Secondary Ion Mass Spectrometry. An Introduction to Principles and Practices

Description: Secondary Ion Mass Spectrometry (SIMS) has become an indispensible, fully commercialized micro–analytical technique applied in a diverse range of fields spanning the Materials Sciences, Earth sciences and Bio–Sciences with new application field continually being uncovered. This book provides a pedagogic function as well as a research tool to anyone involved in any of these forms of SIMS (senior undergraduates through seasoned professionals within academia or industry).

This book does so by supplying a clear and definitive introduction to:

a) The fundamentals of sputtering and secondary ion formation/survival inclusive of pertinent models for elemental and molecular emission

b) Both the theory and application, inclusive of modes of operation, of the latest instrumentation used in Static SIMS, Dynamic SIMS or Cluster SIMS

c) Data collection and processing protocols along with reasons for any distortions that can be introduced

Amalgamation of theory with experimental data from a practitioner’s perspective is the core feature of this book. This is aided through the use of numerous illustrations from highly diverse fields are included. All sections are prepared such that each can be read independently of each other. Commonly used reference tables, review questions, vendors and contacts and descriptions of related techniques presented in the Appendix.

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