View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Kazan Federal University Digital Repository

Physics of the Solid State 2000 vol.42 N1, pages 79-83

Effect of Mn2+ ions on the magnetic microstructure of hexaferrites

Bashkirov S., Liberman A., Valiullin A., Zaripova L., Kokin S.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Effect of Mn2+ ions on the magnetic microstructure of substituted hexaferrites SrFe12 - 2xMnxTixO19 was studied using the Mössbauer spectroscopy data. A new method is developed for estimating the hyperfine interaction parameters in substituted ferrites, and is based on a quasicontinuous description of their Mössbauer spectra. It is shown that a single substitution of manganese for iron in the second coordination shell of Fe3+ changes the local magnetic field strength at this ion by approximately 20 kOe, this value being independent of the concentration of substituted ions. © 2000 MAIK "Nauka/Interperiodica".