

Study of Properties of Mixed Ferro-Ferrimagnetic Ising Compounds with $(A_xB_{1-x})_yC$

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Abstract: The magnetic properties of the mixed ferro-ferrimagnetic compounds with $(A_xB_{1-x})_yC$, where A, B, and C are three different magnetic ions and form three different sublattices, are studied by using the standard mean-field theory. The phase diagram which is related to experimental work of molecule-based ferro-ferrimagnet $(Ni_x^{II}Mn_{1-x}^{II})_{1.5}[Cr^{III}(CN)_6] \cdot zH_2O$ is obtained. The magnetization curves, internal energy, and specific heat of the same mixed $(A_xB_{1-x})_yC$ system are also investigated.

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Key words: mixed ferro-ferrimagnet, Ising model, phase diagram, internal energy, specific heat

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