Contents

PART I. X-RAY PHYSICS

Chapter 1. Excitation and Nature of X-Rays; X-Ray Spectra

Chapter 2. Properties of X-Rays

PART II. THE X-RAY SPECTROMETER, ITS COMPONENTS, AND THEIR OPERATION

Chapter 3. X-Ray Secondary-Emission (Fluorescence) Spectrometry; General Introduction

Chapter 4. Excitation

Chapter 5. Dispersion

Chapter 6. Detection

Chapter 7. Measurement

Chapter 8. Pulse-Height Selection; Energy-Dispersive Analysis; Nondispersive Analysis

Chapter 9. Laboratory, Automated, and Special X-Ray Spectrometers

PART III. QUALITATIVE AND SEMIQUANTITATIVE ANALYSIS

Chapter 10. Qualitative and Semiquantitative Analysis

PART IV. PERFORMANCE CRITERIA AND OTHER FEATURES

Chapter 11. Precision and Error; Counting Statistics

Chapter 12. Matrix Effects

Chapter 13. Sensitivity and Resolution; Spectral-Line Interference

PART V. QUANTITATIVE ANALYSIS

Chapter 14. Methods of Quantitative Analysis

Chapter 15. Mathematical Correction of Absorption-Enhancement Effects

PART VI. SPECIMEN PREPARATION AND PRESENTATION

Chapter 16. Specimen Preparation and Presentation—General; Solids, Powders, Briquets, Fusion Products

Chapter 17. Specimen Preparation and Presentation—Liquids; Supported Specimens

PART VII. UNCONVENTIONAL MODES OF OPERATION; RELATED X-RAY METHODS OF ANALYSIS

Chapter 21. Electron-Probe Microanalysis

PART VIII. APPENDIXES, BIBLIOGRAPHY

Appendixes

Bibliography