

TABLE II. SHEAR MODULUS

Element	$\mu \times 10^{-6}$ (kg/cm <sup>2</sup> )	Ref.
3 Li	0.0431 <sup>a,b</sup>	1
4 Be	1.46 $\pm$ 0.04	2, 3
5 B	2.07 <sup>c</sup>	—
6 C(g)	0.0332 $\pm$ 0.0006	4
6 C(d)	4.6 $\pm$ 1.0 <sup>b</sup>	5
11 Na	0.035 <sup>b,d</sup>	1
12 Mg	0.177	6
13 Al	0.271 $\pm$ 0.001	7, 8, 9
14 Si	0.405	6
15 P(w)	(0.018) <sup>e</sup>	—
15 P(r)	(0.073) <sup>e</sup>	—
15 P(b)	(0.115) <sup>e</sup>	—
16 S(r)	0.0737 <sup>b</sup>	5
19 K	0.013 <sup>b,d</sup>	1
20 Ca	0.075	6
21 Sc	(0.319) <sup>e</sup>	—
22 Ti	0.401 $\pm$ 0.005	2, 10
23 V	0.474 $\pm$ 0.001	2, 11
24 Cr	1.19 <sup>b</sup>	12
25 Mn	0.78	6
26 Fe	0.831 $\pm$ 0.006	8, 13
27 Co	0.779	13
28 Ni	0.765	13
29 Cu	0.460 $\pm$ 0.015	7, 8, 14
30 Zn	0.379	6
31 Ga	0.382 <sup>b,f</sup>	15
32 Ge	0.40	6
33 As	(0.149) <sup>e</sup>	—
34 Se	(0.221) <sup>e</sup>	—
37 Rb	(0.0102) <sup>e</sup>	—
38 Sr	(0.0533) <sup>e</sup>	—
39 Y	0.263 $\pm$ 0.004	16, 17
40 Zr	0.348 $\pm$ 0.008	2, 18, 19
41 Nb	0.382 $\pm$ 0.001	2, 20
42 Mo	1.18	21
43 Te	(1.45) <sup>e</sup>	—
44 Ru	1.63 <sup>e</sup>	—
45 Rh	1.50 $\pm$ 0.03	6, 14
46 Pd	0.521	7
47 Ag	0.292 $\pm$ 0.007	7, 14, 22
48 Cd	0.246	6
49 In	0.038	6
50 Sn(g)	0.188	23
50 Sn(w)	0.208	6
51 Sb	0.204	24
52 Te	0.157	24

TABLE II. SHEAR MODULUS—Continued

Element	$\mu \times 10^{-6}$ (kg/cm <sup>2</sup> )	Ref.
55 Cs	(0.0066) <sup>e</sup>	—
56 Ba	0.050	6
57 La	0.152	17
58 Ce( $\alpha$ )	0.085 <sup>e</sup>	25
58 Ce( $\gamma$ )	0.122	17
59 Pr	0.138	17
60 Nd	0.148	17
61 Pm	(0.17) <sup>e</sup>	—
62 Sm	0.129	17
63 Eu	(0.060) <sup>e</sup>	—
64 Gd	0.227	17
65 Tb	0.233	17
66 Dy	0.259	17
67 Ho	0.272	17
68 Er	0.302	17
69 Tm	(0.31) <sup>e</sup>	—
70 Yb	0.071	17
71 Lu	(0.345) <sup>e</sup>	—
72 Hf	0.540	6
73 Ta	0.700	6
74 W	1.56 $\pm$ 0.04	14, 19, 26, 27
75 Re	1.82 <sup>e</sup>	—
76 Os	(2.14) <sup>e</sup>	—
77 Ir	2.14	6, 14
78 Pt	0.622	7
79 Au	0.281 $\pm$ 0.003	7, 8, 14
80 Hg	0.102 <sup>a,b</sup>	5
81 Tl	0.028	6
82 Pb	0.055	28
83 Bi	0.131	6
84 Po	(0.097) <sup>e</sup>	—
87 Fr	(0.0063) <sup>e</sup>	—
88 Ra	(0.061) <sup>e</sup>	—
89 Ac	(0.138) <sup>e</sup>	—
90 Th	0.284 $\pm$ 0.002	2, 29
91 Pa	(0.398) <sup>e</sup>	—
92 U	0.75 $\pm$ 0.04	2, 30
93 Np	(0.406) <sup>e</sup>	—
94 Pu	0.446	31

<sup>a</sup> Value obtained at 83°K.<sup>b</sup> Single-crystal data.<sup>c</sup> Calculated from Young's modulus and the bulk modulus.<sup>d</sup> Value obtained at 90°K.<sup>e</sup> Estimated value; see text for further discussion.<sup>f</sup> Value obtained at 273°K.<sup>g</sup> Extrapolated from high-pressure data of Voronov *et al.*<sup>28</sup> to zero pressure.