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High frequency (240 GHz) ferrimagnetic resonance (FMR) of room temperature organic based magnetic semiconductor V[TCNE]$_x$ (x$\sim$2) films[1] N.P. RAJU, The Ohio State University, K.I. POKHODNYA, The Ohio State University and University of Utah, J.VAN TOL, NHMFL/FSU, J.S. MILLER, University of Utah, A.J. EPSTEIN — V[TCNE]$_x$ (x$\sim$2) is an organic based ferrimagnetic semiconducting material (ρ_{300K} $\sim 10^2 \Omega$.cm and activation energy, E_a $\approx$ 0.5 eV) with an ordering temperature well above room temperature. Magnetoresistance (MR) behavior of this material has been explained on the basis of spin polarization of charge carriers in the π^* electronic subbands of $[TCNE]^-$ forming a 'half-semiconductor'.[1,2] X-band ($\sim$9 GHz) ferrimagnetic resonance (FMR) studies on V[TCNE]$_x$ (x$\sim$2) have been reported earlier.[3] Temperature and angular dependence of FMR spectra of V[TCNE]$_x$ (x$\sim$2) films, obtained using $\sim$240 GHz radiation, indicate the coexistence of long-range magnetic ordering and glassy behaviors. These results will be discussed in terms of competing interactions between V^{2+} and $[TCNE]^-$ spins based on the local structural order. 1.V.N. Prigodin et. al., Adv. Mater. **14**, 1230 (2002). 2.N.P. Raju et. al., J. Appl. Phys., **93**, 6799 (2003). 3.R. Plachy et. al., Phys. Rev. B **70**, 064411 (2004).

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