

TABLE AI. (Continued)

Material	Condition	Transition conditions		Technique	Remarks	References
		Stress (GPa)	Compression (%)			
Bismuth	Cast and hot pressed	2.72	6.54	E-1	6.6 to 25.2 mm, 3 mm grain size $\rho_0 = 9.80 \text{ Mg/m}^3$	Duff <i>et al.</i> (1957)
Bismuth	Cast and hot pressed	3.13	7.54	E-1	22 mm, $T_0 = 300 \text{ K}$ , 3 mm grain size $\rho_0 = 9.80 \text{ Mg/m}^3$	Duff <i>et al.</i> (1957)
Bismuth	Cast and hot pressed	2.53	6.12	E-1	20 mm, $T_0 = 360 \text{ K}$ , 3 mm grain size $\rho_0 = 9.80 \text{ Mg/m}^3$	Duff <i>et al.</i> (1957)
Bismuth	Cast and hot pressed	1.76	3.83	E-1	20.4 mm, $T_0 = 509 \text{ K}$ , 3 mm grain size $\rho_0 = 9.80 \text{ Mg/m}^3$	Duff <i>et al.</i> (1957)
Bismuth	Cast	2.98-2.27	7.2-5.6	G-7	3 to 6 mm	Hughes <i>et al.</i> (1961)
Bismuth	Cast	2.65-2.46	6.1-5.9	E-8	1.6 to 12.7 mm, $\tau$ , 21 samples $\rho_0 = 9.80 \text{ Mg/m}^3$	Larson (1967)
Bismuth	Pressed	2.65-2.45	6.3-5.8	E-8	1.4 to 4.5 mm, $\tau$ , 7 samples	Larson (1967)
Bismuth	Crystal, <i>a</i> axis	2.46	5.8	E-8	3.1 to 4.4 mm, $\tau$ , 3 samples	Larson (1967)
Bismuth	Crystal, <i>c</i> axis	2.56	6.1	E-8	1.2 to 4.4 mm, $\tau$ , 7 samples	Larson (1967)
Bismuth	Pressed	2.50-2.53	5.8	G-9	$\rho_0 = 9.756 \text{ Mg/m}^3$ , grain size 30 $\mu\text{m}$	Asay (1974)
Bismuth	...	7.0	...	E	$\rho_0 = 9.80 \text{ Mg/m}^3$ , thermoelectric effect	Romain (1974)
Carbon	Spectroscopically pure artificial graphite	...	...	E-17, 19	Diamonds recovered	DeCarli <i>et al.</i> (1961)
Carbon	Natural Ceylon graphite, high purity	40 and 60	...	...	75% to 95% theoretical density, +, ?	Alder <i>et al.</i> (1961), see Trunin <i>et al.</i> (1969) and Pavlovskii <i>et al.</i> (1966)
Carbon	Pyrolytic graphite	...	...	E, P-3	$\rho_0 = 2.2 \text{ Mg/m}^3$ , no transition	Coleburn (1964)
Carbon	Pyrolytic graphite	...	...	E-4	$\rho_0 = 2.18-2.20 \text{ Mg/m}^3$ , optical lever	Doran (1963a)
Carbon	Pyrolytic graphite	...	...	P-2	$\rho_0 = 2.20 \text{ Mg/m}^3$ , possible transition at 40 GPa	McQueen (1964)
Carbon	Pressed graphite	...	...	P-2	$\rho_0 = 2.15 \text{ Mg/m}^3$ , possible transition at 27 GPa	McQueen (1964)
Carbon	Synthetic graphite	...	...	P-1	$\rho_0 = 1.77 \text{ Mg/m}^3$ , +	Pavlovskii <i>et al.</i> (1966)
Carbon	Synthetic graphite	...	...	P-1	$\rho_0 = 1.85 \text{ Mg/m}^3$ , +	Pavlovskii <i>et al.</i> (1966)
Carbon	Ceylon graphite, ground pressed	...	...	P-1	$\rho_0 = 2.23 \text{ Mg/m}^3$ , +	Pavlovskii <i>et al.</i> (1966)
Carbon	Pyrolytic graphite	40	28	P-2	$\rho_0 = 2.20 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	Pressed graphite	23	...	P-2	$\rho_0 = 2.13 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	Pressed graphite	23	...	P-2	$\rho_0 = 2.03 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	ZTA graphite	23	...	P-2	$\rho_0 = 1.95 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	Pressed graphite	23	...	P-2	$\rho_0 = 1.88 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	ATJ graphite	23	...	P-2	$\rho_0 = 1.79 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	PT0178 graphite	23	...	P-2	$\rho_0 = 1.54 \text{ Mg/m}^3$	McQueen <i>et al.</i> (1968)
Carbon	Graphite, chemically pure	...	...	P-1	$\rho_0 = 1.878 \text{ Mg/m}^3$ ; found evidence that high pressure metallic phase reported by Alder was in error	Trunin <i>et al.</i> (1969)
Carbon	Decalcified natural graphite	25	~31	P-1	$\rho_0 = 2.08 \text{ Mg/m}^3$ , +	Dremin <i>et al.</i> (1968)
Carbon	Iron-graphite mixture	...	...	P-19	Electron microscopy, diamonds recovered	Trueb (1968)
Carbon	Copper-graphite mixtures	...	...	E-19	Electron microscopy, diamonds recovered	Trueb (1971)
Carbon	Madagascar graphite	...	...	P-19	$\rho_0 = 2.05 \text{ Mg/m}^3$ , pulse duration 300 ns	Pujols <i>et al.</i> (1970)
Carbon	Graphite	...	...	P	Diamonds recovered	Fournier <i>et al.</i> (1971)
Carbon	Diamond pressed powder	...	...	P-2	$\rho_0 = 3.20 \text{ Mg/m}^3$ , no transition observed between 43 and 128 GPa	McQueen <i>et al.</i> (1968)

