

1. Record Nr.	UNINA9910479874603321
Titolo	Surface Analysis Methods in Materials Science [[electronic resource] /] / edited by D.J. O'Connor, Brett A. Sexton, Roger St.C. Smart
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1992
ISBN	3-662-02767-4
Edizione	[1st ed. 1992.]
Descrizione fisica	1 online resource (XXI, 453 p.)
Collana	Springer Series in Surface Sciences, , 0931-5195 ; ; 23
Disciplina	530.417
Soggetti	Surfaces (Physics) Interfaces (Physical sciences) Thin films Materials—Surfaces Surface and Interface Science, Thin Films Surfaces and Interfaces, Thin Films
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Solid Surfaces, Their Structure and Composition -- 2. UHV Basics -- 3. Electron Microscope Techniques for Surface Characterization -- 4. Sputter Depth Profiling -- 5. SIMS — Secondary Ion Mass Spectrometry -- 6. Auger Spectroscopy and Scanning Auger Microscopy -- 7. X-Ray Photoelectron Spectroscopy -- 8. Fourier Transform Infrared Spectroscopy of Surfaces -- 9. Rutherford Backscattering Spectrometry and Nuclear Reaction Analysis -- 10. Scanning Tunnelling Microscopy -- 11. Low Energy Ion Scattering -- 12. Reflection High Energy Electron Diffraction -- 13. Low Energy Electron Diffraction -- 14. Ultraviolet Photoelectron Spectroscopy of Solids -- 15. Spin Polarized Electron Techniques -- 16. Materials Technology -- 17. Characterization of Catalysts by Surface Analysis -- 18. Applications to Devices and Device Materials -- 19. Characterization of Oxidized Surfaces -- 20. Coated Steel -- 21. Thin Film Analysis -- 22. Identification of Adsorbed Species -- IV Appendix -- Acronyms Used in Surface and Thin Film Analysis -- Surface Science Bibliography.
Sommario/riassunto	The idea for this book stemmed from a remark by Philip Jennings of

Murdoch University in a discussion session following a regular meeting of the Australian Surface Science group. He observed that a text on surface analysis and applications to materials suitable for final year undergraduate and postgraduate science students was not currently available. Furthermore, the members of the Australian Surface Science group had the research experience and range of coverage of surface analytical techniques and applications to provide a text for this purpose. A list of techniques and applications to be included was agreed at that meeting. The list intended readership of the book has been broadened since the early discussions, particularly to encompass industrial users, but there has been no significant alteration in content. The editors, in consultation with the contributors, have agreed that the book should be prepared for four major groups of readers: - senior undergraduate students in chemistry, physics, metallurgy, materials science and materials engineering; - postgraduate students undertaking research that involves the use of analytical techniques; - groups of scientists and engineers attending training courses and workshops on the application of surface analytical techniques in materials science; - industrial scientists and engineers in research and development seeking a description of available surface analytical techniques and guidance on the most appropriate techniques for particular applications. The contributors mostly come from Australia, with the notable exception of Ray Browning from Stanford University.
