Table 17.1. Thermoelectric data for selected elements

Element	Z	L/L_0 300 K	L/L_0 20 K	α (μVK^{-1}) 300 K	α (μVK^{-1}) 100 K	$\mathcal{R}nec$ 300 K	$\mathcal{R}nec$ 100 K
Li	1	0.90	0.22	10.6	4.3	−1.02	−0.16
Na	1	0.91	0.30	−5.8	−2.6	−0.54	−0.50
K	1	0.92		−13.7	−5.2	−0.89	−0.95
Rb	1			−10.2	−3.6	−0.86	−0.91
Cs	1			−0.9		−0.99	
Cu	1	0.91	0.31	1.9	1.2	−0.72	−0.78
Ag	1	0.96	0.70	1.5	0.7	−0.84	−0.84
Au	1	0.96	0.76	1.9	0.8	−0.69	−0.68
Be	2	0.97	0.23	1.7	−2.5	−30.49	−30.49
Mg	2	0.97	0.78	−1.5	−2.1	−1.15	
Ca	2			10.3	1.1		
Sr	2			1.1	−3.0		
Ba	2			12.1	−4.0		
Zn	2	0.92	0.67	2.4	0.7	3.03	3.89
Cd	2	0.97	0.65	2.6	−0.1	2.06	1.48
Hg	2	1.49	0.65			−1.97	
Al	3	0.89	0.72	−1.7	−2.2	−0.96	−0.84
Ga	3			1.8	0.5	−0.96	
In	3			1.7	0.6	−1.00	−0.50
Sn	4			−0.9	−0.0	−0.05	
Pb	4			−1.3	−0.6	0.21	
Sb	5	1.58					
Bi	5	1.07					
Mn	4			−10.0	−2.5	4.41	−23.51
Fe	2	1.36	0.98	16.2	11.6		
Co	2			−30.8	−8.4		
Ni	2	0.83		−19.2	−8.5		

The Lorenz number is compared to Sommerfeld's value L_0 given in Eq. (17.76). The Hall coefficient is compared to the ideal value $-nec$ given after Eq. (17.97). The Seebeck coefficient α does not compare well with free electron theory. Measurements at 300 K encompass those taken from 290-300; those at 100 K range from 80K-100K. In some cases samples are single crystals, and measurements are reported parallel to c axis. Measurements along other axes may differ by factors of 2, and may even have opposite sign. Other samples are polycrystalline, and results depend upon grain size. Details should be sought in the sources, which are Burkov and Vedernikov (1995) p. 390, Landolt and Börnstein (1959) p. 97, and Grigoriev and Meilkhov (1997) p. 692.