

Electrical And Magnetic Properties Of Materials

Doctoral Thesis / Dissertation from the year 2010 in the subject Physics - Nuclear Physics, Molecular Physics, Solid State Physics, Dr. Babasaheb Ambedkar Marathwada University (-), course: PH.D., language: English, abstract: Wide scope is available to study these aspects of ferrite which at present to our knowledge was not probe by researchers. In relevance to the ever expanding possibilities, and potential that is available with the ferrite materials, the scope of presently undertaken work is designed carefully by selecting suitable ferrite and dopants. A sincere attempt was made to extract fruitful, exhaustive and, systematic information regarding structural, cation distribution, electrical, dielectric and magnetic aspects of the ferrite systems under investigations. In the present study, the properties of nickel ferrites substituted by diamagnetic Zn²⁺, non-magnetic trivalent In³⁺ ions and tetravalent Ce⁴⁺ ions are studied for various compositions. The properties are investigated with a view to understand the effect of divalent, trivalent and tetravalent substitution in nickel ferrite. The thesis consists of five chapters. Chapter 1 related to Scope, problem statement, theory of magnetism, ferrites, background, motivation and aim of the present work, properties of the samples under investigations, objective and outline of thesis. Chapter 2, 3 and 4 related to results and discussion of structural, electrical and magnetic properties of Ni_{1-x}Zn_xFe₂O₄, Ni_{1-x}In_xFe_{2-x}O₄ and Ni_{1-2x}Ce_xFe₂O₄ ferrite system respectively. Chapter 5 gives the summary, discussion and conclusion on Zn, In and Ce substituted nickel ferrite. On summarizing the results obtained on Ni-Zn, Ni-In and Ni-Ce spinel ferrites it can be concluded that; The structural properties are found to be varying in all the three systems. The lattice parameter of Ni ferrite systems increases with increasing valancy of dopants (Zn²⁺, In³⁺ and Ce⁴⁺). The other prominent parameter of our structural study i.e. ρ'

Electrical and Magnetic Properties of N-Cd_{0!0!Mn0!Te} Close to the Metal-insulator Transition

The Electrical and Magnetic Properties of Magnetite at the Low Temperature Phase Transition

Electrical and Magnetic Properties of Materials

Electrical and Magnetic Properties of Erbium Single Crystals

This volume, the fifth in a popular series, features papers related to the development and utilization of materials with novel electrical, optical or magnetic properties. The field has experienced tremendous growth in the past years, and this volume provides a forum for materials scientists, chemists, physicists and engineers to assess the progress. In particular, light-emitting materials for displays are showing great promise for widespread commercialization. Developments in molecular engineering and self assembly, as well as in conducting polymers, are enabling better performance and greater scientific understanding of the phenomena underlying these advances. Improvements in electro-optic, photorefractive and two-photon absorbing materials are also being realized and are addressed here.

Electrical and Magnetic Properties of Metal Filled Composites

ASM Ready Reference

Evaluation of the Electrical and Magnetic Properties of Computer Magnetic Tape

The Electrical and Magnetic Properties of Solids

Written for students taking BTEC HNC and HND courses in electrical and electronic engineering, this book introduces the electric and magnetic properties of materials. It ranges from the basic concepts of atomic structure to the electrical properties of metals, semiconductors and insulators.

Electrical and Magnetic Properties of Solids: an Introductory Text Book

A Study of the Electrical and Magnetic Properties of Inconel at Low Temperatures

The Electrical and Magnetic Properties of the Iron-Carburets. By C. Barus and V. S.

Electrical and Magnetic Properties of Gadolinium

Annotation Provides materials engineers and scientists with a comparative listing of materials and their magnetic and electrical properties to aid in the materials selection process. The materials are sorted by a common materials hierarchy, and their property values are given in a consistent system of International Standard and customary units. The quality of the data and source of the data also are given to enable the user to assess the data. The 36 tables survey volume conductivity at ambient temperature, volume resistivity at high and low temperatures, thermal coefficient of resistivity, superconductors, relative permeability, coercive force, peak induction, residual induction, and curie temperature. No index. Annotation copyrighted by Book News Inc., Portland, OR

Electrical and Magnetic Properties of Copper Arylcarboxylates

Electrical and Magnetic Properties of the RNiC₂ Systems

Effect of Forging on the Electrical and Magnetic Properties of Sintered Iron

Electrical and Magnetic Properties of II-VI Diluted Magnetic Semiconductors