

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Magnetoresistance and Ferrimagnetic Resonance (FMR) on Thin Films of Organic-based Magnetic Semiconductor V[TCNE]_{x~2} with T_c above 350 K.¹ N.P. RAJU, R. SHIMA EDELSTEIN, A.J. EPSTEIN, The Ohio State University, Columbus, OH 43210 — We present magnetoresistance and ferrimagnetic resonance (FMR) results on a CVD-prepared [1] thin films (about 0.5 micron thick) [2] of ferrimagnetic semiconductor V(TCNE)_{x~2}. The temperature dependence of resistance, and the magnetoresistance variation with magnetic field and temperature show similar to the trends reported earlier. [3] FMR spectra reported here show marked differences from the earlier studies on thicker samples (up to 2 microns). [4] Earlier reported FMR shows several sharp peaks compared to only two in the present study. We report temperature dependence of linewidth and integrated intensity for each of these two peaks. The earlier study suggested that the porosity of the sample as one of the possible origins for many peaks. It appears that absence of many sharp FMR peaks in the present sample may reflect less porosity of the thin film which is important for the development of spin-valve devices. 1. K.I. Pokhodnya et. al., Adv. Mater **12**, 410 (2000). 2. Shima et. al., MRS Proc. **871E**, I7.3 (2005) 3. N.P. Raju et. al., J. Applied Physics **93**, 6799 (2003). 4. R. Plachy et. al., Phys. Rev. B **70**, 064411 (2004).

¹Supported by DOE grants # DE-FG02-86ER45271, DE-FG02-01ER45931, and AFOSR grant # F49620-03-1-0175.

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Date submitted: 19 Dec 2005

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