TABLE AI. (Continued)

Material	Condition	Transition conditions		Technique	Remarks	References
		Stress (GPa)	Compression (%)			
<b>Carbon (Continued)</b>						
Carbon	Diamond crystal	...	...	P-1	No transition observed between 100 and 580 GPa	Pavlovskii (1971)
Carbon	Diamond pressed powder	...	...	P-1	$\rho_0 = 1.90 \text{ Mg/m}^3$ , no transition observed between 40 and 160 GPa	Pavlovskii (1971)
<b>Germanium</b>						
Germanium	[111], [100], and [114] orientations	12.5	...	E-2, 5	...	McQueen (1964)
Germanium	[111] orientation	$13.9 \pm 0.3$	12-13	G-14	Electrical resistance, $\tau$	Graham <i>et al.</i> (1966)
Germanium	[111] orientation	14.3	16.0	E-1, 10	$\tau$	Pavlovskii (1968)
Germanium	[111] orientation	...	...	E	Thermoelectric effect, wave velocities	Jacquesson <i>et al.</i> (1970)
<b>Silicon</b>						
Silicon	Crystal	...	...	E-4, 5	Wave profiles, $\phi, \psi$	McQueen (1964)
Silicon	[111] orientation	11.2	9.9	E-1, 10	$\tau$	Pavlovskii (1968)
Silicon	[100] orientation	$14.0 \pm 0.4$	10.3	E-6	6.4 mm, $\tau$	Gust <i>et al.</i> (1971)
Silicon	[110] orientation	$10.3 \pm 0.7$	7.2	E-6	6.4 mm, two successive transitions observed $\tau$	Gust <i>et al.</i> (1971)
Silicon	[111] orientation	$12.8 \pm 0.7$	10.3			
Silicon	[111] orientation	$10.1 \pm 0.3$	6.8	E-6	6.4 mm, two successive transitions observed, $\tau$	Gust <i>et al.</i> (1971)
Silicon	[111] orientation	$13.7 \pm 0.5$	10.7			
<b>Iodine</b>						
Iodine	Pressed pellet, commercial grade	<25	...	E-14	Electrical resistance	Alder <i>et al.</i> (1956a)
Iodine	Pressed pellet, commercial grade	>8, <13	...	E-14	Electrical resistance	Alder <i>et al.</i> (1956b)
Iodine	Crystalline	~70	47	?	?	Alder <i>et al.</i> (1960), see also McMahan <i>et al.</i> (1975)
Iodine	...	...	...	...	Calculations show no 70 GPa transition	McMahan <i>et al.</i> (1975)
<b>Phosphorus</b>						
Phosphorus	Red, pressed pellet	<25	...	E-14	Electrical resistance	Alder <i>et al.</i> (1956a)
Phosphorus	Red, pressed pellet	<10	...	E-14	...	Alder <i>et al.</i> (1956b)
Phosphorus	Red	~2.5	...	...	...	Grover <i>et al.</i> (1958)
Phosphorus	Yellow	~8.0	...	...	...	Grover <i>et al.</i> (1958)
<b>Other elements</b>						
Cerium	...	~2.5	~2.5	P-2	...	Carter (1973a)
Gadolinium	...	~38	...	P-2	$T_H \approx 1500 \text{ K}$	Carter (1973a)
Hafnium	...	~47	~23	P-2	...	Carter (1973a)
Selenium	...	...	...	G-14	Resistance change	Cole <i>et al.</i> (1971)
Sulfur	...	...	...	D-14	Resistance change, see also Table VII	David <i>et al.</i> (1958)
Tin	...	9.4	...	E-6	...	Duff <i>et al.</i> (1968)
Titanium	...	~18	~12	P-2	...	Carter (1973b)
Titanium	...	...	...	D-17	bcc phase recovered for $p_x > 12 \text{ GPa}$	German <i>et al.</i> (1970a)
Zirconium	...	~23	~16	P-2	...	Carter (1973b)
Zirconium	...	...	...	D-17	bcc phase recovered for $p_x = 3.0 \text{ GPa}$	German <i>et al.</i> (1970a)
Uranium	...	~50	20	E-2	$\rho_0 = 19.05 \text{ Mg/m}^3$	Viard (1962)
Ytterbium	Foil	~3.3	...	G-14	Electrical resistance	Ginsberg <i>et al.</i> (1973)
Plutonium	$\delta$ phase	~0.6	...	G-8, 11	Reversion on unloading at 0.8 GPa	Kamegai (1975)
<b>C. Compounds</b>						
<b>Alkali halides</b>						
KCl	Crystal	~2.1	...	P-1	3.5 mm, $\rho_0 = 1.99 \text{ Mg/m}^3$	Al'tshuler <i>et al.</i> (1963)
KCl	Crystal	$2.0 \pm 0.08$	...	E-8	...	Larson (1965)
KCl	Pressed	1.89	9.75	E-10	1.6 to 16.5 mm, $\rho_0 = 1.90 \text{ Mg/m}^3$	Dremin <i>et al.</i> (1965)
KCl	[001] crystal	1.9	7.8	E-10	Unloading showed hysteresis of 1.0 GPa	Al'tshuler <i>et al.</i> (1967)
KCl	[111], [100] crystal	$2.08 \pm 0.05$	8.6	G-8	Impact surface measurement, rates	Hayes (1974)