Contents

Contributors	••		••	••	••	••	••	••	v
Foreword	••	••	••	• •	••	••	••		vii
Preface	••	••	•••	•••	••	••	••	••	ix
Part I LIGHT-METAI		RA A	ND T	HEIR	INTE	RPRET	ΑΤΙΟΙ	N	
The Interpretation	ion of X	-Ray B	and S	pectra.	By G.	A. Ro	oke	••	3
Soft X-Ray En									
Alloys and A	lkali Ha	lides. E	By T. S	agawa	••	• •	••	••	29
Soft X-Ray Er									
L. M. Watson									45
Soft X-Ray En									
Beryllium, Al		-					-	-	59
G. Wiech Sur Les Spect	 trac V	 dec M	· · Latauv	 01101		 Comm	 antaira	··	39
Exemples. By									71
K-Absorption of									/1
H. Yee and B					-				81
A Survey of Ex									
Spectra using									93
Part 2									
HEAVY META					A ANI		1PARI:	SON	
Soft X-Ray En	nission I	Bands	and B	onding	g for T	ransiti	on Me	etals,	
Solutions and	l Compo	unds (t	ogethe	r with	Introd	uctory	Remar	ks to	
Part 2). By J.	E. Holli	day	•••	••	••	••			101
Soft X-Ray Er									
Liefeld									133
Soft X-Ray Spo									
with the The									1.71
McAlister, M									151
Distributions d									163
Spectroscopie Soft X-Ray E	e X. By (. Boni	nelle	••• •••		 Drobler	 no in	 thair	103
Interpretation									173
Comment. On th	ne Intern	retatio	n of X	-Rav R	and Sr	••• ectra fi	rom Al	lovs	175
By G. A. Roo	· -			•	-			-	185

CONTENTS

Review of	Optio	cal Pr	operties	of Me	etals and	Allo	ys due to	o Inter	band	
Transitio	ons. I	By F.	Abelès	•••						191
Comment.	The	Role	of Elec	tron-e	mission	Spect	roscopy	7. By I	D. J.	
Fabian .	•	••	••	••	••	••		••	••	215

Part 3

BAND STRUCTURE AND THE THEORY OF SOFT X-RAY EMISSION

Preface. Theory of X-Ray Emission. By N. H. March	224
Electronic Structure and Soft X-Ray Spectra. By W. A. Harrison	227
Density of States in Simple Metals and the Soft X-Ray Spectrum.	
By N. W. Ashcroft	249
The Band Structure of the Hexagonal Close-packed Metals Sc, Ti,	
Y and Zr. By S. L. Altmann and C. J. Bradley	265
Comment. The Validity of Band Structure Calculations. By S. L.	
Altmann	279
Soft X-Ray Emission Spectrum and Momentum Eigenfunction for	
Metallic Lithium. By M. J. Stott and N. H. March	283
The Solvent-metal Soft X-Ray Emission from a Dilute Alloy. By	
M. J. Stott	303

Part 4

ELECTRON-ELECTRON INTERACTIONS IN SOFT X-RAY EMISSION

The Effect of Electron Interaction on Soft X-Ray Emission	on Sp	ectra	
of Metals. By A. J. Glick, P. Longe and S. M. Bose	•••	••	319
A New Perturbative Interpretation of the Satellite Plasmon	n Emi	ssion	
Band. By F. Brouers and P. Longe		••	329
Many-body Effects in the Soft X-Ray Emission from M	Metals	s. By	
L. Hedin		••	337
The Use of Consistency Requirements in Calculating the	Resp	onse	
to a Point Impurity in an Electron Gas. By B. Berg	gersen	and	
J. H. Terrell	••	• •	351
A Theoretical Summing-up. By S. L. Altmann	••	••	367
SUMMARY BIBLIOGRAPHY	•••		369
Author Index			371
SUBJECT INDEX			

xii