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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Why surfaces and interfaces of electronic materials -- Semiconductor electronic and optical properties -- Electrical measurements of surfaces and interfaces -- Localized states at surfaces and interfaces -- Ultrahigh vacuum technology -- Surface and interface analysis -- Surface and interface spectroscopies -- Dynamical depth-dependent analysis and imaging -- Electron beam diffraction and microscopy of atomic-scale geometrical structure -- Scanning probe techniques -- Optical spectroscopies -- Electronic material surfaces -- Surface electronic applications -- Semiconductor heterojunctions -- Metal-semiconductor interfaces -- Next generation surfaces and interfaces.
Sommario/riassunto	"An Essential Guide to Electronic Material Surfaces and Interfaces is a streamlined yet comprehensive introduction that covers the basic physical properties of electronic materials, the experimental techniques used to measure them, and the theoretical methods used to understand, predict, and design them. Starting with the fundamental electronic properties of semiconductors and electrical measurements of semiconductor interfaces, this text introduces students to the

importance of characterizing and controlling macroscopic electrical properties by atomic-scale techniques. The chapters that follow present the full range of surface and interface techniques now being used to characterize electronic, optical, chemical, and structural properties of electronic materials, including semiconductors, insulators, nanostructures, and organics. The essential physics and chemistry underlying each technique is described in sufficient depth for students to master the fundamental principles, with numerous examples to illustrate the strengths and limitations for specific applications. As well as references to the most authoritative sources for broader discussions, the text includes internet links to additional examples, mathematical derivations, tables, and literature references for the advanced student, as well as professionals in these fields. This textbook fills a gap in the existing literature for an entry-level course that provides the physical properties, experimental techniques, and theoretical methods essential for students and professionals to understand and participate in solid-state electronics, physics, and materials science research"--

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