	.4050	2.469	.760	wdg •
1.876	5.184	1.340	13.032	.3953	2.530	.742	wdg •
1.876	5.879	1.471	16.224	.3997	2.502	.750	wdg •



TATB-3 wt% B square wax-3 wt% Elvax . 1968 TATB

Average $\rho_0 = 1.802 \text{ g/cm}^3$.

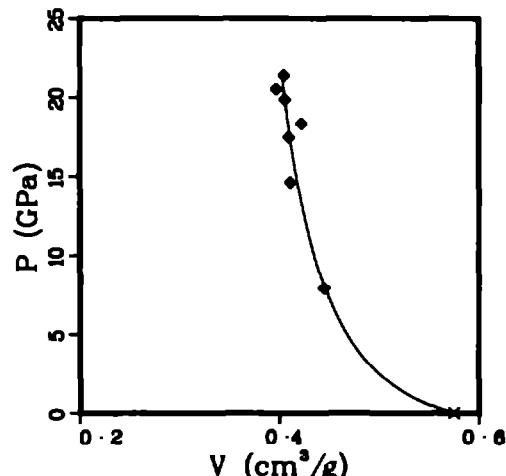
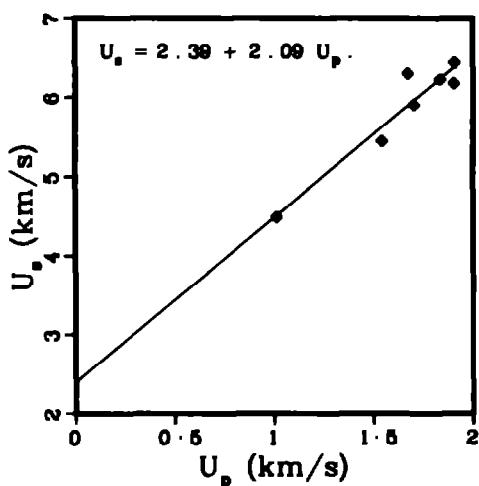
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.802	5.610	1.482	14.982	4083	2.449	.736	wdg •
1.802	5.725	1.660	17.125	3940	2.538	.710	wdg •
1.802	6.375	1.847	21.218	3942	2.537	.710	wdg •
1.802	6.908	2.105	28.203	3858	2.592	.695	wdg •



TATB-5 wt% B square wax-5 wt% Elvax, 1968 TATB

Average $\rho_0 = 1.740 \text{ g/cm}^3$.

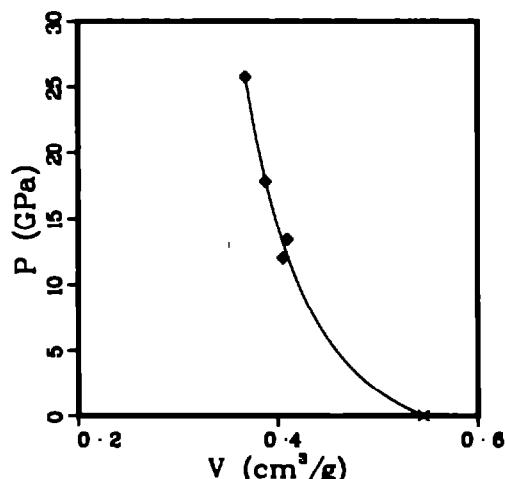
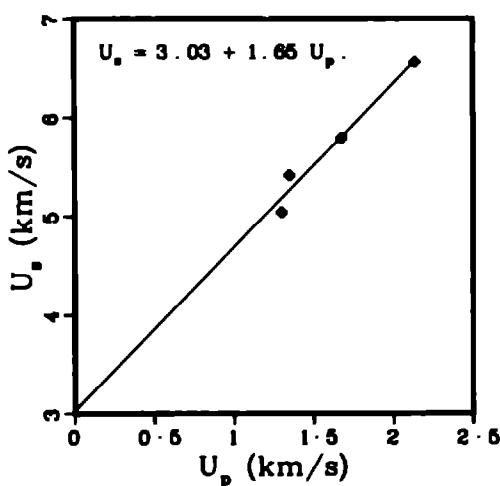
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.741	4.489	1.012	7.909	.4449	2.248	.775	wdg ♦
1.741	5.444	1.543	14.625	.4116	2.430	.717	wdg ♦
1.739	6.302	1.672	18.324	.4225	2.367	.735	wdg ♦
1.736	5.901	1.703	17.446	.4098	2.440	.711	wdg ♦
1.739	6.224	1.834	19.850	.4056	2.465	.705	wdg ♦
1.743	6.180	1.904	20.509	.3970	2.519	.692	wdg ♦
1.739	6.441	1.909	21.383	.4046	2.472	.704	wdg ♦



TATB-6 wt% Estane, bimodal 1968 TATB

Average $\rho_0 = 1.833 \text{ g/cm}^3$.

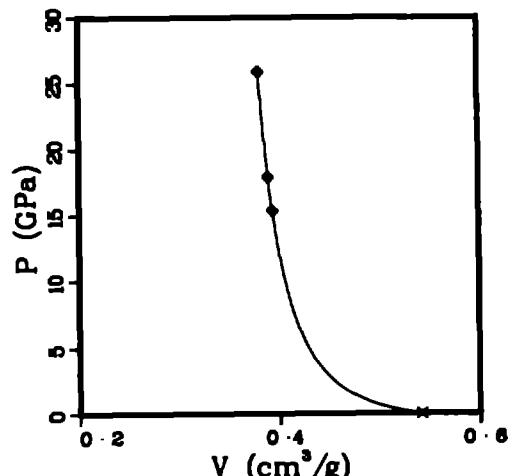
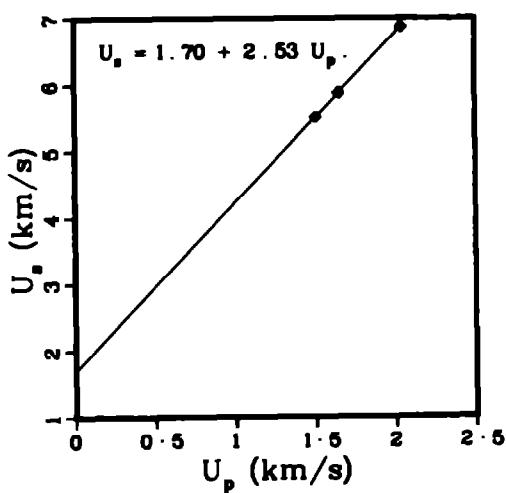
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.833	5.040	1.299	12.001	.4049	2.469	.742	wdg ♦
1.833	5.414	1.350	13.397	.4095	2.442	.751	wdg ♦
1.833	5.796	1.677	17.817	.3877	2.579	.711	wdg ♦
1.833	6.580	2.139	25.720	.3677	2.720	.674	wdg ♦



TATB-6 wt% Estane, coarse 1968 TATB

Average $\rho_0 = 1.846 \text{ g/cm}^3$.

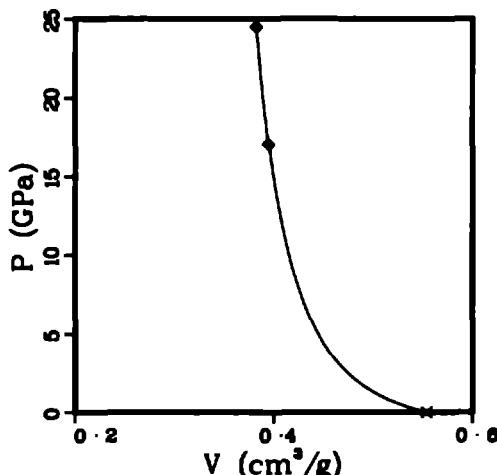
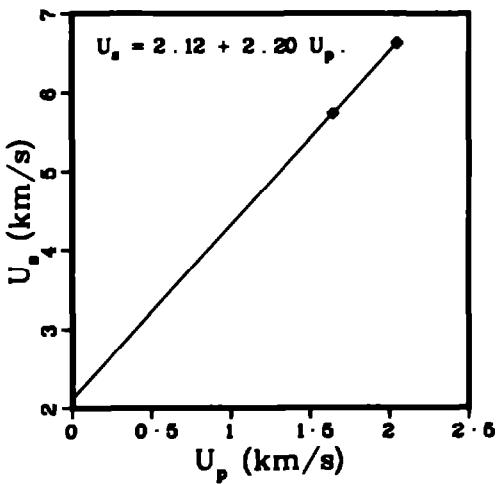
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.846	5.515	1.508	15.332	.3938	2.539	.727	wdg •
1.846	5.882	1.652	17.938	.3898	2.567	.719	wdg •
1.846	6.867	2.040	25.860	.3808	2.626	.703	wdg •



TATB-10 wt% Estane, 1968 TATB

Average $\rho_0 = 1.805 \text{ g/cm}^3$.

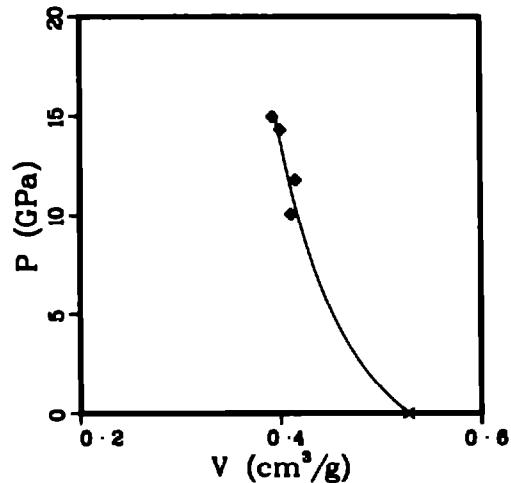
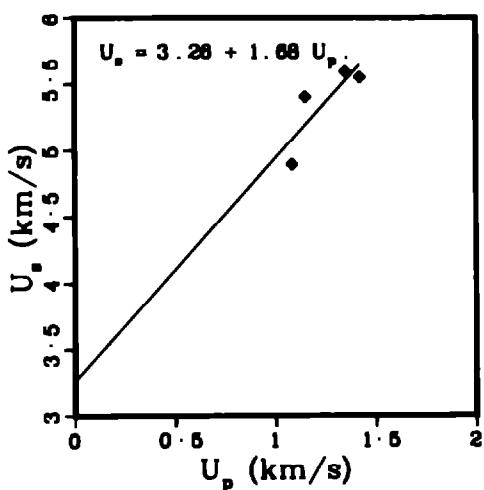
ρ_0 (g/cm ³)	U _s (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.805	5.734	1.646	17.036	.3950	2.532	.713	wdg •
1.805	6.620	2.049	24.484	.3825	2.614	.690	wdg •



TATB-5 wt% Kel F 800

Average $\rho_0 = 1.896 \text{ g/cm}^3$.

