

TABLE XVII. DEBYE TEMPERATURES OBTAINED FROM ELECTRICAL RESISTIVITY^a (θ_m^R), THERMAL EXPANSION^b (θ_m^D), AND X-RAY INTENSITIES^c DATA (θ_m^I)

Element	θ_m^R ^a (°K)	Ref.	θ_m^D ^b (°K)	Ref.	θ_{298}^I ^c (°K)	Ref.
3 Li	356 ± 26	1-3	—	—	306	13
6 C(d)	—	—	1860	9	1730 ± 220 ^d	14 ^d
11 Na	205 ± 28	1-3	—	—	114	15
12 Mg	357	1	—	—	307	16
13 Al	422 ± 17	1, 2	390 ± 11	10, 11	383	13
14 Si	—	—	—	—	555 ± 39	17, 18
19 K	148 ± 34	1, 3	—	—	—	—
21 Sc	275	4	—	—	—	—
22 Ti	342	5	270	12	—	—
23 V	—	—	—	—	337 ± 25 ^e	19
24 Cr	495	5	—	—	566	20
26 Fe	494 ± 25	5, 6	418 ± 3	10, 11	404 ± 17	20, 21
27 Co	401	5	—	—	—	—
28 Ni	274	5	405 ± 5	10, 11	341	20
29 Cu	336 ± 19	1-3	320 ± 5	9-11	308 ± 4	13, 22
32 Ge	—	—	—	—	283 ± 5	18
33 As	210	1	—	—	—	—
37 Rb	75 ± 10	1, 3	—	—	—	—
38 Sr	171	1	—	—	—	—
39 Y	201 ± 14	7, 8	—	—	—	—
40 Zr	281	5	—	—	—	—
42 Mo	—	—	388	10	389	20
44 Ru	426	5	—	—	341	16
45 Rh	394 ± 25	2, 5	—	—	—	—
46 Pd	270	5	300	10	—	—
47 Ag	219 ± 20	1-3, 9	209 ± 12	10-12	211	23
48 Cd	158	1	—	—	—	—
49 In	198	1	—	—	—	—
50 Sn(w)	210	5	—	—	—	—
51 Sb	241	5	—	—	—	—
55 Cs	45	3	—	—	—	—
56 Ba	133	1	—	—	—	—
73 Ta	228	5	252	10	—	—
74 W	359 ± 26	2, 5	310	10	—	—
75 Re	310	5	—	—	—	—
77 Ir	316	5	—	—	—	—
78 Pt	235 ± 5	5, 6	233 ± 3	9, 10	151 ± 26	24
79 Au	189 ± 14	1-3	183 ± 7	9-11	—	—
80 Hg	37 ^f	1	—	—	—	—
81 Tl	140	1	—	—	—	—
82 Pb	89 ± 3	2, 5	88	10	67.0	13
83 Bi	62	5	—	—	—	—
90 Th	168	5	—	—	—	—

^a θ_m^R is the Debye temperature determined from electrical resistivity data. These Debye temperatures usually correspond to an average value for a wide range of temperatures.

^b θ_m^D is the Debye temperature determined from thermal expansion data. These Debye temperatures usually correspond to an average value for a wide range of temperatures.

^c θ_{298}^I is the Debye temperature at 298°K as determined from X-ray intensity data. ^d This value was calculated by Herbstein¹⁴ from the data given by Carpenter²⁵ and Post.²⁶

^e Calculated from neutron diffraction data.

^f This value corresponds to that for solid mercury.

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