

CONTENTS

Preface	ix
1. Guidelines for the Selection of Four Optoelectronic Image Detectors for Low-Light Level Applications	1
Yair Talmi and Kenneth W. Busch	
2. The Silicon-Intensified Target Vidicon Detector: Operation, Characterization, and Application in Atomic Spectroscopy Research	31
John W. Olesik and John P. Walters	
3. Wide Dynamic Range Array Detector for Absorbance and Rotation Spectrometry	57
Peter J. Aiello and Christie G. Enke	
4. Inductively Coupled Plasma-Atomic Emission Spectroscopy with Multichannel Array Detection	75
Frederick Grabau and Yair Talmi	
5. Multielement Emission Spectrometry Using a Charge-Injection Device Detector	117
G. R. Sims and M. B. Denton	
6. Charge-Injection and Charge-Coupled Devices in Practical Chemical Analysis: Operation Characteristics and Considerations	133
M. B. Denton, H. A. Lewis, and G. R. Sims	
7. Luminescence Measurements with an Intensified Diode Array	155
James D. Ingle, Jr. and Mary Andrieu Ryan	
8. Time-Resolved Resonance Raman Spectroscopy of Radiation-Chemical Processes	171
G. N. R. Tripathi	
9. Picosecond Emission Spectroscopy with Intensified Photodiode Arrays	183
P. F. Barbara and A. J. G. Strandjord	
10. Picosecond Spectroscopy and Applications to Chemical and Biological Systems	201
E. F. Hilinski, S. V. Milton, and P. M. Rentzepis	
11. Data Acquisition System for a Jitter-Free Signal Averaging Streak Camera	221
W. Knox and L. Forsley	

12. Analytical Chemistry with Spatial Resolution: Obtaining Spectral Images with Multichannel Detectors	233
James B. Callis and Adam P. Bruckner	
13. Detection of Extreme UV and Soft X-Rays with Microchannel Plates: A Review	253
Oswald H. W. Siegmund and Roger F. Malina	
14. Multichannel Extreme UV Spectroscopy of High Temperature Plasmas	277
Raymond J. Fonck	
15. Spectrometers for Rocket, Balloon, and Spacecraft Experiments	297
Akiyoshi Matsuzaki, Yoshiharu Nakamura, and Tomizo Itoh	
Author Index	325
Subject Index	325

