

## CONTENTS

Contributors	iii
Preface	vii
X-Ray-Related Nobel Prizes	xi
<i>METHODS AND INSTRUMENTS</i>	
1. Wavelength Dispersion <i>L. S. Birks</i>	1
2. Energy Dispersion <i>Joseph M. Jaklevic and F. S. Goulding</i>	17
3. Data Interpretation <i>L. S. Birks</i>	59
4. Precision and Accuracy <i>Paul D. Zemaný</i>	69
5. Electron Excitation <i>John Lucas-Tooth</i>	111
6. Proton and Alpha Excitation <i>Richard L. Walter and R. D. Willis</i>	123
7. Electron Probe Microanalyzers <i>Kurt F. J. Heinrich and Harvey Yakowitz</i>	163
8. Bonding and Electron Spectroscopy for Chemical Analysis <i>H. K. Herglotz</i>	205
9. Selection and Safe Operation of X-Ray Instruments <i>Paden F. Dismore</i>	225
<i>APPLICATIONS</i>	
10. The General Service Laboratory <i>Ron Jenkins</i>	241
11. Metals and Alloys <i>R. W. Gould</i>	277

12. Geology	
<i>Brent P. Fabbi</i>	297
13. Mining and Ore Processing	
<i>Armin P. Langheinrich and W. M. Tuddenham</i>	355
14. Microanalysis and Trace Analysis	
<i>John V. Gilfrich</i>	393
15. Museum Objects	
<i>Victor F. Hanson</i>	413
16. X-Ray Astronomy and Other Exotic Applications	
<i>H. K. Herglotz</i>	483
Author Index	497
Subject Index	515