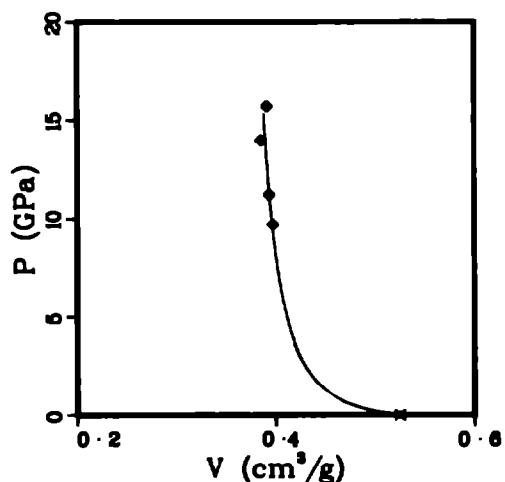
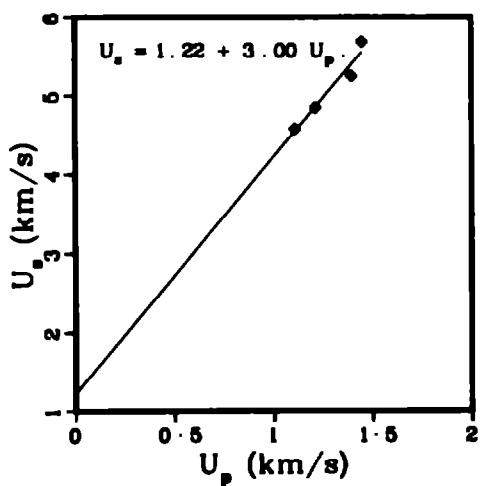
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.896	4.894	1.083	10.049	.4107	2.435	.779	wdg •
1.896	5.401	1.148	11.756	.4153	2.408	.787	wdg •
1.896	5.595	1.349	14.310	.4003	2.498	.759	wdg •
1.896	5.552	1.421	14.958	.3924	2.548	.744	wdg •



TATB-10 wt% Kel F 800, Pantex fine TATB

Average $\rho_0 = 1.905 \text{ g/cm}^3$.

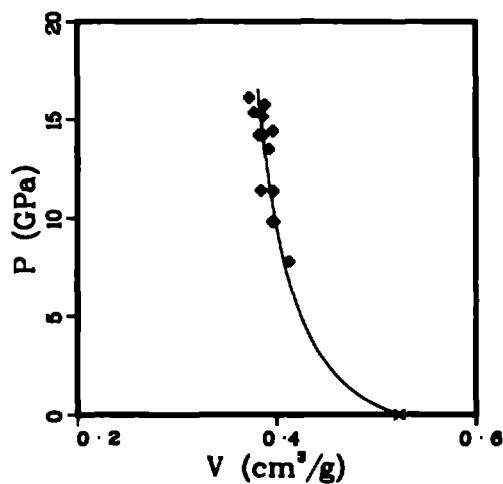
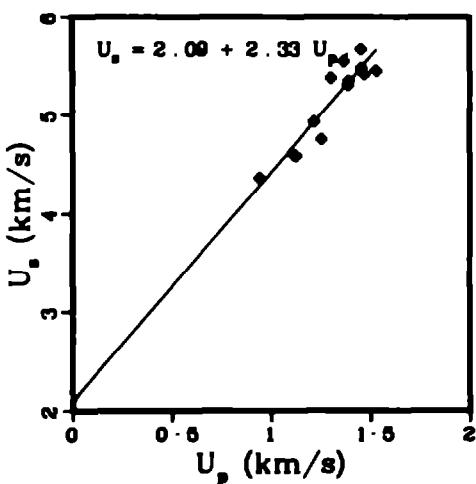
ρ_0 (g/cm ³)	U _n (km/s)	U _p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.905	4.579	1.110	9.683	.3977	2.515	.758	wdg •
1.904	4.850	1.213	11.201	.3939	2.539	.750	wdg •
1.905	5.250	1.395	13.952	.3855	2.594	.734	wdg •
1.906	5.692	1.447	15.698	.3913	2.556	.748	wdg •



TATB-10 wt% Kel F 800 . Pantex standard TATB

Average $\rho_0 = 1.912 \text{ g/cm}^3$.

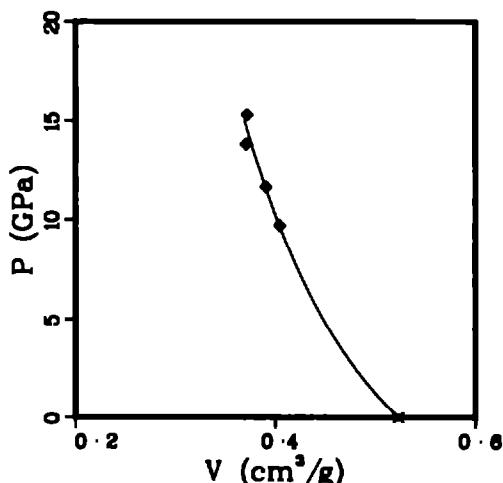
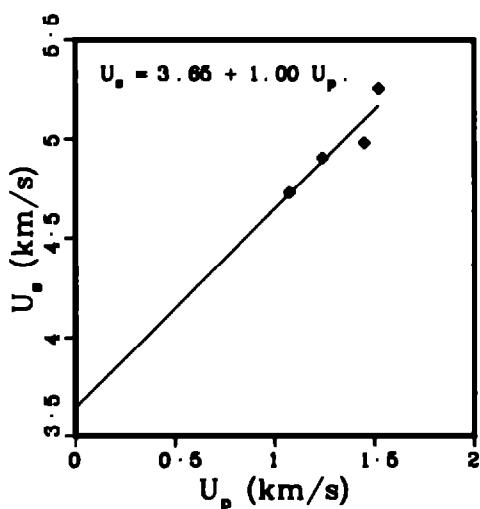
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.898	4.363	.942	7.801	.4131	2.421	.784	wdg •
1.914	4.596	1.114	9.800	.3958	2.526	.758	wdg •
1.898	4.590	1.125	9.801	.3977	2.514	.755	wdg •
1.898	4.931	1.218	11.399	.3967	2.521	.753	wdg •
1.914	4.755	1.256	11.431	.3845	2.601	.736	wdg •
1.929	5.375	1.302	13.500	.3928	2.548	.758	wdg •
1.898	5.543	1.369	14.403	.3987	2.521	.753	wdg •
1.929	5.302	1.388	14.196	.3827	2.613	.738	wdg •
1.913	5.340	1.390	14.199	.3867	2.586	.740	wdg •
1.913	5.684	1.455	15.765	.3885	2.574	.743	wdg •
1.898	5.473	1.458	15.145	.3865	2.587	.734	wdg •
1.929	5.413	1.470	15.349	.3776	2.648	.728	wdg •
1.929	5.448	1.532	16.100	.3726	2.684	.719	wdg •



TATB-10 wt% Kel F 800, reprocessed TATB

Average $\rho_0 = 1.912 \text{ g/cm}^3$.

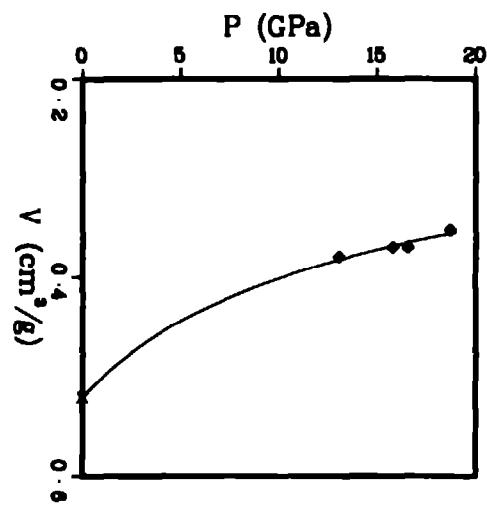
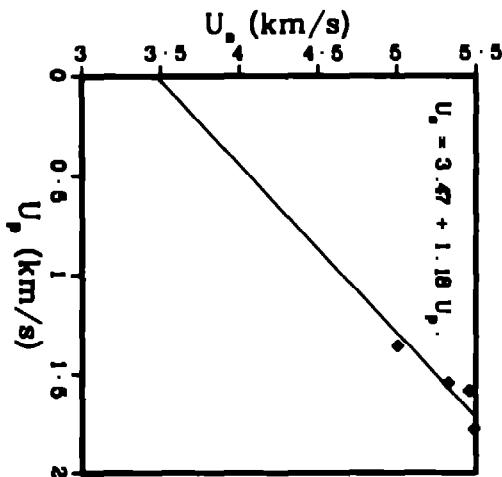
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.911	4.728	1.074	9.704	.4044	2.473	.773	wdg •
1.913	4.905	1.239	11.628	.3907	2.560	.747	wdg •
1.912	4.982	1.449	13.803	.3709	2.696	.709	wdg •
1.912	5.259	1.522	15.304	.3716	2.691	.711	wdg •



TATB-10 wt% Kel F 800, 1968 TATB

Average $\rho_0 = 1.920 \text{ g/cm}^3$.

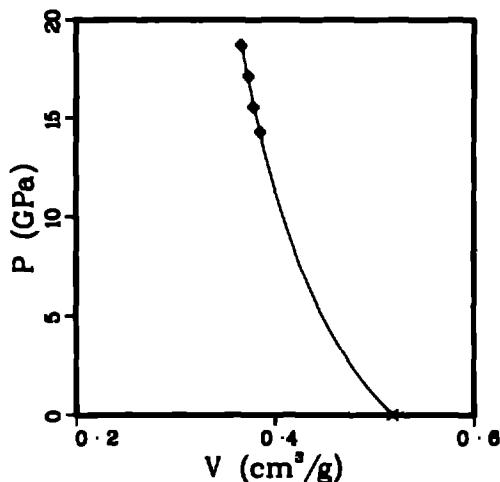
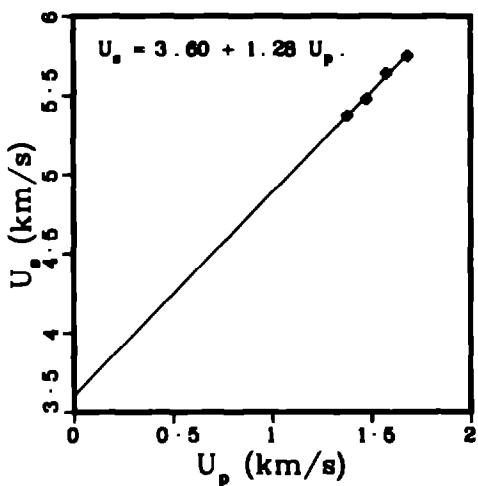
ρ_0 (g/cm ³)	U_e (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp.
1.920	5.005	1.360	13.069	.3793	2.638	.728	wdg
1.920	5.328	1.545	15.805	.3698	2.704	.710	wdg
1.920	5.460	1.582	16.584	.3699	2.703	.710	wdg
1.920	5.491	1.776	18.724	.3524	2.838	.677	wdg
							•



TATB-15 wt% Kel F 800, 1968 TATB

Average $\rho_0 = 1.930 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.930	5.371	1.380	14.305	3850	2.597	.743	wdg •
1.930	5.477	1.476	15.602	3785	2.642	.731	wdg •
1.930	5.638	1.575	17.138	3734	2.678	.721	wdg •
1.930	5.749	1.684	18.685	3684	2.730	.707	wdg •

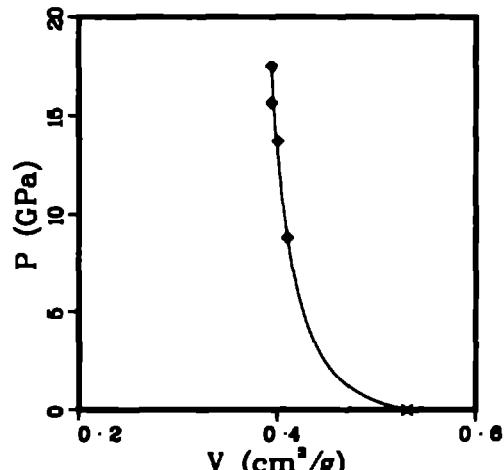
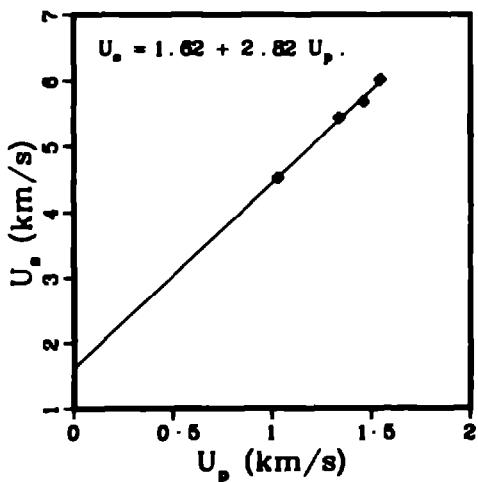


TATB-2.5 wt% Kel F 800-2.5 wt% Kel F 827.

