A MIXED-SPIN INTERFACE CONTRIBUTION TO GMR-EFFECTS IN LAYERED STRUCTURES

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9.7 cm

We discuss a mixed-spin Ising model of thin ferromagnetic layered structures with interface magnetic moment ($S^A = 1/2,\ S^B = 1$), perpendicular uniaxial anisotropy and interface exchange interactions varied. The temperature dependent magnetization profiles, the phase diagrams of critical temperature T_C vs. concentration c_B of B-atoms and interface interactions J_{AB} and J_{BB} are presented. In particular, the magnetization profiles across layered structure obtained for different interface parameters lead to various interface potentials. The change of potentials across the ferromagnetic layers was applied for calculation of Giant Magnetoresistance effect (GMR) in the frame of the extended Hood-Falicov theory. The curves of GMR versus thickness of ferromagnetic layer with different surface parameters are presented.

13.4 cm

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