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Surface Analysis: The Principal Techniques





Synopsis

This completely updated and revised second edition of Surface Analysis: The Principal Techniques, deals with the characterisation and understanding of the outer layers of substrates, how they react, look and function which are all of interest to surface scientists. Within this comprehensive text, experts in each analysis area introduce the theory and practice of the principal techniques that have shown themselves to be effective in both basic research and in applied surface analysis. Examples of analysis are provided to facilitate the understanding of this topic and to show readers how they can overcome problems within this area of study.

Book Information

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Customer Reviews

The second edition of this successful textbook provides a clear, well-written introduction to the principal techniques used in surface analysis, together with the computational methods used to interpret the increasingly complex data generated by them. Coverage includes the basic theory and practice of each technique together with practical examples of its sue and application and most chapters include review questions enabling the reader to develop and test their understanding. Includes the following new material: A completely new chapter on 'Dynamic SIMS' A completely new chapter on 'The Application of Multivariate Data Analysis Techniques in Surface Analysis' All the other chapters have been extensively revised. Many now include illustrative applications and development room the fields of biotechnology and nanotechnology. Surface Analysis: the Principal Techniques 2nd Edition, will be appropriate for the scientifically literate lay-person and for use in

specialist undergraduate courses in materials and analytical sciences. Post-graduate M.Sc. and Ph.D. students involved in surface analysis and research whether concerned with inorganic, organic or biological materials will find it particularly useful. In addition, industrial analytical scientists will find this book an invaluable introduction to bring rapid familiarity with the capabilities of the various techniques. Thus this book should be of value to those who need to have a wide overview of the techniques in education or in industrial quality control or R&D laboratories. For those who wish to further develop their knowledge and practice or particular techniques, it should also give a good basic understanding from which to build.

John C. Vickerman BSc in Chemistry (Edinburgh), Ph.D. in Surface Chemistry (Bristol), DSc (Bristol). Predoctoral fellowships at the Universities of Perugia and Rome, postdoctoral fellowships at the University of Bristol and the Technical University of Eindhoven. Sabbatical study periods at the University of Munich, the Free University of Berlin and Pennsylvania State University. Dr Ian Gilmore, Surface and Nano-Analysis, National Physical Laboratory, Teddington, UKIan is a Principal Research Scientist in the Surface and Nano-Analysis Research team and joined NPL in 1991. His research has a focus on the analysis of complex molecules at surfaces. Recent research has led to the development of a novel new variant of static static SIMS called gentle-SIMS or G-SIMS,He received a degree in Physics from the University of Manchester in 1991 and a PhD from the University of Loughborough in 2000. Ian is a Fellow of the Institute of Physics a member of the EPSRC College and a member of the American Vacuum Society.

The paperback version has some mistakes that are rather easily picked up though. The book itself gives good overview to instrumentation and share some tips for practical considerations involving multivariate analysis. Discussions stay at understandable level for chemists as well. The book is definitely good for introductory level for each presented instrumentation.

This is a great, quick and dirty review of the principles and theories of many of the modern surface analysis techniques available today. The sections on Auger and ESCA were well written, however, feel the SIMS chapters need to be developed to incorporate the quantitative methods emerging for SIMS.

Good book.

Excellent buy.

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