1968 TATB

Average $\rho_0 = 1.883 \text{ g/cm}^3$.

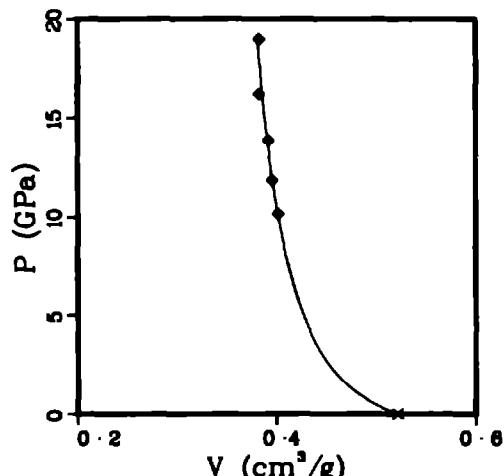
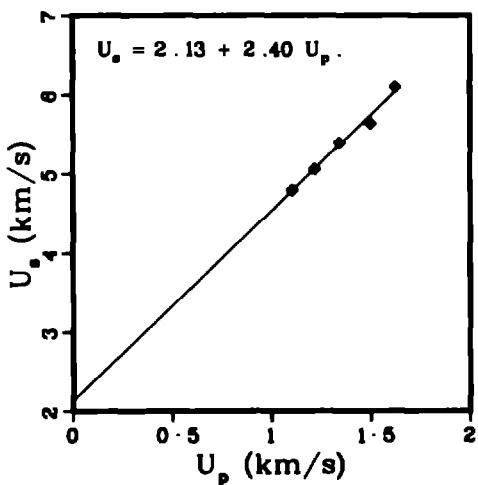
ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.883	4.524	1.030	8.774	.4102	2.438	.772	wdg •
1.883	5.434	1.339	13.701	.4002	2.499	.754	wdg •
1.883	5.683	1.462	15.645	.3944	2.535	.743	wdg •
1.883	6.014	1.545	17.498	.3946	2.534	.743	wdg •



TATB-5 wt% Kel F 800-5 wt% Kel F 820, 1968 TATB

Average $\rho_0 = 1.917 \text{ g/cm}^3$.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp.
1.917	4.796	1.105	10.159	.4015	2.491	.770	wdg •
1.917	5.058	1.220	11.829	.3958	2.526	.759	wdg •
1.917	5.387	1.342	13.859	.3917	2.553	.751	wdg •
1.917	5.635	1.499	16.193	.3829	2.612	.734	wdg •
1.917	6.098	1.625	18.990	.3828	2.614	.733	wdg •

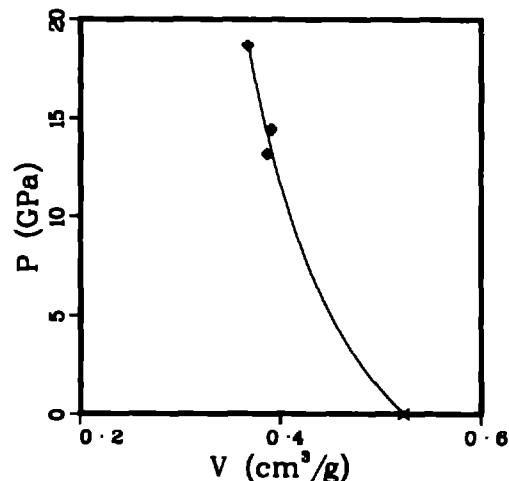
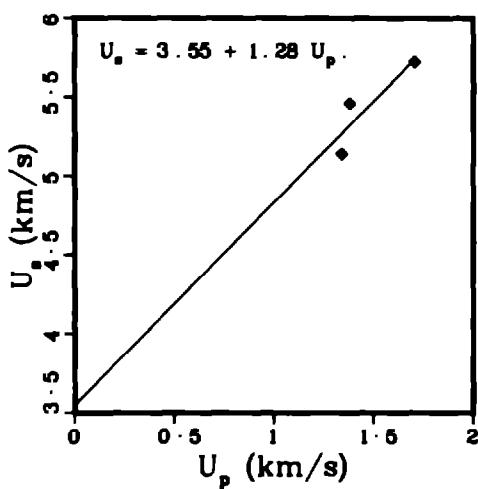


TATB-7.5 wt% Kel F 800-7.5 wt% Kel F 827,

1968 TATB

Average $\rho_0 = 1.912 \text{ g/cm}^3$.

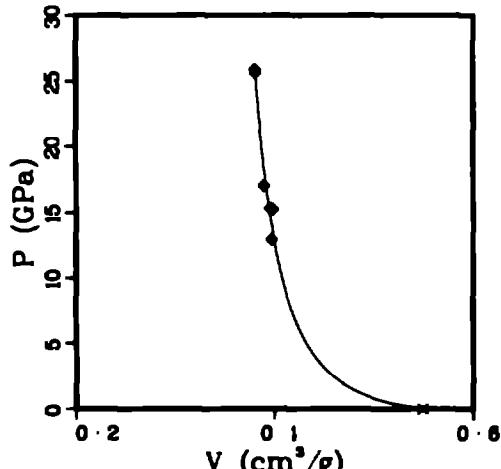
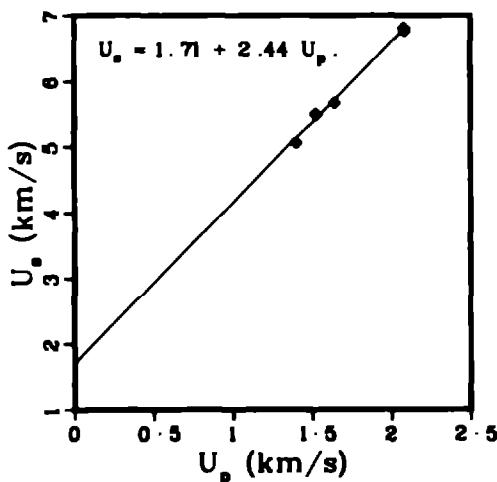
ρ_0 (g/cm ³)	U_n (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.912	5.141	1.341	13.181	.3866	2.587	.739	wdg •
1.912	5.462	1.381	14.422	.3908	2.559	.747	wdg •
1.912	5.722	1.707	18.675	.3670	2.725	.702	wdg •



TATB-4.5 wt% polystyrene-1.5 wt% DOP, 1968 TATB

Average $\rho_0 = 1.821 \text{ g/cm}^3$.

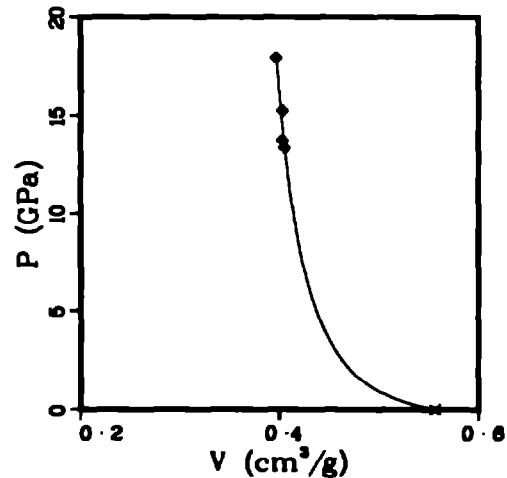
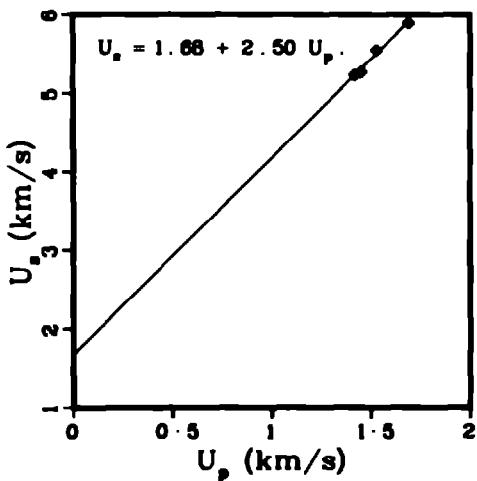
ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.817	5.054	1.403	12.884	.3976	2.515	.722	wdg ♦
1.817	5.508	1.523	15.242	.3982	2.511	.723	wdg ♦
1.825	5.498	1.526	15.312	.3959	2.526	.722	wdg ♦
1.825	5.675	1.642	17.006	.3894	2.568	.711	wdg ♦
1.825	6.813	2.080	25.863	.3807	2.627	.695	wdg ♦
1.817	6.768	2.083	25.616	.3810	2.625	.692	wdg ♦



TATB-6 wt% polystyrene-2 wt% DOP , 1968 TATB

Average $\rho_0 = 1.797 \text{ g/cm}^3$.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.797	5.231	1.420	13.348	.4054	2.467	.729	wdg •
1.797	5.270	1.452	13.751	.4032	2.480	.724	wdg •
1.797	5.549	1.529	15.247	.4031	2.480	.724	wdg •
1.797	5.895	1.693	17.934	.3967	2.521	.713	wdg •

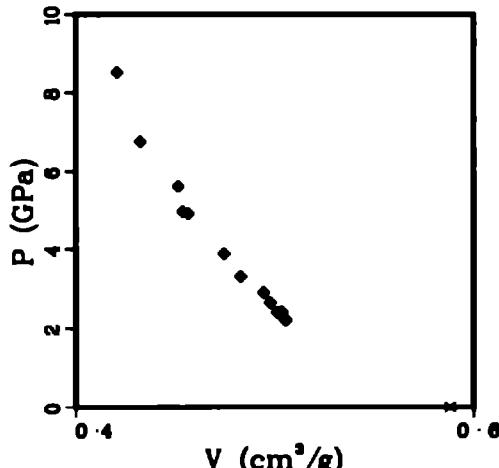
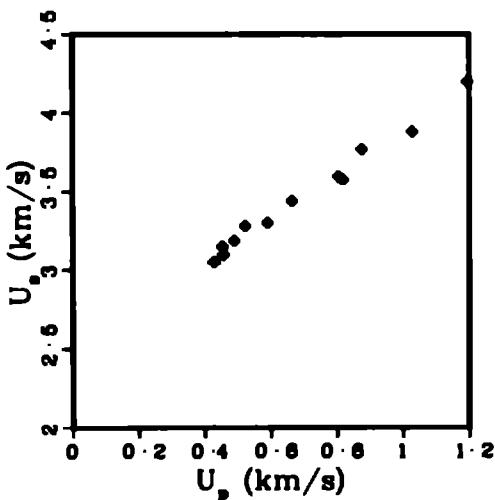


TETRYL, pressed, $\rho_0 = 1.7 \text{ g/cm}^3$.

