



# Contents

## 5 Band structures and Fermi surfaces of metallic elements

A. P. CRACKNELL, Carnegie Laboratory of Physics, University of Dundee, Dundee DD1 4 HN, Scotland, U.K.

5.1 Introduction . . . . .	1
5.1.1 Background . . . . .	1
5.1.2 Arrangement of the tables . . . . .	1
5.1.3 Magnetic ordering . . . . .	3
5.1.4 Parametrization of energy bands and Fermi surfaces . . . . .	4
5.1.5 General remarks . . . . .	8
5.1.6 List of abbreviations . . . . .	13
5.1.7 List of frequently used symbols . . . . .	13
5.2 Literature survey of calculations and experiments on electron states and Fermi surfaces . . . . .	15
5.3 Data . . . . .	26
Ac . . . . .	26
Ag . . . . .	27
Al . . . . .	36
As . . . . .	42
Au . . . . .	47
Ba . . . . .	55
Be . . . . .	56
Bi . . . . .	64
C . . . . .	68
Ca . . . . .	73
Cd . . . . .	84
Ce . . . . .	92
Co . . . . .	93
Cr . . . . .	103
Cs . . . . .	114
Cu . . . . .	116
Dy . . . . .	130
Er . . . . .	132
Eu . . . . .	133
Fe . . . . .	138
Ga . . . . .	160
Gd . . . . .	174
Hf . . . . .	178
Hg . . . . .	179
Ho . . . . .	184
In . . . . .	184
Ir . . . . .	193
K . . . . .	197
La . . . . .	201
Li . . . . .	203
Lu . . . . .	209
Mg . . . . .	211
Mn . . . . .	217
Mo . . . . .	220
Na . . . . .	231
Nb . . . . .	235
Nd . . . . .	245
Ni . . . . .	246
Os . . . . .	271
Pb . . . . .	275
Pd . . . . .	281
Pr . . . . .	291
Pt . . . . .	293
Rb . . . . .	298
Re . . . . .	300
Rh . . . . .	308
Ru . . . . .	313
Sb . . . . .	315
Sc . . . . .	318
Sn . . . . .	323
Sr . . . . .	335
Ta . . . . .	337
Tb . . . . .	343
Th . . . . .	345
Ti . . . . .	353
Tl . . . . .	361
Tm . . . . .	372
U . . . . .	373
V . . . . .	374
W . . . . .	381
Y . . . . .	394
Yb . . . . .	397
Zn . . . . .	398
Zr . . . . .	403
5.4 References for 5.1–5.3 . . . . .	408

## Appendix

<b>Bravais lattices (conventional unit cells), primitive unit cells, reciprocal lattices and first Brillouin zones</b>	
1 Body centred cubic metals . . . . .	451
2 Face centred cubic metals . . . . .	452
3 Hexagonal close packed metals . . . . .	453
4 Body centred tetragonal metals . . . . .	454
5 Face centred tetragonal (nearly fcc) metals . . . . .	456
6 Rhombohedral metals . . . . .	457
7 Rhombohedral (triatomic hexagonal) metals . . . . .	458
8 Base centred orthorhombic metals . . . . .	459
9 Simple cubic and simple tetragonal metals . . . . .	461
References . . . . .	462