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Collana	NanoScience and Technology, , 2197-7127
Disciplina	620.115
Soggetti	Nanotechnology Microtechnology Microelectromechanical systems Nanoscience Optical materials Telecommunication Surfaces (Physics) Microsystems and MEMS Nanophysics Optical Materials Microwaves, RF Engineering and Optical Communications Surface and Interface and Thin Film
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	The study of thin films by electrochemical impedance spectroscopy -- Nanometer oxide and hydroxide pellicles by applying electrical discharges in impulse (EDI) -- Graphite films deposited on metal surface by electrical discharge pulse -- Structural and physical properties of ZnS _x Se _{1-x} thin films -- Thin-film photovoltaic devices based on A ₂ B ₆ compounds -- Theory of the anisotropic magnetoelectric effects in metglas-piezocrystal laminates --

Experimental studies of the direct and converse magnetoelectric effects in metglas-piezocrystal laminates -- Particularities of physical properties of semimagnetic semiconductors and their practical application -- Cobalt/cobaltoxide exchange bias system for diluted ferromagnetic alloy films in superconducting spin-valves -- Local ordering at the interface of the TiO₂-WO₃ bi-layers -- Crystalline structure and surface morphology of Al₁₁IB₆I type lamellar semiconductor nanocomposites obtained by heat treatment in Cd and Zn vapor -- Optical and photoelectrical properties of GaS, GaSe, GaTe and InSe semiconductors and nanocomposites obtained by heat treatment in Cd and Zn vapor -- Photoluminescence of nanocomposites obtained by heat treatment of GaS, GaSe, GaTe and InSe single crystals in Cd and Zn vapor -- Nanoreliefs obtained by various manufacturing methods -- Template assisted formation of metal nanotubes -- Thermal conductivity of segmented nanowires -- THz devices based on carbon nanomaterials -- Abrasive flow machining.

Sommario/riassunto

This book is focused on recent advances in the development of thin films for photovoltaic applications, TiO₂/WO₃ bi-layers for applications with enhanced photo-catalytic properties, nanometer oxide and hydroxide films for anticorrosive coatings, surface passivation in chemical industries, micro- and nanoelectronics, trilayers of metglas and lead free piezoelectrics for magnetic field sensors, current sensors, spintronics, microwave and read/write devices. Diluted ferromagnetic alloy films are also considered for superconducting spintronics based on superconducting spin-valves. Thermal properties of segmented nanowires are analyzed with respect to thermoelectric applications. Recent advances in template production of nanocomposites are also reviewed with particular focus on technologies for template assisted formation of metal nanotubes. Some elements related to abrasive flow machining (AFM), specifically state of the art elements of technological systems and construction of equipment are presented. The book is written for researchers in materials science, nanotechnologies, PhD students and graduate student.
