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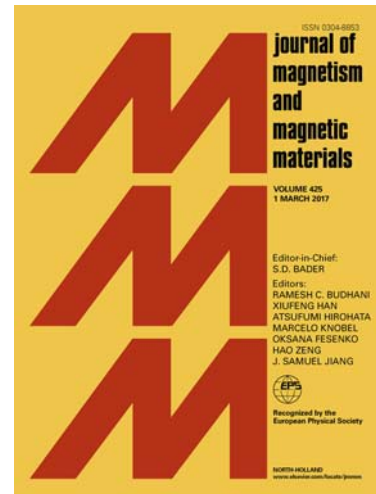
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Monte Carlo simulation of magnetic properties of mixed spin (3/2, 1) ferromagnetic and ferrimagnetic disordered binary alloys with amorphous structure

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**Abstract**

Monte Carlo simulation is used to study the magnetic properties of mixed spin (3/2, 1) disordered binary alloys on simple cubic, hexagonal and amorphous magnetic ultra-thin films with  $18 \times 18 \times 2$  atoms. To this end, at the first approximation, the exchange coupling interaction between the spins is considered as a constant value and at the second one, the Ruderman-Kittel-Kasuya-Yosida (RKKY) model is used. Effects of concentration, structure, exchange interaction, single ion-anisotropy and the film size on the magnetic properties of disordered ferromagnetic and ferrimagnetic binary alloys are investigated. Our results indicate that the spontaneous magnetization and critical temperatures of rare earth-3d transition binary alloys are affected by these parameters. It is also found that in the ferrimagnetic state, the com-

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