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Studies of the magnetic properties of Amorphous Mn-doped GaAs Thin Films W.A. IWAMOTO, R.R. URBANO, C. RETTORI, P.G. PAGLIUSO, Instituto de Fsica "Gleb Wataghin", Unicamp, 13083-970, Campinas, Brazil, J.H.D. DA SILVA, ANDRÉ L.J. PEREIRA, Laboratrio de Filmes Semicondutores-Departamento de Fsica Unesp-Bauru, 17099-360, Bauru-SP, Brazil, S.B. OSEROFF, San Diego State University, San Diego, California, 92182, U.S.A — Recently Mn-doped GaAs films have become compounds of great interest due to their potential technological application. In this work, we report experiments of magnetic susceptibility and Electron Spin Resonance (ESR) of Mn^{2+} ion in amorphous thin films of GaAs doped with different concentrations of Mn (0.5 – 10%) and hydrogenated films with the same Mn concentration. A single nearly temperature independent g $\sim$ 2 line is observed for the Mn-doped films. The presence of Hydrogen is also verified in the ESR spectra by three narrows g $\sim$ 2 lines presumably due to s=1/2 centers with and without hyperfine splitting. The origin of these s=1/2 centers is unclear. Furthermore, our measurements show the absence of the ferromagnetic ordering for all measured films, in contrast to ferromagnetic ordering observed in crystalline films for Tc$\sim$ 110 K

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