1. Record Nr. UNINA9910383153103321

Titolo	Advances in solid state physics . Volume 47 / / Rolf Haug (ed.)
Pubbl/distr/stampa	Berlin, : Springer, c2008
ISBN	3-540-74325-1
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (XVI, 348 p.)
Collana	Advances in solid state physics ; ; v. 47
Disciplina	530.41
Soggetti	Solid state physics Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Quantum Dots and Wires -- Emission Characteristics, Photon Statistics and Coherence Properties of high-? Semiconductor Micropillar Lasers -- Optical Microtube Ring Cavities -- Wide-Bandgap Quantum Dot Based Microcavity VCSEL Structures -- Momentum Space Wave Functions in InAs Quantum Dots Mapped by Capacitance Voltage Spectroscopy -- Coupling Phenomena in Dual Electron Waveguide Structures -- Correlation Effects -- Electronic Correlations in Electron Transfer Systems -- Criticality and Correlations in Cold Atomic Gases -- Ferromagnetic Films and Particles -- Magnetic Anisotropy and Magnetization Switching in Ferromagnetic GaMnAs -- Highly Spin-Polarized Tunneling in Fully Epitaxial Magnetic Tunnel Junctions with a Co-Based Full-Heusler Alloy Thin Film and a MgO Barrier -- Structural and Magnetic Properties of Transition Metal Nanoparticles from First Principles -- First-Principles Study of Ferromagnetic Heusler Alloys: An Overview -- Graphene -- Dirac Particles in Epitaxial Graphene Films Grown on SiC -- Photoemission Studies of Graphene on SiC: Growth, Interface, and Electronic Structure -- Raman Imaging and Electronic Properties of Graphene -- THz-Physics -- Interaction of Semiconductor Laser Dynamics with THz Radiation -- Ultrafast THz Spectroscopy of Excitons in Multi-Component Carrier Gases -- Terahertz Near-Field Microscopy -- Interaction of THz Radiation with Semiconductors: Microscopic Theory and Experiments -- Nonlinear Terahertz and Midinfrared Response of n-Type GaAs -- Defects, Dislocations and Strain -- Effect of Hydrogen and Grain Boundaries on Dislocation

Nucleation and Multiplication Examined with a NI-AFM -- Tuning the Strain in LaCoO3 Thin Films by the Heteroepitaxial Growth on Single Crystal Substrates -- Atomic Migration Phenomena in Intermetallics with High Superstructure Stability -- Material Science with Positrons: From Doppler Spectroscopy to Failure Prediction -- X-Ray Diffraction Residual Stress Analysis: One of the Few Advanced Physical Measuring Techniques That Have Established Themselves for Routine Application in Industry -- Piezoelectric Graded Materials — Preparation and Characterization -- Materials -- 59Co, 23Na, and 1H NMR Studies of Double-Layer Hydrated Superconductors NaxCoO2 · yH2O.

Sommario/riassunto

The present volume 47 of the Advances in Solid State Physics contains the written version of a large number of the invited talks of the 2007 Spring Meeting of the Arbeitskreis Festkörperphysik which was held in Regensburg, Germany, from March 26 to 30, 2007 in conjunction with the 71st Annual Meeting of the Deutsche Physikalische Gesellschaft.It gives an overview of the present status of solid state physics where low-dimensional systems such as quantum dots and quantum wires are dominating. The importance of magnetic materials is reflected by the large number of contributions in the part dealing with ferromagnetic films and particles. One of the most exciting achievements of the last couple of years is the successful application of electrical contacts to and the investigation of single layers of graphene. This exciting physics is covered in Part IV of this book. Terahertz physics is another rapidly moving field which is presented here by five contributions. Achievements in solid state physics are only rarely possible without a thorough knowledge of material physics which is covered by the last two parts of this book.