

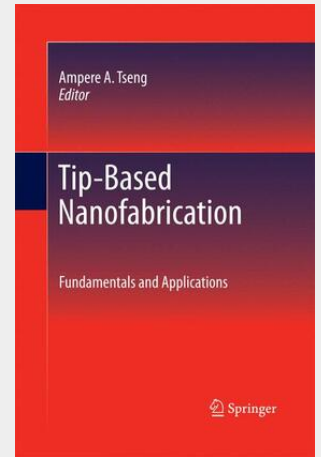
Tseng

Tip-Based Nanofabrication

Fundamentals and Applications

Nanofabrication is critical to the realization of potential benefits in the field of electronics, bioengineering and material science. One enabling technology in nanofabrication is Tip-Based Nanofabrication, which makes use of functionalized micro-cantilevers with nanoscale tips. Tip-Based Nanofabrication: Fundamentals and Applications discusses the development of cantilevered nanotips and how they evolved from scanning probe microscopy and are able to manipulate environments at nanoscale on substrates generating different nanoscale patterns and structures. Also covered are the advantages of ultra-high resolution capability, how to use tip based nanofabrication technology as a tool in the manufacturing of nanoscale structures, single-probe tip technologies, multiple-probe tip methodology, 3-D modeling using tip based nanofabrication and the latest in imaging technology.

Tip-Based Nanofabrication: Fundamentals and Applications discusses the development of cantilevered nanotips and how they evolved from scanning probe microscopy and are able to manipulate environments at nanoscale on substrates generating different nanoscale patterns and structures. Also covered are the advantages of ultra-high resolution capability, how to use tip based nanofabrication technology as a tool in the manufacturing of nanoscale structures, single-probe tip technologies, multiple-probe tip methodology, 3-D modeling and fabrication, and the latest in instrument development. Nanofabrication is critical to the realization of potential benefits in the field of electronics, bioengineering and material science. One enabling technology in nanofabrication is Tip-Based Nanofabrication, which makes use of functionalized micro-cantilevers with nanoscale tips. In addition to these areas of coverage, this book also: - Discusses the advantages of using tip based nanofabrication including its ultra-high resolution capability, ease of use, and low instrument cost - Demonstrates how to use tip based nanofabrication as a tool in the manufacturing of nanoscale structure, and for inducing controlled patterns on a surface with nanometer scale precision - Covers the latest in throughput enhancement methodology including using multi-probes, high scanning speeds, and tip-based stamps - Presents recent advances in several tip-induced processes, including thermochemical nanolithography, electric-field-assisted nanolithography, electrochemical nanomachining, nanografting, and dip pen nanolithography Tip-Based Nanofabrication: Fundamentals and Applications is an ideal volume for researchers and engineers working at the forefront of nanotechnology.



106,99 €

99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781489995667

Medium: Buch

ISBN: 978-1-4899-9566-7

Verlag: Springer

Erscheinungstermin: 01.10.2014

Sprache(n): Englisch

Auflage: 2011

Produktform: Kartoniert

Gewicht: 715 g

Seiten: 466

Format (B x H): 155 x 235 mm