Average $\rho_0 = 1.700 \text{ g/cm}^3$.

Reference 65

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.700	3.050	.428	2.219	.5057	1.977	.860	wdg •
1.700	3.050	.429	2.224	.5055	1.978	.859	wdg •
1.700	3.150	.453	2.426	.5038	1.986	.858	wdg •
1.700	3.100	.457	2.408	.5015	1.994	.853	wdg •
1.700	3.190	.490	2.657	.4979	2.009	.846	wdg •
1.700	3.280	.522	2.911	.4946	2.022	.841	wdg •
1.700	3.300	.590	3.310	.4831	2.070	.821	wdg •
1.700	3.440	.664	3.883	.4747	2.107	.807	wdg •
1.700	3.600	.805	4.927	.4567	2.190	.778	wdg •
1.700	3.580	.818	4.978	.4538	2.203	.772	wdg •
1.700	3.770	.876	5.614	.4516	2.215	.768	wdg •
1.700	3.880	1.028	6.781	.4324	2.313	.735	wdg •
1.700	4.200	1.195	8.532	.4209	2.376	.715	wdg •

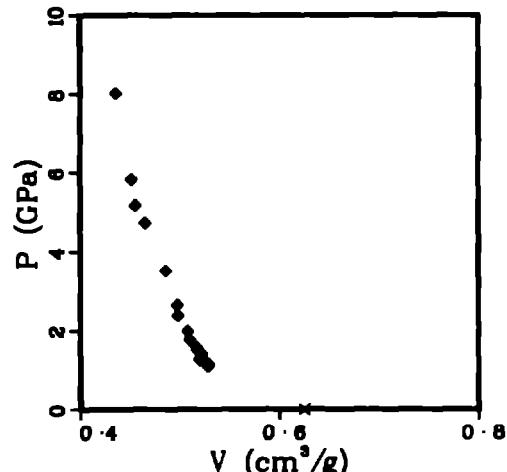
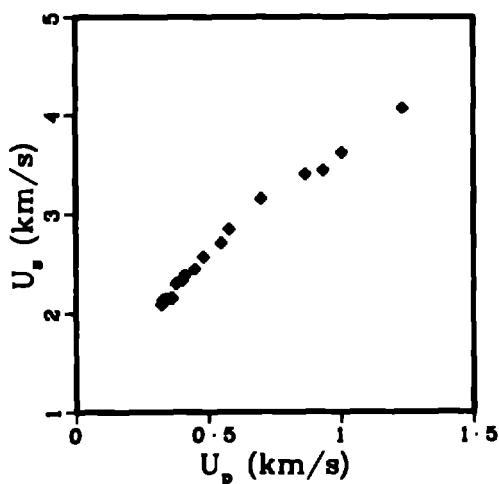


TETRYL, pressed, $\rho_0 = 1.6 \text{ g/cm}^3$.

Average $\rho_0 = 1.600 \text{ g/cm}^3$.

Reference 65

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.600	2.090	.324	1.083	.5281	1.894	.845	wdg ◆
1.600	2.140	.330	1.130	.5286	1.892	.846	wdg ◆
1.600	2.150	.343	1.180	.5253	1.804	.840	wdg ◆
1.600	2.160	.361	1.248	.5205	1.921	.833	wdg ◆
1.600	2.150	.363	1.249	.5195	1.925	.831	wdg ◆
1.600	2.300	.378	1.391	.5223	1.915	.838	wdg ◆
1.600	2.330	.400	1.491	.5177	1.932	.828	wdg ◆
1.600	2.390	.414	1.583	.5167	1.935	.827	wdg ◆
1.600	2.450	.451	1.768	.5099	1.961	.816	wdg ◆
1.600	2.570	.482	1.982	.5078	1.969	.812	wdg ◆
1.600	2.710	.548	2.378	.4986	2.006	.798	wdg ◆
1.600	2.850	.580	2.645	.4978	2.009	.796	wdg ◆
1.600	3.150	.699	3.523	.4863	2.056	.778	wdg ◆
1.600	3.400	.867	4.716	.4856	2.148	.745	wdg ◆
1.600	3.440	.935	5.146	.4551	2.197	.728	wdg ◆
1.600	3.620	1.004	5.815	.4517	2.214	.723	wdg ◆
1.600	4.070	1.232	8.023	.4358	2.295	.697	wdg ◆

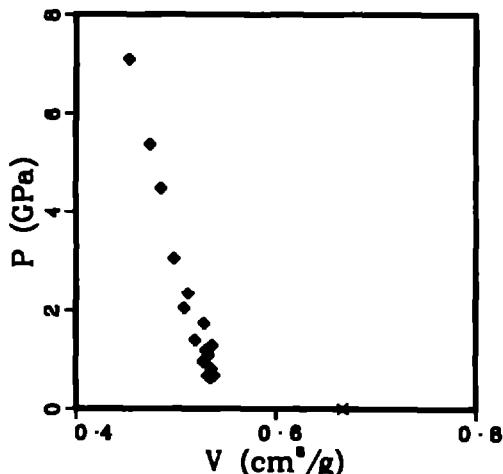
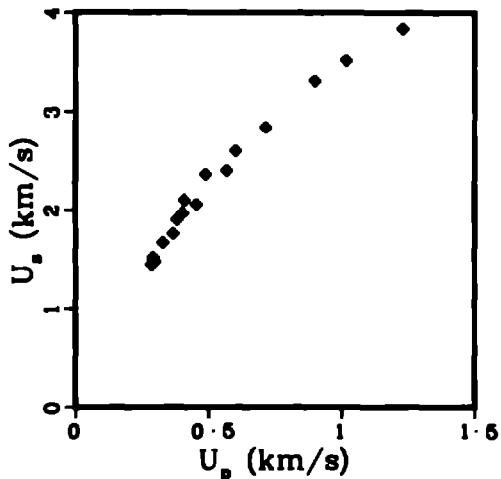


TETRYL, pressed, $\rho_0 = 1.5 \text{ g/cm}^3$.

Average $\rho_0 = 1.500 \text{ g/cm}^3$.

Reference 65

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.500	1.450	.287	.624	.5347	1.870	.802	wdg •
1.500	1.520	.293	.668	.5382	1.858	.807	wdg •
1.500	1.480	.299	.664	.5320	1.880	.798	wdg •
1.500	1.670	.328	.822	.5357	1.867	.804	wdg •
1.500	1.760	.367	.969	.5277	1.895	.791	wdg •
1.500	1.900	.382	1.089	.5326	1.877	.799	wdg •
1.500	1.970	.404	1.194	.5299	1.887	.795	wdg •
1.500	2.100	.411	1.295	.5362	1.865	.804	wdg •
1.500	2.080	.456	1.409	.5191	1.926	.779	wdg •
1.500	2.380	.491	1.738	.5280	1.894	.792	wdg •
1.500	2.400	.569	2.048	.5086	1.986	.763	wdg •
1.500	2.600	.603	2.352	.5121	1.953	.768	wdg •
1.500	2.840	.717	3.054	.4984	2.007	.748	wdg •
1.500	3.310	.902	4.478	.4850	2.062	.727	wdg •
1.500	3.520	1.016	5.384	.4742	2.109	.711	wdg •
1.500	3.840	1.231	7.091	.4530	2.208	.679	wdg •

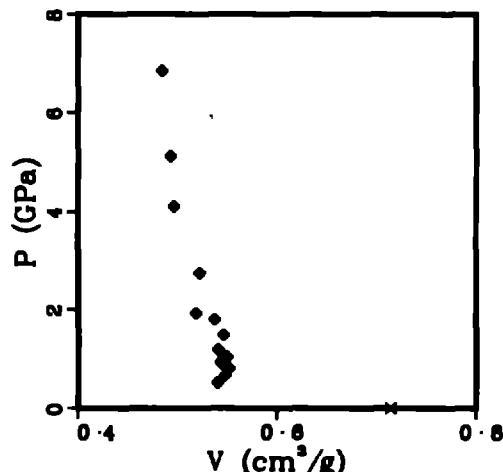
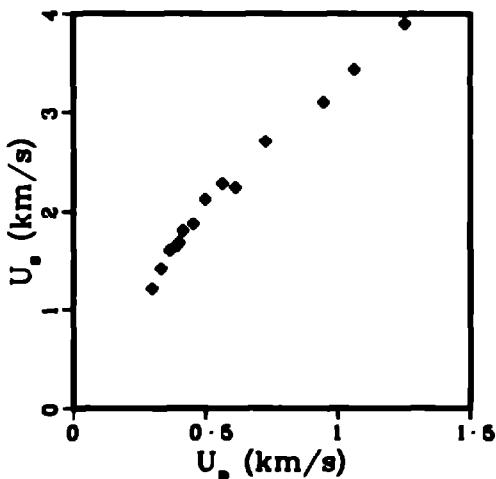


TETRYL, pressed, $\rho_0 = 1.4 \text{ g/cm}^3$.

Average $\rho_0 = 1.400 \text{ g/cm}^3$.

Reference 65

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V ₀	Exp
1.400	1.220	.297	.507	.5404	1.850	.757	wdg •
1.400	1.420	.331	.658	.5478	1.828	.767	wdg •
1.400	1.600	.364	.815	.5518	1.812	.772	wdg •
1.400	1.650	.392	.908	.5448	1.836	.762	wdg •
1.400	1.680	.401	.943	.5438	1.839	.761	wdg •
1.400	1.800	.415	1.048	.5496	1.819	.769	wdg •
1.400	1.870	.454	1.189	.5409	1.849	.757	wdg •
1.400	2.120	.500	1.484	.5458	1.832	.764	wdg •
1.400	2.280	.583	1.797	.5379	1.859	.753	wdg •
1.400	2.240	.613	1.922	.5188	1.927	.728	wdg •
1.400	2.700	.728	2.752	.5217	1.917	.730	wdg •
1.400	3.100	.946	4.106	.4963	2.015	.695	wdg •
1.400	3.430	1.063	5.105	.4929	2.029	.690	wdg •
1.400	3.900	1.253	6.841	.4848	2.063	.679	wdg •

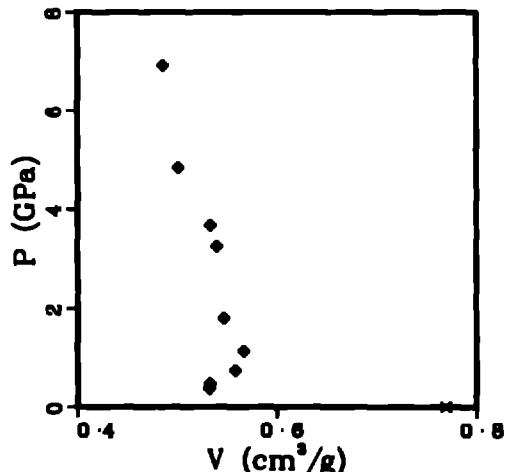
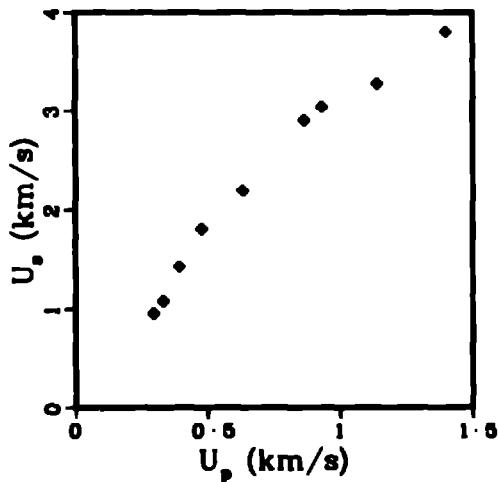


TETRYL, pressed, $\rho_0 = 1.3 \text{ g/cm}^3$.

