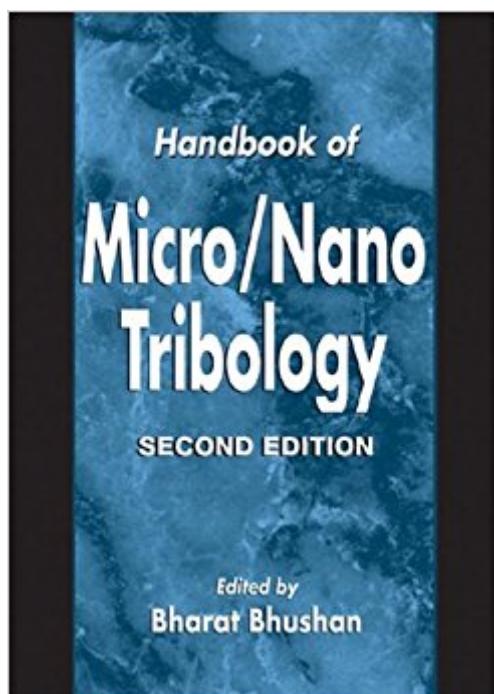


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Handbook Of Micro/Nano Tribology, Second Edition (Mechanics & Materials Science)



Synopsis

This second edition of Handbook of Micro/Nanotribology addresses the rapid evolution within this field, serving as a reference for the novice and the expert alike. Two parts divide this handbook: Part I covers basic studies, and Part II addresses design, construction, and applications to magnetic storage devices and MEMS. Discussions include: surface physics and methods for physically and chemically characterizing solid surfaces; roughness characterization and static contact models using fractal analysis; sliding at the interface and friction on an atomic scale; scratching and wear as a result of sliding; nanofabrication/nanomachining as well as nano/picoindentation; lubricants for minimizing friction and wear; surface forces and microrheology of thin liquid films; measurement of nanomechanical properties of surfaces and thin films; atomic-scale simulations of interfacial phenomena; micro/nanotribology and micro/nanomechanics of magnetic storage devices. This comprehensive book contains 16 chapters contributed by more than 20 international researchers. In each chapter, the presentation starts with macroconcepts and then lead to microconcepts. With more than 500 illustrations and 50 tables, Handbook of Micro/Nanotribology covers the range of relevant topics, including characterization of solid surfaces, measurement techniques and applications, and theoretical modeling of interfaces.

What's New in the Second Edition?

- New chapters on: AFM instrumentation, Surface forces and adhesion, Design and construction of magnetic storage devices, Microdynamical devices and systems, Mechanical properties of materials in microstructure, Micro/nanotribology and micro/nanomechanics of MEMS devices.

Book Information

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