

Abstract Submitted
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The influence of magnetic field on $\text{Cu}(\text{tn})\text{Cl}_2$ - two-dimensional quantum magnet with Néel ground state.¹ A. ORENDACOVA, M. ORENDAC, L. SEDLAKOVA, A. FEHER, Centre Low Temp. Phys., P. J. Safarik Univ. and SAS, Kosice, Slovakia, K. SIEMENSMEYER, A. BUCHSTEINER, Helmholtz Zentrum Berlin, Germany, J. S. XIA, L. YIN, M.W. MEISEL, NHMFL and Dept. Phys., Univ. Florida — AC susceptibility and neutron elastic scattering experiments were performed on $\text{Cu}(\text{tn})\text{Cl}_2$ [1] to explore the origin of a field induced anomaly previously observed in specific heat below 1 K and in finite fields up to 7 T [2]. Isothermal AC susceptibility scans, made down to 40 mK and in fields up to 10 T, confirmed and extended the B vs. T phase diagram obtained from the specific heat data. Neutron spectra of a polycrystalline sample studied down to 0.5 K in B = 0 and 4 T did not reveal any magnetic peaks expected below 1 K and indicated a slight change of (200) nuclear peak intensity induced by the magnetic field. The possible reasons of the absence of a phase transition to ordered state will be discussed. [1] V. Zelenak *et al.*, Inorg. Chem. **45** (2006) 1774. [2] A. Orendacova *et al.*, in preparation.

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