



Material Research in Atomic Scale by Mössbauer Spectroscopy

By Mashlan, Miroslav / Miglierini, Marcel

Book Condition: New. Publisher/Verlag: Springer Netherlands | Proceedings of the NATO Advanced Research Workshop, held in Smolenice, Slovak Republic, 1-6 June 2002 | Mössbauer spectroscopy is uniquely able to probe hyperfine interactions by looking at the short-range order of resonant atoms. Materials containing an appropriate isotope as one of their constituent atoms, such as iron or tin, are readily investigated. But even materials that do not contain Mössbauer-active atoms can be investigated if the probe atoms are incorporated in minor quantities (ca. 0.1 at.-%) to act as molecular-level indicators. These 35 papers collected here represent a state-of-the-art description of Mössbauer spectroscopy techniques applied to advanced materials. The topics covered comprise investigations of nanomaterials, nanoparticles, and quasicrystals, artificially structured materials as well as applications of Mössbauer spectroscopy in chemistry, mineralogy and metallurgy. The main aim of is the dissemination of information on research and recent developments of the method in materials science as obtained in leading Mössbauer laboratories. | Preface. I: Nanoscale Systems. Nanocrystalline Oxides and Sulphides Prepared by Hydrothermal Processing and Mechanical Milling; F.J. Berry, et al. Mechano-synthesis of Nanostructured Materials; G. Le Caër, et al. Iron(III) Oxides Formed during Thermal Conversion of Rhombohedral Iron(III) Sulfate; R. Zboril, et al....



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