

New Books

HANDBOOK OF MAGNETIC MATERIALS, VOL. 7

Edited by K.H.J. Buschow
Elsevier Science Publishers, Amsterdam, The Netherlands, 1993, 676 pp.,
US\$237.50

Volume 7 is the latest in a series of publications that provide reviews on the state of investigations of magnetic materials. This volume is composed of six chapters: Magnetism in ultrathin metal films, Energy band theory of metallic magnetism in the elements, Density functional theory and the ground state magnetic properties of rare earths and actinides, Diluted magnetic semiconductors, Magnetic properties of binary rare-earth 3d-transition-metal intermetallic compounds, and Neutron scattering on heavy fermion and valence fluctuation 4f-systems. Each chapter gives an extensive description in graphical and tabular form with emphasis placed on the discussion of the experimental material in the framework of physics, chemistry and materials science.

THE MAGNETIC MATERIALS INDUSTRY OF CHINA

Market Appraisal, Technical Assessment and New Business opportunities
1993-2000

Intertech Corp., Portland, ME, USA (1993), 220 pp, US\$2 495.00
The study was conducted to assess the growth and future markets of rare earth permanent magnets in China. Supported by one of the fastest growing economies in the world, the magnetic materials industry in China experienced a 14% growth rate in 1993. The study is comprised of thirteen chapters: Executive summary, Overview of China today, Nd-Fe permanent magnets, Sm-Co magnetic materials, The rare earth industry in China, Alnico permanent magnets, The development of hard ferrites, Bonded ferrite magnets, Development of soft ferrite, Amorphous magnetic materials, Magnetic treatment of fluids, Medical magnetotherapy and NdFeB patent implications for China. The study also identifies permanent magnet factories operating in China, their production capacities, prices and industrial reserves.

APPLIED MAGNETISM

Edited by R. Gerber, C.D. Wright and G. Asti
Kluwer Academic Publishers, The Netherlands, 1994

This book is a collection of contributions to the course organised by the NATO Advanced Study Institutes and held in Sicily, Italy in 1992. The book comprises ten chapters: The physics of magnetic recording, Magnetic information storage, The magnetic properties of fine particles, Magnetic separation, Domains and domain walls in soft magnetic materials, mostly, Permanent magnets,

Magnetoresistance, Thin film magneto-optics, Microwave and optical magnetics and A scientific basis of computational magnetics.

D. JILES: INTRODUCTION TO MAGNETISM AND MAGNETIC MATERIALS

Chapman and Hall, London, U.K., 1991, 440 pp.

The fundamentals of magnetic fields, magnetization, magnetic measurements, magnetic domains, domain walls and domain processes are described. Magnetic order and critical phenomena, electronic magnetic moments and the quantum theory of magnetism are addressed. Properties and uses of soft and hard magnetic materials, magnetic recording media and superconductors are discussed.

J.P. JAKUBOVICS: MAGNETISM AND MAGNETIC MATERIALS

The Institute of Materials, London, U.K., 1994, 128 pp, US\$40.00

Suitable for undergraduate students, this new second edition discusses various aspects of magnetism and magnetic materials. Coverage includes an introduction to fundamental ideas in magnetism, classification of materials according to their magnetic properties and a discussion of their applications. The book also includes a set of worked examples and test questions.

HANDBOOK OF RARE EARTH METALLURGICAL ANALYSIS

CHina Rare Earth Information Centre, Baotou, P.R. China, 1994, 650 pp, US\$360.00 (in Chinese).

This handbook has been compiled by specialists at the Baotou Research Institute for Rare Earths, under the leadership of Ni Dezhen. It contains more than 300 analysis methods and is suitable as a reference for analyses. It consists of six chapters: chemical analysis methods, determination of trace elements in minerals, intermediate products, RE metals and oxides by atomic adsorption, determination of REs by atomic emission spectrography, analysis if RE in minerals, alloys and individual RE metals by x-ray fluorescence spectrography, analysis of gases in RE metals and analysis of RE metallic phases in steels.