

Contents

X-RAY SPECTROSCOPY

Dispersive and Nondispersive X-Ray Fluorescence Methods for the Measurement of the Thicknesses of Films of Cadmium Sulfide and Other II–VI Compounds	3
Frank L. Chan	
Applications of X-Ray Topography in the Characterization of Semiconductor Surface Layers	31
P. Wang and F. X. Pink	
High-Energy Electron-Diffraction and X-Ray Emission Analysis of Surfaces and Their Reaction Products	61
P. B. Sewell, D. F. Mitchell, and M. Cohen	
Surface Analysis with the Electron Probe	80
Gudrun A. Hutchins	
Experience with a Computer-Coupled X-Ray Spectrometer	97
F. Bernstein	
Use of Total Reflection at the Critical Angle for Dispersion of Ultrasoft X-Rays	108
Heribert K. Herglotz	
The Shift in Wavelength with Voltage of Certain X-Ray Lines	121
A. F. Burr and R. J. Liefeld	

EMISSION, FLAME, AND ATOMIC ABSORPTION SPECTROSCOPY

Spectroscopy Study of Hot Gases	133
Firouz Shahrokhi	
Analysis of Plant-Ash Solutions by Spark-Emission Spectroscopy	152
J. Benton Jones, Jr., and Myron H. Warner	

Routine Industrial Analysis of Stainless Steels	161
Robert L. Chapple and Charles A. Spellman	
Some Difficult Working Areas in Atomic-Absorption Flame Photometry .	169
Juan Ramírez-Muñoz	
A New Look at Calcium Flame Interferences	189
R. E. Popham and W. G. Schrenk	
Some Experimental Considerations in Atomic Absorption	201
F. I. Grunder and E. A. Boettner	
An Experimental Device for Atomic-Absorption Spectroscopy	215
J. D. Johnson, G. K. Yamasaki, and J. C. Burger	
Indirect Atomic-Absorption Spectrometric Methods of Analysis	222
David F. Boltz	
Atomic-Absorption Spectrophotometry in Mineral and Trace-Element Studies in Man	227
Dace Osis, Kathryn Royston, Joseph Samachson, and Herta Spencer	

MASS SPECTROMETRY

Investigation of Solids by Means of an Ion-Bombardment Mass Spec- trometer	239
H. W. Werner	
Application of Mass Spectrometry to Forensic Toxicology. I. Acidic and Neutral Drugs	267
Paritosh K. De and Charles J. Umberger	
Identification and Determination of Oxidation Inhibitors in Synthetic Lube Oils by Ultraviolet and Mass Spectrometry	274
John F. Kinder and James Neel	
Spectroscopy in Space – An Introduction and Overview	286
R. E. Ruckman	
A Computer-Controlled System for Automatically Scanning and Inter- preting Photographic Spectra	294
C. A. Bailey, R. D. Carver, R. A. Thomas, and R. J. Dupzyk	

NUCLEAR PARTICLE SPECTROSCOPY

Nuclear Applications of Liquid Scintillation Systems	303
Donald L. Horrocks	

INSTRUMENTAL PARAMETERS

A Comparison of the Function of the Slit in Light-Absorption Studies Using Tungsten and Laser Sources	329
Martin J. Houle, Marvin O. Fretwell, and William J. Romig	
Index	339