Average $\rho_0 = 1.300 \text{ g/cm}^3$.

Reference 65

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.300	.960	.296	.369	.5321	1.880	.892	wdg •
1.300	1.080	.332	.466	.5328	1.877	.893	wdg •
1.300	1.430	.392	.729	.5584	1.791	.726	wdg •
1.300	1.810	.476	1.120	.5689	1.764	.737	wdg •
1.300	2.190	.632	1.799	.5472	1.827	.711	wdg •
1.300	2.900	.865	3.281	.5398	1.853	.702	wdg •
1.300	3.040	.932	3.683	.5334	1.875	.693	wdg •
1.300	3.270	1.140	4.846	.5011	1.996	.651	wdg •
1.300	3.800	1.399	6.911	.4860	2.057	.632	wdg •

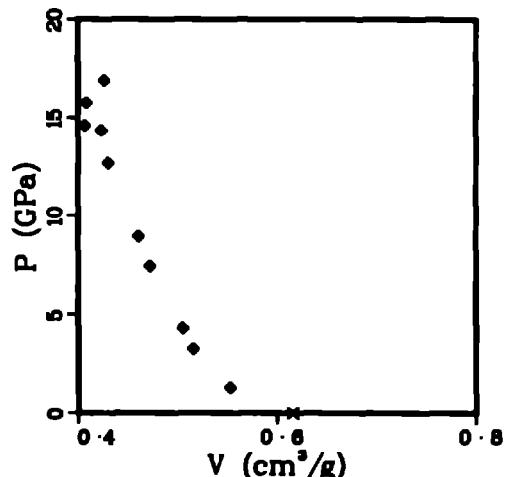
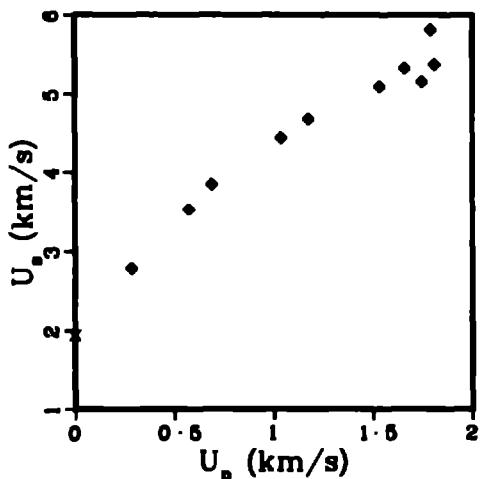


TNT, creamed, cast

Average $\rho_0 = 1.624 \text{ g/cm}^3$.

Sound velocities longitudinal 2.48 km/s.
shear 1.34 km/s.

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V ₀	Exp
1.624	1.938	0.000	0.000	.6158	1.624	1.000	s p x
1.624	2.785	.283	1.280	.5532	1.808	.898	w d g •
1.624	3.525	.573	3.280	.5157	1.939	.837	w d g •
1.624	3.845	.691	4.315	.5051	1.980	.820	w d g •
1.624	4.430	1.037	7.481	.4716	2.120	.786	w d g •
1.624	4.680	1.178	8.953	.4608	2.170	.748	w d g •
1.624	5.090	1.534	12.680	.4302	2.325	.699	w d g •
1.624	5.325	1.660	14.355	.4238	2.360	.688	w d g •
1.624	5.155	1.745	14.609	.4073	2.455	.661	w d g •
1.624	5.815	1.790	16.904	.4262	2.348	.692	w d g •
1.624	5.370	1.808	15.767	.4084	2.448	.663	w d g •

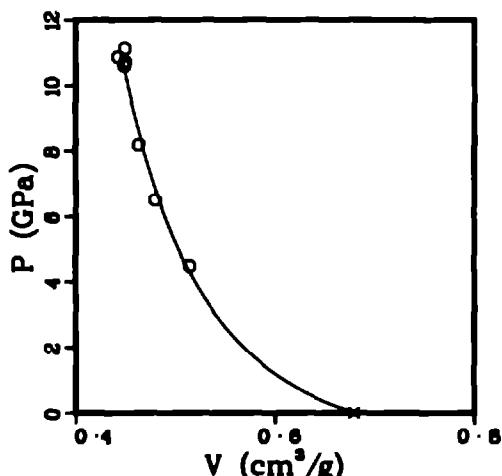
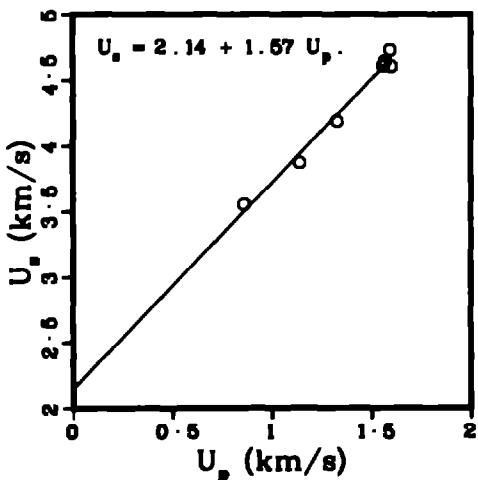


TNT, liquid, $T_0 = 81^\circ\text{C}$

Average $\rho_0 = 1.472 \text{ g/cm}^3$.

Reference 66

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.473	3.552	.860	4.500	.5145	1.944	.758	i m1 o
1.471	3.672	1.141	6.499	.4795	2.086	.705	i m1 o
1.473	4.183	1.328	8.183	.4634	2.158	.683	i m1 o
1.473	4.607	1.561	10.593	.4489	2.228	.661	i m1 o
1.471	4.640	1.589	10.709	.4499	2.223	.662	i m1 o
1.473	4.727	1.596	11.113	.4497	2.224	.662	i m1 o
1.473	4.603	1.601	10.855	.4428	2.259	.652	i m1 o

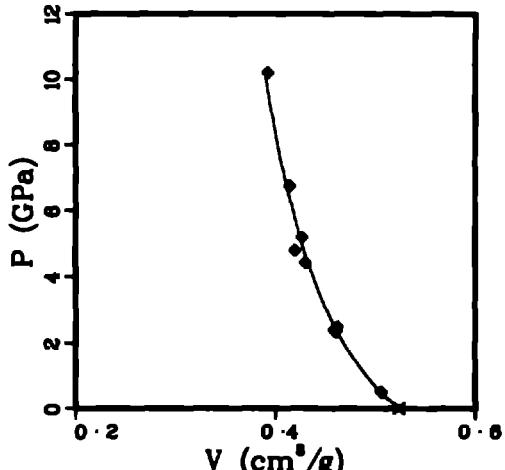
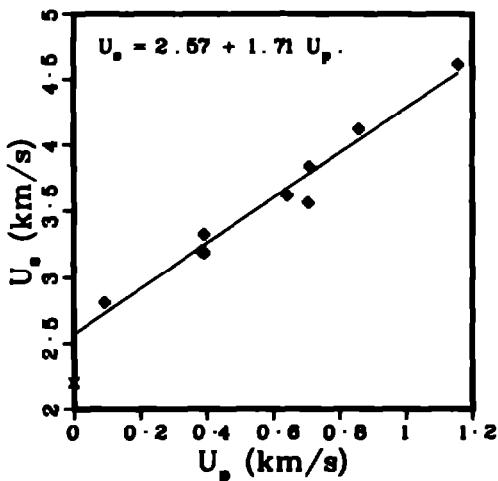


VOP-7 PROPELLANT

Average $\rho_0 = 1.910 \text{ g/cm}^3$.

Sound velocities longitudinal 2.20 km/s.
shear 0.00 km/s.

ρ_0 (g/cm ³)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm ³ /g)	ρ (g/cm ³)	V/V_0	Exp
1.910	2.200	0.000	0.000	.5236	1.910	1.000	ssp x
1.910	2.811	.093	.499	.5062	1.975	.967	wdg ♦
1.910	3.195	.385	2.349	.4805	2.172	.879	wdg ♦
1.910	3.323	.392	2.488	.4618	2.165	.882	wdg ♦
1.910	3.186	.394	2.398	.4588	2.180	.876	wdg ♦
1.910	3.615	.643	4.440	.4304	2.323	.822	wdg ♦
1.910	3.561	.706	4.802	.4198	2.382	.802	wdg ♦
1.910	3.835	.710	5.201	.4286	2.344	.815	wdg ♦
1.910	4.121	.858	6.753	.4146	2.412	.792	wdg ♦
1.910	4.614	1.157	10.196	.3923	2.549	.749	wdg ♦



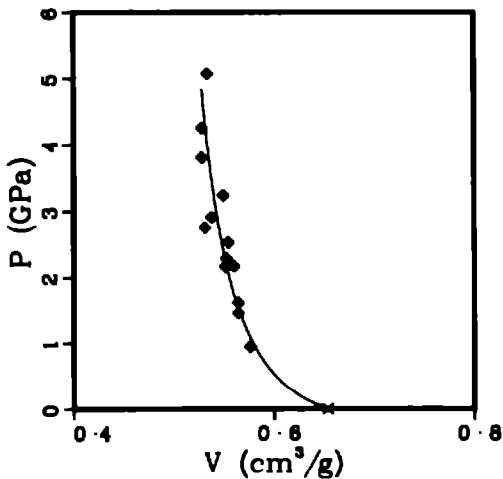
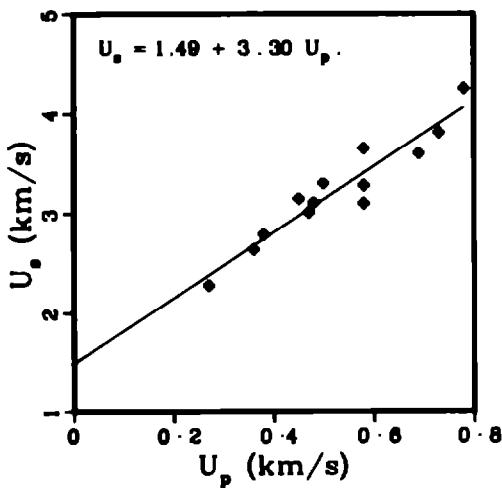
XTX-8003 .

