

Magnetic properties of Cu/Fe granular nano-particles fabricated by rf-sputtering technique

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ABSTRACT

Thin film of Fe/Cu granular nanoparticles have been deposited by radio-frequency sputtering technique. The films were characterized by x-ray diffraction technique. The compositional analysis was done by the inductively coupled plasma (I.C.P) emission technique. The magnetization measurement was done by SQUID magnetometer down to 5K on as prepared and annealed samples. Substantial changes on magnetization have been noticed for the annealed sample of Fe/Cu. Mössbauer studies have also been performed on as prepared and on annealed sample. The sample annealed at 300 °C was shown quadrupole splitting compare to as deposited sample.

Keywords: Fe/Cu composite nanoparticles, sputtering, Mössbauer study.