

Abstract Submitted  
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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 Física “Gleb Wataghin”, Unicamp, 13083-970, Campinas, Brazil, J.H.D. DA SILVA, ANDRÉ L.J. PEREIRA, Laboratório de Filmes Semicondutores-Departamento de Física 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 narrow  $g \sim 2$  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  $T_c \sim 110$  K

P.G. Pagliuso  
Instituto de Física “Gleb Wataghin”, Unicamp,  
13083-970, Campinas, Brazil

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