80/20 wt% superfine PETN/Sylgard

Average $\rho_0 = 1.530 \text{ g/cm}^3$.

Reference 64

ρ_0 (g/cm^3)	U_s (km/s)	U_p (km/s)	P (GPa)	V (cm^3/g)	ρ (g/cm^3)	V/V_0	Exp
1.530	2.280	.270	.942	.5762	1.736	.882	wdg •
1.530	2.640	.360	1.454	.5845	1.772	.864	wdg •
1.530	2.790	.380	1.622	.5848	1.771	.864	wdg •
1.530	3.150	.450	2.169	.5802	1.785	.857	wdg •
1.530	3.010	.470	2.164	.5515	1.813	.844	wdg •
1.530	3.110	.480	2.284	.5527	1.809	.846	wdg •
1.530	3.300	.500	2.524	.5548	1.803	.848	wdg •
1.530	3.650	.580	3.239	.5497	1.819	.841	wdg •
1.530	3.280	.580	2.911	.5380	1.859	.823	wdg •
1.530	3.100	.580	2.751	.5313	1.882	.813	wdg •
1.530	3.800	.690	3.801	.5283	1.893	.808	wdg •
1.530	3.810	.730	4.255	.5284	1.893	.808	wdg •
1.530	4.250	.780	5.072	.5336	1.874	.816	wdg •



INDEX

- ACETONE, C_3H_6O , 544
ADIPRENE, 414
ALBITITE, Sylmar, Pennsylvania, 366
ALCOHOL, ethyl, C_2H_5O , 545
ALCOHOL, methyl, CH_3O , 546
ALCOHOL, n-amyl, $C_5H_{11}O$, 547
ALLUVIUM, Nevada Test Site, $\rho_o = 1.80$ g/cm³, 367
ALLUVIUM, Nevada Test Site, $\rho_o = 1.54$ g/cm³, 368
ALUMINUM, 921T, 162
ALUMINUM, 1100, 165
ALUMINUM, 2024, 166
ALUMINUM, 2024, sintered, $\rho_o = 2.6$ g/cm³, 173
ALUMINUM, 2024, sintered, $\rho_o = 2.2$ g/cm³, 175
ALUMINUM, 2024, sintered, $\rho_o = 2.0$ g/cm³, 177
ALUMINUM, 2024, sintered, $\rho_o = 1.7$ g/cm³, 179
ALUMINUM, 3003, 181
ALUMINUM, 6061, 182
ALUMINUM, 7075, 184
AMMONIA, liquid, $T_o = 203$ K, NH_3 , 548
ANDALUSITE, chiastolite, South Australia, 238
ANORTHOSITE, Tahawus, New York, 369
ANTHRACENE, reagent-grade, polycrystalline, pressed, 239
ANTIMONY, 14
ANTIMONY, fine-grain, chill-cast, 15
ARGON, liquid, 16
ARGON, liquid, Reflected-shock data, 17
ARGON, solid, $T_o = 75$ K, 18
BALSA, 530
BARATOL, barium nitrate-24 wt% TNT, 592
BARIUM, 19
BARIUM TITANATE, 240
BENZENE, C_6H_6 , 549
BERYLLIUM, sintered, 21
BERYLLIUM OXIDE, $\rho_o = 3.0$ g/cm³, 241
BERYLLIUM OXIDE, $\rho_o = 2.8$ g/cm³, 242
BERYLLIUM OXIDE, $\rho_o = 2.4$ g/cm³, 243
BIRCH, 532
BISMUTH, 23
BORIC ACID, 244
BORON, 24
BORON CARBIDE, $\rho_o = 2.4$ g/cm³, 245
BORON CARBIDE, $\rho_o = 1.9$ g/cm³, 246
BORON NITRIDE, pressed, $\rho_o = 2.15$ g/cm³, 247
BORON NITRIDE, pressed, $\rho_o = 2.12$ g/cm³, 248
BORON NITRIDE, pressed, $\rho_o = 2.08$ g/cm³, 249
BORON NITRIDE, pressed, $\rho_o = 1.95$ g/cm³, 251
BORON NITRIDE, pressed, $\rho_o = 1.88$ g/cm³, 252
BORON NITRIDE, pressed, $\rho_o = 1.81$ g/cm³, 253
BRASS, free-machining, high-leaded 61.5/36.0/2.5 wt% Cu/Zn/Pb, 186
BRASS, muntz metal 60.6/39.3 wt% Cu/Zn, 188
BROMOETHANE, C_2H_5Br , 551
BROMOFORM, $CHBr_3$, 552
BRONZITITE, Bushveld Complex, Transvaal, 370
BRONZITITE, Stillwater Complex, Montana, 371
CADMIUM, 25
CALCIUM, 26
CALCIUM OXIDE, pressed, 254
CARBON, diamond, pressed, 28
CARBON, fibers woven three-dimensionally, 29
CARBON, foamed, $\rho_o = 0.56$ g/cm³, 30
CARBON, foamed, $\rho_o = 0.48$ g/cm³, 32
CARBON, foamed, $\rho_o = 0.32$ g/cm³, 33
CARBON, foamed, $\rho_o = 0.29$ g/cm³, 34
CARBON, foamed, $\rho_o = 0.27$ g/cm³, 35
CARBON, graphite, $\rho_o = 1.0$ g/cm³, 48
CARBON, graphite, ATJ, $\rho_o = 1.77$ g/cm³, 45
CARBON, graphite, powdered, unpressed, 36
CARBON, graphite, pressed, $\rho_o = 2.13$ g/cm³, 39
CARBON, graphite, pressed, $\rho_o = 2.03$ g/cm³, 40
CARBON, graphite, pressed, $\rho_o = 1.93$ g/cm³, 43

- CARBON, graphite, pressed, $\rho_0 = 1.88 \text{ g/cm}^3$, 44
 CARBON, graphite, PT 0178, $\rho_0 = 1.54 \text{ g/cm}^3$, 47
 CARBON, graphite, pyrolytic, $\rho_0 = 2.21 \text{ g/cm}^3$, 37
 CARBON, graphite, ZTA, $\rho_0 = 1.95 \text{ g/cm}^3$, 41
 CARBON, vitreous, 50
 CARBON DISULFIDE, CS₂, 553
 CARBON TETRACHLORIDE, CCl₄, 555
 CASSITERITE, San Luis Potosí, Mexico, 255
 CELLULOSE ACETATE, 415
 CERIUM, 52
 CERIUM OXIDE, powdered, unpressed, 256
 CESIUM, 54
 CESIUM BROMIDE, single-crystal, [100], 257
 CESIUM CHLORIDE, 7.0 molar aqueous solution, 578
 CESIUM CHLORIDE, 7.0 molar aqueous solution, Reflected-shock data, 579
 CESIUM CHLORIDE, 4.7 molar aqueous solution, 580
 CESIUM CHLORIDE, 4.7 molar aqueous solution, Reflected-shock data, 581
 CESIUM CHLORIDE, 2.4 molar aqueous solution, 582
 CESIUM CHLORIDE, 2.4 molar aqueous solution, Reflected-shock data, 583
 CESIUM FLUORIDE, single-crystal, [100], 258
 CESIUM IODIDE, single-crystal, [100], 259
 CHERRY, $\rho_0 = 0.60 \text{ g/cm}^3$, 533
 CHERRY, $\rho_0 = 0.51 \text{ g/cm}^3$, 534
 CHROMIUM, 55
 COBALT, 56
 COMPOSITION B, RDX-36 wt% TNT-1 wt% wax, 593
 COPPER, 57
 COPPER-27.2 wt% BORON CARBIDE, 484
 COPPER, powdered, unpressed, 61
 COPPER, sintered, $\rho_0 = 7.9 \text{ g/cm}^3$, 62
 COPPER, sintered, $\rho_0 = 7.3 \text{ g/cm}^3$, 63
 COPPER, sintered, $\rho_0 = 6.3 \text{ g/cm}^3$, 64
 COPPER, sintered, $\rho_0 = 5.7 \text{ g/cm}^3$, 65
 COPPER, sintered, $\rho_0 = 4.5 \text{ g/cm}^3$, 66
 COPPER OXIDE-56 wt% EPOXY, 485
 CORUNDUM, 260
 CORUNDUM, ceramic, $\rho_0 = 3.83 \text{ g/cm}^3$, 262
 CORUNDUM, ceramic, $\rho_0 = 3.74 \text{ g/cm}^3$, 263
 CORUNDUM MIXTURE 85.2/9.7/2.7/2.4 wt% Al₂O₃/SiO₂/MgO/CaO-BaO, 373
 CYCLOHEXADIENE, 1-3, C₆H₈, 557
 CYCLOHEXADIENE, 1-4, C₆H₈, 558
 CYCLOHEXANE, C₆H₁₂, 559
 CYCLOHEXENE, C₆H₁₀, 560
 DEUTERIUM, liquid, T₀ = 20 K, 67
 DEUTERIUM, liquid, T₀ = 20 K,
 Reflected-shock data, 68
 DIABASE, Centreville, Virginia, 374
 DIABASE, Frederick, Maryland, 375
 DUNITE, Jackson County,
 North Carolina, 376
 DUNITE, Mooihoeck Mine, Transvaal, 378
 DUNITE, Twin Sisters Peaks, Washington, 380
 DYSPROSIUM, 69
 ECLOGITE, Healdsburg, California, 382
 ECLOGITE, Sunmore, Norway, 384
 ENSTATITE, ceramic, $\rho_0 = 3.01 \text{ g/cm}^3$, 264
 ENSTATITE, ceramic, $\rho_0 = 2.95 \text{ g/cm}^3$, 266
 ENSTATITE, ceramic, $\rho_0 = 2.83 \text{ g/cm}^3$, 267
 ENSTATITE, ceramic, $\rho_0 = 2.76 \text{ g/cm}^3$, 268
 ENSTATITE, ceramic, $\rho_0 = 2.71 \text{ g/cm}^3$, 269
 EPOXY, Epon 828, 417
 EPOXY-40 vol% CORUNDUM, 486
 EPOXY-40 vol% ENSTATITE, 487
 EPOXY-40 vol% FORSTERITE,
 $\rho_0 = 2.2 \text{ g/cm}^3$, 488
 EPOXY-40 vol% FORSTERITE,
 $\rho_0 = 2.0 \text{ g/cm}^3$, 489
 EPOXY-40 vol% PERICLASE, 490
 EPOXY-40 vol% QUARTZ, 491
 EPOXY-40 vol% SPINEL, 493
 EPOXY-40 vol% WOLLASTONITE, 494
 EPOXY-71 wt% LITHIUM ALUMINUM SILICATE, 495
 EPOXY-90 wt% LITHIUM TETRABORATE, 496
 ERBIUM, 71
 ERBIUM, cold-pressed, $\rho_0 = 8.3 \text{ g/cm}^3$, 73
 ERBIUM, cold-pressed, $\rho_0 = 7.8 \text{ g/cm}^3$, 74
 ERBIUM, cold-pressed, $\rho_0 = 7.2 \text{ g/cm}^3$, 75
 ESTANE, 420
 ETHER, ethyl, C₂H₅O, 561
 ETHYLENE GLYCOL, C₂H₆O₂, 562
 EUROPiUM, 76
 FAYALITE, Rockport, Massachusetts, 270
 FIR, Douglas, 535
 FIR, white, 536
 FKM PROPELLANT, 594
 FORSTERITE, ceramic, $\rho_0 = 3.20 \text{ g/cm}^3$, 271
 FORSTERITE, ceramic, $\rho_0 = 3.06 \text{ g/cm}^3$, 273
 GABRO, Bytownite, Duluth, Minnesota, 386
 GABRO, San Marcos, Escondido,
 California, 387
 GADOLINIUM, 77
 GARNET, grossularite, 274
 GAS SHALE, Devonian, Lincoln County,
 West Virginia, 388
 GERMANIUM, 79
 GLASS, high-density, Nuclear Pacific
 x-ray plate, 392
 GLASS, high-density, Shott Optical
 Company, 393
 GLASS, Pyrex, 394
 GLYCEROL, C₃H₈O₃, 563
 GOLD, 81
 GOLD-5.8 wt% GERMANIUM, 189
 GOLD-7.9 wt% GERMANIUM, 190
 GOLD-9.3 wt% GERMANIUM, 191
 GOLD-20.6 wt% LEAD, 192
 GOLD-33.5 wt% LEAD, 193
 GRANITE, Westerly, Rhode Island, 395

