

Abstract Submitted
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Magnetotransport properties and microwave experiments on Co nanoparticles embedded in a Ag matrix¹ NEUS DOMINGO, JOAN MANEL HERNÁNDEZ, ANTONIO FERNÁNDEZ, Universitat de Barcelona, ALBERTO MARIA TESTA, Istituto di Struttura della Materia - CNR, CHRIS BINNS, University of Leicester, DINO FIORANI, Istituto di Struttura della Materia - CNR, JAVIER TEJADA, Universitat de Barcelona — The magnetic and magnetotransport properties of Co nanoparticles (1.6 nm diameter) embedded in Ag matrix with different volume fraction have been investigated. Magnetic measurements give evidence of blocking temperatures $T_B = 10$ K (1.5% volume fraction) and $T_b = 15$ K (9.8 % volume fraction). Such values, quite high for so small particle sizes, reveal an important surface contribution to the total anisotropy energy. From magnetoresistance measurements we have obtained typical values of GMR of the order of 10 %. The data were analyzed with respect to the relationship $\Delta R / R \sim [M(H)]^2$. Then we have also studied the response of the samples with microwave radiation measuring the absorption properties of these nanoparticles as a function of the applied magnetic field at different temperatures. The relationship between magnetic and transport measurements is discussed.

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