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Autore	Gnecco Enrico
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Nota di contenuto	Friction Force Microscopy -- Surface Forces Apparatus in Nanotribology -- Ultrasonic Atomic Force Microscopies in Nanotribology -- Atomic-Scale Friction on Crystal Surfaces in Ultra-High Vacuum -- The (Grain) Boundaries of Structural Superlubricity -- Towards Application of Microscale Structural Superlubricity -- Molecular Tribology: Chemically Engineering Energy Dissipation at the Nanoscale -- Nanoisland Manipulation Experiments at Oxidized, Contaminated and Nanorough Interfaces: Structural Superlubricity and Directional Locking -- Tribological Aspects of in Situ Manipulation of Nanostructures Inside

Scanning Electron Microscope -- Probing Superlubricity of Layered Van der Waals Contact Junctions by Colloidal Probe Atomic Force Microscopy -- Frictional Characteristics of Graphene on Textured Surfaces -- Early-Stage Wear of Polymer Surfaces and Layered Materials Scraped by a Nanotip -- Nanoscale Study of Antiwear Tribofilm Growth Using in situ Atomic Force Microscopy under Lubricated Contacts -- In Operando Formation of Layered Materials for Friction Reduction -- Dissipation at Large Separations -- Triboluminescence -- Fundamentals of Friction and Wear on the Nanoscale, 3rd Ed., 2023 [Gnecco-Meyer, editors] -- Liquid-solid Friction at the Nanoscale: From Hydrodynamics to Molecular Mechanism -- Micro- and Nanotribology at the Insect-plant Interface.

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Sommario/riassunto

This book offers a comprehensive review on the latest developments in the field of nanotribology. With contributed chapters covering instrumental aspects, theoretical models, and selected experimental results, this book provides a broad overview of the fundamental issues currently being investigated in the field. The updated third edition includes new topics such as molecular tribology, multiscale structural lubricity, tribofilm growth, nanoscale friction in liquids, and nanotribology at insect-plant interfaces. Written by a highly qualified group of international experts, this book aims to be a key reference on the subject for the next five to ten years, highlighting the importance of understanding the atomistic origins of friction and wear in everyday life and in technical applications.

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