- HAFNIUM, 82
 HAFNIUM TITANATE, $\rho_0 = 6.93 \text{ g/cm}^3$, 275
 HAFNIUM TITANATE, $\rho_0 = 5.60 \text{ g/cm}^3$, 276
 HAFNIUM TITANATE, $\rho_0 = 4.37 \text{ g/cm}^3$, 277
 HEMATITE, 278
 HEXANE, C_6H_{14} , 564
 HMX, single-crystal, 595
 HMX, solvent-pressed, 596
 HMX-40 wt% TATB-10 wt% Kel F 800, 597
 HOLMIUM, 84
 HYDROGEN, liquid, $T_0 = 20 \text{ K}$, 85
 HYDROGEN, liquid, $T_0 = 20 \text{ K}$,
 Reflected-shock data, 86
 ILMENITE, Kragerø, Norway, 279
 INDIUM, 87
 IRIDIUM, 88
 IRON, 89
 IRON, cast, 194
 IRON MAGNESIUM OXIDE, $Fe_{20}Mg_{10}O$, 280
 IRON, sintered, $\rho_0 = 7.0 \text{ g/cm}^3$, 93
 IRON, sintered, $\rho_0 = 6.0 \text{ g/cm}^3$, 95
 IRON, sintered, $\rho_0 = 4.7 \text{ g/cm}^3$, 96
 IRON, sintered, $\rho_0 = 3.4 \text{ g/cm}^3$, 97
 IRON-40.0 wt% COBALT, 195
 IRON-10.0 wt% NICKEL, 197
 IRON-17.9 wt% NICKEL, 198
 IRON-26.2 wt% NICKEL, 199
 IRON-2.9 wt% SILICON, 200
 IRON-3.8 wt% SILICON, 201
 IRON-4.6 wt% SILICON, 202
 IRON-6.9 wt% SILICON, 203
 IRON-20 wt% SILICON, 204
 IRON-25 wt% SILICON, 205
 IRON-10.0 wt% VANADIUM, 206
 JADEITE, Burma, 396
 KYANITE, ceramic, $\rho_0 = 3.6 \text{ g/cm}^3$, 281
 KYANITE, ceramic, $\rho_0 = 2.9 \text{ g/cm}^3$, 282
 LANTHANUM, 98
 LEAD, 100
 LEAD, powdered, unpressed, 103
 LEAD ZIRCONIUM TITANATE, PZT, 283
 LITHIUM, 104
 LITHIUM BROMIDE, single-crystal, [100], 284
 LITHIUM CHLORIDE, single-crystal, [100], 285
 LITHIUM DEUTERIDE, pressed, 286
 LITHIUM DEUTERIDE, single-crystal, 287
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.80 \text{ g/cm}^3$, 288
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.76 \text{ g/cm}^3$, 289
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.74 \text{ g/cm}^3$, 291
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.66 \text{ g/cm}^3$, 292
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.58 \text{ g/cm}^3$, 293
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.51 \text{ g/cm}^3$, 294
 LITHIUM-6 DEUTERIDE, pressed,
 $\rho_0 = 0.45 \text{ g/cm}^3$, 295
 LITHIUM FLUORIDE, single-crystal, [100], 296
 LITHIUM HYDRIDE single-crystal and
 pressed, 298
 LITHIUM-6 HYDRIDE, pressed, 300
 LX-04, HMX-15 wt% Viton, solvent-pressed,
 fine-grain HMX, 598
 MAGNESIUM, 105
 MAGNESIUM, AZ31B, 208
 MAGNESIUM-14 wt% Li-1 wt% Al, 211
 MAGNETITE, 301
 MAHOGANY, Honduras, 537
 MAHOGANY, Philippine, 538
 MAPLE, 539
 MELMAC, 421
 MERCURY, 107
 METHANE, dibromo-, CH_2Br_2 , 565
 METHANE, dichloro-, CH_2Cl_2 , 566
 METHANE, diiodo-, CH_2I_2 , 567
 METHANE, trichloro-, chloroform,
 $CHCl_3$, 568
 MICARTA, 422
 MOLYBDENUM, 108
 MONONITROTOLUENE, 570
 MULLITE, ceramic, $\rho_0 = 3.15 \text{ g/cm}^3$, 303
 MULLITE, ceramic, $\rho_0 = 2.67 \text{ g/cm}^3$, 304
 NEODYMIUM, 110
 NEOPRENE, 423
 NICKEL, 111
 NIOBİUM, 112
 NIOBİUM CARBIDE, $\rho_0 = 7.5 \text{ g/cm}^3$, 305
 NIOBİUM CARBIDE, $\rho_0 = 7.2 \text{ g/cm}^3$, 306
 NIOBİUM CARBIDE-50 wt% CARBON, 497
 NIOBİUM CARBIDE-70 wt% CARBON, 498
 NITROGEN, liquid, $T_0 = 75 \text{ K}$, 113
 NITROMETHANE, 599
 N-HEXANE, C_6H_{14} , 571
 NQ, commercial-grain, 600
 NQ, 1964 commercial-grain, 601
 NQ-2 wt% B square wax-2 wt% Elvax,
 large-grain NQ, 602
 NQ-5 wt% Estane, 1968 commercial-grain
 NQ, $\rho_0 = 1.70 \text{ g/cm}^3$, 603
 NQ-5 wt% Estane, 1968 commercial-grain
 NQ, $\rho_0 = 1.66 \text{ g/cm}^3$, 604
 NQ-5 wt% Estane, 1968 large-grain NQ, 605
 NQ-10 wt% Estane, commercial-grain NQ, 606
 NQ-10 wt% Estane, large-grain NQ, 607
 OAK, white, 540
 OIL SHALE, Green River, Rifle, Colorado, 397
 OLIVINE, 307
 OXYGEN, liquid, 115
 OXYGEN, liquid,
 Reflected-shock data, 116
 PALLADIUM, 118
 PARAFFIN, 424
 PARAFFIN-81.3 wt% ALPHA QUARTZ, 499

- PARAFFIN**-65.6 wt% CORUNDUM, 500
PARAFFIN-80.2 wt% ENSTATITE, 501
PARAFFIN-85.3 wt% FORSTERITE, 502
PARAFFIN-61.0 wt% HEMATITE, 503
PARAFFIN-84.2 wt% PERICLASE, 504
PBX 9011-06, HMX-10 wt% Estane, 608
PBX 9404 DENSITY MOCKUP, 900-10, 609
PBX 9404 NEUTRONIC MOCKUP,
905-03, 610
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF,
 $\rho_0 = 1.84 \text{ g/cm}^3$, 611
PBX 9404-03, HMX-3 wt% NC-3 wt% CEF,
 $\rho_0 = 1.72 \text{ g/cm}^3$, 613
PBX 9405-01, RDX-3 wt% NC-3 wt% CEF, 614
PBX 9407, 94/6 wt% RDX/Exon, 615
PBX 9501-01, HMX-2.5 wt% Estane-2.5 wt%
BDNPF, BDNPF-bisdinitropropyl formal, 616
PBX 9502, TATB-5 wt% Kel F 800,
Panter standard TATB, 617
PERICLASE, ceramic, $\rho_0 = 3.34 \text{ g/cm}^3$, 308
PERICLASE, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$, 310
PERICLASE, ceramic, $\rho_0 = 2.8 \text{ g/cm}^3$, 311
PERICLASE, single-crystal, 312
PERICLASE MIXTURE, 50/50 mol%
 $\text{MgO}/\text{Al}_2\text{O}_3$, 400
PERICLASE MIXTURE, 50/50 mol%
 $\text{MgO}/\text{fused SiO}_2$, 401
PERICLASE MIXTURE, $\rho_0 = 1.89 \text{ g/cm}^3$,
67/33 mol% $\text{MgO}/\text{fused SiO}_2$, 402
PERICLASE MIXTURE, $\rho_0 = 1.69 \text{ g/cm}^3$,
67/33 mol% $\text{MgO}/\text{fused SiO}_2$, 403
PETN, pressed, $\rho_0 = 1.75 \text{ g/cm}^3$, 618
PETN, pressed, $\rho_0 = 1.72 \text{ g/cm}^3$, 619
PETN, pressed, $\rho_0 = 1.60 \text{ g/cm}^3$, 620
PETN, single-crystal, 621
PHENANTHRENE, reagent-grade,
polycrystalline, pressed, 314
PHENOLIC, Durite HR 300, 426
PHENOLIC, furfural-filled, 428
PHENOLIC REFRASIL, low-density
phenolic, GE M-3057, 505
PHENOLIC REFRASIL,
McDonnell-Douglas, 506
PHENOLIC REFRASIL, multiple-warp,
GE 2B-3057, 507
PHENOLIC REFRASIL, one-dimensional
weave, Avco, 508
PHENOLIC REFRASIL, three-dimensional
weave, Avco, 509
PHENOXY, PRDA 8060, 429
PINE, sugar, 541
PLATINUM, 119
POLYAMIDE, Nylon, 430
POLYCARBONATE, Lexan and Merlon, 432
POLYCHLOROTRIFLUOROETHYLENE,
Kel-F, 434
POLYESTER, Clear Cast, Selectron, 436
POLYESTER, fiber-glass reinforced, Doron, 438
POLYETHYLENE, 439
POLYETHYLENE, high-density,
Marlex 50, 442
POLYETHYLENE, high-density,
Marlex EMN 6065, 441
POLYIMIDE, 444
POLYMETHYL METHACRYLATE, acrylic,
Plexiglas, 446
POLYPHENYL QUINOXALINE, 452
POLYPROPYLENE, 454
POLYSTYRENE, foamed, 456
POLYSTYRENE, foamed, pressed,
 $\rho_0 = 0.30 \text{ g/cm}^3$, 458
POLYSTYRENE, foamed, pressed,
 $\rho_0 = 0.20 \text{ g/cm}^3$, 459
POLYSTYRENE, foamed, pressed,
 $\rho_0 = 0.15 \text{ g/cm}^3$, 460
POLYSTYRENE, foamed, pressed,
 $\rho_0 = 0.10 \text{ g/cm}^3$, 461
POLYSTYRENE, foamed, pressed,
 $\rho_0 = 0.08 \text{ g/cm}^3$, 462
POLYSTYRENE, Styrolux, 463
POLYSULFONE, 465
POLYTETRAFLUOROETHYLENE, Teflon, 467
POLYURETHANE, 469
POLYURETHANE, foamed,
 $\rho_0 = 0.32 \text{ g/cm}^3$, 471
POLYURETHANE, foamed,
 $\rho_0 = 0.28 \text{ g/cm}^3$, 472
POLYURETHANE, foamed,
 $\rho_0 = 0.16 \text{ g/cm}^3$, 473
POLYURETHANE, foamed,
 $\rho_0 = 0.09 \text{ g/cm}^3$, 474
POLYURETHANE, FOAMED-50 wt%
LITHIUM ALUMINUM SILICATE, 510
POLYVINYL CHLORIDE, Boltron, 475
POLYVINYLDENE FLUORIDE, Kynar, 477
POLY 4-METHYL-1-PENTENE, TPX, 479
POTASSIUM, 121
POTASSIUM BROMIDE, single-crystal,
[100], 315
PRASEODYMIUM, 122
PYRENE, reagent-grade, polycrystalline,
pressed, 316
PYROLUSITE, Ironton, Minnesota, 317
QUARTZ, ceramic, $\rho_0 = 2.1 \text{ g/cm}^3$, 318
QUARTZ, ceramic, $\rho_0 = 1.9 \text{ g/cm}^3$, 319
QUARTZ, fused, 321
QUARTZ, single-crystal, 324
QUARTZ, spun, 325
RDX-20 wt% aluminum-6 wt% wax,
30-micron aluminum, 624
RDX-2.5 wt% B square wax-2.5 wt%
Elvax, 623
RDX-40.4 wt% cyanuric acid-19.4 wt%
Sylgard, 625
RHENIUM, $\rho_0 = 21.0 \text{ g/cm}^3$, 124
RHENIUM, $\rho_0 = 20.5 \text{ g/cm}^3$, 125
RHODIUM, 126
RUBBER, Silastic, RTV-521, 481

