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Nota di contenuto	CLUSTER SECONDARY ION MASS SPECTROMETRY; CONTENTS; Contributors; About the Editor; 1 AN INTRODUCTION TO CLUSTER SECONDARY ION MASS SPECTROMETRY (CLUSTER SIMS); 1.1 Secondary Ion Mass Spectrometry in a Nutshell; 1.1.1 SIMS Imaging; 1.1.2 SIMS Depth Profiling; 1.2 Basic Cluster SIMS Theory; 1.3 Cluster SIMS: An Early History; 1.3.1 Nonlinear Sputter Yield Enhancements; 1.3.2 Molecular Depth Profiling; 1.4 Recent Developments; 1.5 About this Book; Acknowledgment; References; 2 CLUSTER SIMS OF ORGANIC MATERIALS: THEORETICAL INSIGHTS; 2.1 Introduction 2.2 Molecular Dynamics Simulations of Sputtering with Clusters2.2.1 The Cluster Effect; 2.2.2 Computer Simulations and the Molecular Dynamics ""Experiment""; 2.2.3 Light and Heavy Element Clusters, and the Importance of Mass Matching; 2.2.4 Structural Effects in Organic Materials; 2.2.4.1 Amorphous Molecular Solids and Polymers; 2.2.4.2 Organic Crystals; 2.2.4.3 Thin Organic Layers on Metal Substrates; 2.2.4.4 Hybrid Metal-Organic Samples; 2.2.5 Induced Chemistry; 2.2.6 Multiple Hits and Depth Profiling; 2.2.7 From Small Polyatomic Projectiles to Massive Clusters 2.2.7.1 Light-Element Clusters2.2.7.2 Large Argon Clusters; 2.2.7.3

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4.3.2.5 Other Sources

Sommario/riassunto

Explores the impact of the latest breakthroughs in cluster SIMS technology Cluster secondary ion mass spectrometry (SIMS) is a high spatial resolution imaging mass spectrometry technique, which can be used to characterize the three-dimensional chemical structure in complex organic and molecular systems. It works by using a cluster ion source to sputter desorb material from a solid sample surface. Prior to the advent of the cluster source, SIMS was severely limited in its ability to characterize soft samples as a result of damage from the atomic source. Molecular samples were es