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THE TRIANGULAR TYPE MIXED SPIN-1/2 AND SPIN-1 ISING NANOWIRE WITH CORE-SHELL STRUCTURE

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The triangular mixed spin ising nanowire model consisting of a spin-(1/2) core which is surrounded by a spin-1 ferrimagnetic surface shell is studied in the presence of the crystal field using the Monte Carlo MC simulation based on the heat bath algorithm and the effective field theory based on the probability distribution. We have examined the effects of the core-surface and crystal field on the critical and compensation temperatures. Several properties, such us the magnetization, hysteresis behaviors, correctives field and remnant magnetizations are studied. For the appropriate values of the system parameters, the compensation point and multi-loops are found.

BIOGRAPHY

Ali Oubelkacem has completed his PhD from Mouly Ismail University, Faculty of Sciences, Physics Department, Meknes, Morocco. He is a Professor at the Faculty of Sciences of Meknes. He has over 20 publications in the magnetism field and nanostructures, that have been published in different international journals (*JMMM, Physica A, B, Physica Scripta, Thin Films, Chines Journal of Physics, JOSC…*), permanent member of the magnetism group at the same department.

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