- RUBIDIUM, 127
- RUTILE, 326
- SAMARIUM, 128
- SCANDIUM, 130
- SERPENTINE, Ver-myen, Italy, 327
- SILICON CARBIDE, $\rho_0 = 3.1 \text{ g/cm}^3$, 328
- SILICON CARBIDE, $\rho_0 = 3.0 \text{ g/cm}^3$, 329
- SILICON CARBIDE, $\rho_0 = 2.3 \text{ g/cm}^3$, 330
- SILICON CARBIDE-50 wt% CARBON, 511
- SILICON CARBIDE-60 wt% CARBON, 513
- SILICON NITRIDE-5 wt% PERICLASE, 514
- SILLIMANITE, Dillon, Montana, 331
- SILVER, 131
- SODIUM, 132
- SODIUM CHLORIDE, powdered, unpressed, 332
- SODIUM CHLORIDE, pressed, 333
- SODIUM CHLORIDE, single-crystal, [100], 335
- SODIUM CHLORIDE, single-crystal, [110], 339
- SODIUM CHLORIDE, single-crystal, [111], 340
- SODIUM FLUORIDE, single-crystal, [100], 343
- SPINEL, ceramic, $\rho_0 = 3.48 \text{ g/cm}^3$, 344
- SPINEL, ceramic, $\rho_0 = 3.42 \text{ g/cm}^3$, 345
- SPINEL, ceramic, $\rho_0 = 3.0 \text{ g/cm}^3$, 347
- SPINEL, hot-pressed, 348
- SPINEL, single-crystal, 349
- STEEL, 304, 212
- STEEL, 304, ferritic phase, 213
- STEEL, 304L, 214
- STEEL, 347, 215
- STEEL, 348, 217
- STEEL, maraging, Almar, 218
- STEEL, maraging, HP 9-4-20, 219
- STEEL, maraging, Vascomax 250, 220
- STEEL, maraging, Vascomax 300, 221
- STRONTIUM, 133
- SULFUR, rhombic, 135
- SYLGARD, 482
- TANTALUM, 136
- TANTALUM CARBIDE, $\rho_0 = 14.1 \text{ g/cm}^3$, 350
- TANTALUM CARBIDE, $\rho_0 = 12.6 \text{ g/cm}^3$, 351
- TANTALUM CARBIDE-70 wt% CARBON, $\rho_0 = 4.4 \text{ g/cm}^3$, 515
- TANTALUM CARBIDE-70 wt% CARBON, $\rho_0 = 2.0 \text{ g/cm}^3$, 516
- TANTALUM CARBIDE-85 wt% CARBON, $\rho_0 = 1.9 \text{ g/cm}^3$, 517
- TANTALUM CARBIDE-85 wt% CARBON, $\rho_0 = 1.8 \text{ g/cm}^3$, 518
- TATB-3 wt% B square wax-3 wt% Elvax, 1968 TATB, 627
- TATB-5 wt% B square wax-5 wt% Elvax, 1968 TATB, 628
- TATB-6 wt% Estane, bimodal 1968 TATB, 629
- TATB-6 wt% Estane, coarse 1968 TATB, 630
- TATB-10 wt% Estane, 1968 TATB, 631
- TATB-5 wt% Kel F 800, 632
- TATB-2.5 wt% Kel F 800-2.5 wt% Kel F 827, 1968 TATB, 638
- TATB-5 wt% Kel F 800-5 wt% Kel F 820, 1968 TATB, 639
- TATB-7.5 wt% Kel F 800-7.5 wt% Kel F 827, 1968 TATB, 640
- TATB-10 wt% Kel F 800, 1968 TATB, 636
- TATB-15 wt% Kel F 800, 1968 TATB, 637
- TATB-10 wt% Kel F 800, Pantex fine TATB, 633
- TATB-10 wt% Kel F 800, Pantex standard TATB, 634
- TATB-10 wt% Kel F 800, reprocessed TATB, 635
- TATB-4.5 wt% polystyrene-1.5 wt% DOP, 1968 TATB, 641
- TATB-6 wt% polystyrene-2 wt% DOP, 1968 TATB, 642
- TATB, purified 1972, 626
- TERBIUM, 137
- TETRYL, pressed, $\rho_0 = 1.7 \text{ g/cm}^3$, 643
- TETRYL, pressed, $\rho_0 = 1.6 \text{ g/cm}^3$, 644
- TETRYL, pressed, $\rho_0 = 1.5 \text{ g/cm}^3$, 645
- TETRYL, pressed, $\rho_0 = 1.4 \text{ g/cm}^3$, 646
- TETRYL, pressed, $\rho_0 = 1.3 \text{ g/cm}^3$, 647
- THALLIUM, 138
- THORIUM, 139
- THULIUM, 140
- TIN, 141
- TITANIUM, 143
- TITANIUM CARBIDE, 352
- TITANIUM CARBIDE-50 wt% CARBON, 519
- TITANIUM CARBIDE-80 wt% CARBON, 521
- TITANIUM DIBORIDE, 354
- TNT, creamed, cast, 648
- TNT, liquid, $T_0 = 81^\circ\text{C}$, 649
- TOLUENE, $\text{C}_6\text{H}_5\text{CH}_3$, 572
- TOURMALINE, 355
- TUFF, Nevada Test Site, $\rho_0 = 1.7 \text{ g/cm}^3$, 404
- TUFF, Nevada Test Site, $\rho_0 = 1.3 \text{ g/cm}^3$, 406
- TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.9 \text{ g/cm}^3$, 408
- TUFF, Nevada Test Site, water-saturated, $\rho_0 = 1.7 \text{ g/cm}^3$, 410
- TUFF, unpressed powder, 411
- TUNGSTEN, $\rho_0 = 19.2 \text{ g/cm}^3$, 145
- TUNGSTEN, $\rho_0 = 18.7 \text{ g/cm}^3$, 147
- TUNGSTEN, SINTERED-24 wt% INFILTRATED COPPER, Elktonite 10W3, 523
- TUNGSTEN, SINTERED-32 wt% INFILTRATED COPPER, Elktonite 3W3, 524
- TUNGSTEN, SINTERED-45 wt% INFILTRATED COPPER, Elktonite 1W3, 525

- TUNGSTEN, SINTERED-75 wt%
 INFILTRATED COPPER,
 Elkonite 2125C, 526
 TUNGSTEN CARBIDE-5 wt% COBALT, 222
 TUNGSTEN CARBIDE,
 SINTERED-44 wt% INFILTRATED
 COPPER, Elkonite TC10, 527
 TUNGSTEN CARBIDE,
 SINTERED-60 wt% INFILTRATED
 SILVER, Elkonite G-12, 528
 URANIUM, 148
 URANIUM-2.0 wt% MOLYBDENUM, 223
 URANIUM-3.0 wt% MOLYBDENUM, 224
 URANIUM-8.3 wt% MOLYBDENUM, 227
 URANIUM-4.7 wt% NIOBIA, 228
 URANIUM-6.0 wt% NIOBIA, 229
 URANIUM-2.5 wt% Nb-1.3 wt% Ti, 236
 URANIUM-1.0 wt% RHODIUM, 230
 URANIUM-5.4 wt% RHODIUM, 232
 URANIUM-13.4 wt% RHODIUM, 233
 URANIUM-0.6 wt% TITANIUM, 235
 URANIUM DIOXIDE, ρ_0 - 10.3 g/cm³, 356
 URANIUM DIOXIDE, ρ_0 = 6.3 g/cm³, 357
 URANIUM DIOXIDE, ρ_0 = 4.3 g/cm³, 358
 URANIUM DIOXIDE, ρ_0 = 3.1 g/cm³, 359
 URANIUM HYDRIDE, 360
- VANADIUM, 152
 VOP-7 PROPELLANT, 650
 WALNUT, 542
 WATER, H₂O, 573
 WATER, Reflected-shock data, 575
 WOLLASTONITE, ρ_0 = 2.89 g/cm³, 361
 WOLLASTONITE, ρ_0 = 2.82 g/cm³, 362
 XTX-8003, 80/20 wt% superfine
 PETN/Sylgard, 651
 YTTERBIUM, 153
 YTTRIUM, 155
 ZINC, 156
 ZINC CHLORIDE, 9.1 molar aqueous
 solution, 584
 ZINC CHLORIDE, 9.1 molar aqueous solution,
 Reflected-shock data, 585
 ZINC CHLORIDE, 6.2 molar aqueous solution, 586
 ZINC CHLORIDE, 6.2 molar aqueous solution,
 Reflected-shock data, 587
 ZINC CHLORIDE, 4.3 molar aqueous
 solution, 588
 ZINC CHLORIDE, 4.3 molar aqueous solution,
 Reflected-shock data, 589
 ZIRCONIUM, 158
 ZIRCONIUM DIBORIDE, 363
 ZIRCONIUM DIOXIDE, 364