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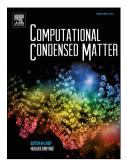
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Effect of surface and interface couplings in thin film system: Monte Carlo

simulation

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**Abstract** 

In the present work, we have studied the magnetic properties of Ising thin film with mixed

spins-2 and 3 on decorated square lattice by using the Monte Carlo simulations. The transition

temperature has been obtained for different size and intra and inter exchange interactions. The

thermal total magnetization versus the crystal field for different size, inter and intra exchange

interactions and for different temperatures. The magnetic coercive field and saturation of

magnetization have been obtained. The superparmagnetism behaviour has been established.

Keywords: Surface and interface couplings; Monte Carlo simulations; Magnetic properties;

Ising model; Superparmagnetism behaviour.

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