1. Record Nr. UNINA9910132307903321

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Titolo	Total-reflection x-ray fluorescence analysis and related methods / / Reinhold Klockenkamper, Alex von Bohlen
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2015 ©2015
ISBN	1-118-98595-8 1-118-98587-7
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (555 p.)
Collana	Chemical Analysis
Disciplina	543.56
Soggetti	Fluorescence spectroscopy X-ray spectroscopy Reflectance spectroscopy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Total-Reflection X-ray Fluorescence Analysis and Related Methods; Contents; Foreword; Acknowledgments; List of Acronyms; List of Physical Units and Subunits; List of Symbols; Chapter 1: Fundamentals of X-Ray Fluorescence; 1.1 A Short History of XRF; 1.2 The New Variant TXRF; 1.2.1 Retrospect on its Development; 1.2.2 Relationship of XRF and TXRF; 1.3 Nature and Production of X-Rays; 1.3.1 The Nature of X-Rays; 1.3.2 X-Ray Tubes as X-Ray Sources; 1.3.2.1 The Line Spectrum; 1.3.2.2 The Continuous Spectrum; 1.3.3 Polarization of X-Rays; 1.3.4 Synchrotron Radiation as X-Ray Source 1.3.4.1 Electrons in Fields of Bending Magnets 1.3.4.2 Radiation Power of a Single Electron; 1.3.4.3 Angular and Spectral Distribution of SR; 1.3.4.4 Comparison with Black-Body Radiation; 1.4 Attenuation of X-Rays; 1.4.1 Photoelectric Absorption; 1.4.2 X-Ray Scatter; 1.4.3 Total Attenuation; 1.5 Deflection of X-Rays; 1.5.1 Reflection and Refraction; 1.5.2 Diffraction and Bragg's Law; 1.5.3 Total External Reflection; 1.5.3.1 Reflectivity; 1.5.3.2 Penetration Depth; 1.5.4 Refraction and Dispersion; References; Chapter 2: Principles of Total Reflection XRF; 2.1 Interference of X-Rays

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Sommario/riassunto

Providing an accessible introduction into the use of Total-Reflection X-ray Fluorescence (TXRF) Analysis, both from a theoretical point of view and for practical applications, this new edition of Total-Reflection X-Ray Fluorescence Analysis is completely updated and enlarged to emphasize new methods and techniques. Written to enable students and scientists to evaluate the suitability of a TXRF method for their specific needs, the text provides an overview to the physical fundamentals and principles of Total-Reflection X-ray Fluorescence (TXRF) Analysis, explains instrumentation and setups, and