1. Record Nr. UNINA9910139809303321

Titolo	Band-Ferromagnetism : Ground-State and Finite-Temperature Phenomena / / edited by K. Baberschke, M. Donath, W. Nolting
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2001
ISBN	3-540-44610-9
Edizione	[1st ed. 2001.]
Descrizione fisica	1 online resource (IX, 394 p. 27 illus. in color.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 580
Disciplina	538/.44
Soggetti	Magnetism Magnetic materials Metals Materials science Nanotechnology Electronics Microelectronics Magnetism, Magnetic Materials Metallic Materials Characterization and Evaluation of Materials Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Ground-State Properties -- On the Way to a Gutzwiller Density Functional Theory -- Anisotropy in Magnetism -- Anisotropic Magnetic Ground-State Moments Probed by Soft X-Ray Spectroscopy -- First Principles Determination of Magnetic Anisotropy and Magnetostriction in Transition Metal Alloys -- Finite-Temperature Electronic Structure -- Magnetism of Correlated Systems: Beyond LDA -- Probing the Electronic States of Band Ferromagnets with Photoemission -- Temperature Dependence of Spin- and Angle-Resolved Photoemission of Ni -- Spin Fluctuations in Itinerant Electron Systems -- Itinerant Electron Magnets: Curie Temperature and Susceptibility in Density-Functional Theory -- Band Magnetism near a Quantum Critical Point -- Non-equilibrium Physics of Magnetic Solids: Time Dependent Changes

of Magnetism -- Models of Band-Ferromagnetism -- Metallic Ferromagnetism — An Electronic Correlation Phenomenon -- Ferromagnetism in the Hubbard Model -- Orbital Order Versus Orbital Liquid in Doped Manganites -- Low-Dimensional Systems -- First Principles Theory of Magnetism for Materials with Reduced Dimensionality -- Surface Electronic Structure of Band Ferromagnets -- Phase Transitions in Coupled Two-Dimensional Ferromagnetic Layers -- Theory of Spin Excitations and the Microwave Response of Cylindrical Ferromagnetic Nanowires -- Transmission of Electron Beams Through Thin Magnetic Films -- Understanding Spectroscopies -- New Developments in UPS and XPS from Ferromagnetic Materials -- Theory of Electron Spectroscopies -- Magnetic Dichroism in Electron Spectroscopy -- Neutrons as a Probe of the Magnetic Moment Stability in Itinerant Electron Ferromagnets.

Sommario/riassunto

Written by leading experts in the field of band-ferromagnetism, this book is intended to give a status report on our understanding of this complicated and fascinating problem of solid state physics. Modern developments are presented and explained in a tutorial style emphasizing the decisive ideas and the hot topics of current and future research on band-ferromagnetism. The authors include experimentalists and theoreticians working on different aspects of magnetism and employing a variety of techniques. In particular, they treat the following five central themes: Ground-State Properties, Finite-Temperature Electronic Structure, Models of Band-Ferromagnetism, Low-Dimensional Systems, Understanding Spectroscopies. The book will be of benefit to students and researchers alike.