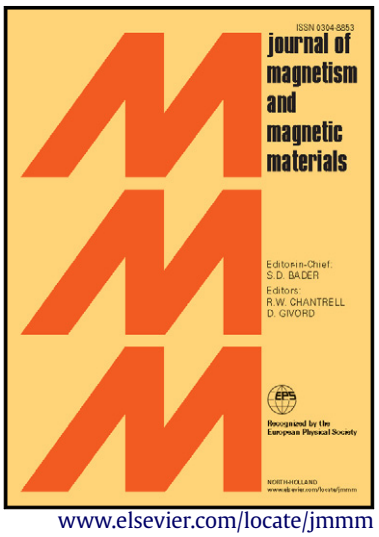

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Abstract

The double-time Green's function method is used to investigate the paramagnetic properties of ferromagnetic mixed-spin chain system within the random-phase approximation and Anderson-Callen's decoupling approximation. The analytic expressions of the transverse susceptibility, longitudinal susceptibility and correlation length are obtained under transverse and longitudinal magnetic field. Using the analytic expressions of the transverse and longitudinal susceptibility to fit the experimental results, our results well agree with experimental data and the results from the high temperature series expansion within a simple Padé approximation.

keywords: Mixed-spin model, Green's function method, Magnetic properties, Single-ion anisotropy, Susceptibility

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