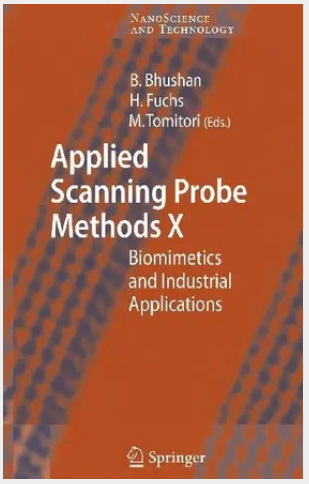
Bhushan / Fuchs / Tomitori

Applied Scanning Probe Methods X

Biomimetics and Industrial Applications



160,49 €
149,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783540740841
Medium: Buch
ISBN: 978-3-540-74084-1
Verlag: Springer
Erscheinungstermin: 11.01.2008
Sprache(n): Englisch
Auflage: 2008
Serie: NanoScience and Technology
Produktform: Gebunden
Gewicht: 898 g
Seiten: 427
Format (B x H): 160 x 241 mm

The success of the Springer Series Applied Scanning Probe Methods I–VII and the rapidly expanding activities in scanning probe development and applications worldwide made it a natural step to collect further speci c results in the elds of development of scanning probe microscopy techniques (Vol. VIII), characterization (Vol. IX), and biomimetics and industrial applications (Vol. X). These three volumes complement the previous set of volumes under the subject topics and give insight into the recent work of leading specialists in their respective elds. Following the tradition of the series, the chapters are arranged around techniques, characterization and biomimetics and industrial applications. Volume VIII focuses on novel scanning probe techniques and the understanding of tip/sample interactions. Topics include near eld imaging, advanced AFM, s- cializedscanningprobemethodsinlifesciencesincludingnewselfsensingcantilever systems, combinations of AFM sensors and scanning electron and ion microscopes, calibration methods, frequency modulation AFM for application in liquids, Kelvin probe force microscopy, scanning capacitance microscopy, and the measurement of electrical transport properties at the nanometer scale. Vol. IX focuses on characterization of material surfaces including structural as well as local mechanical characterization, and molecular systems. The volume covers a broad spectrum of STM/AFM investigations including fullerene layers, force spectroscopy for probing material properties in general, biological lms.and cells, epithelial and endothelial layers, medical related systems such as amyloidal aggregates, phospholipid monolayers, inorganic lms on aluminium and copper - ides,tribological characterization, mechanical properties ofpolymernanostructures,technical polymers, and near eld optics.

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