

Abstract Submitted
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Neutron Scattering Study of the Field Induced Non-Fermi-Liquid Behavior in CeAuSb₂ SUNG CHANG, DEEPAK SINGH, NIST Center for Neutron Research, ARUMUGAM THAMIZHAVEL, Tata Institute of Fundamental Research — The modestly heavy Fermion compound CeAuSb₂ ($\gamma = 90$ mJ/K² mol) was reported to exhibit highly anisotropic magnetic properties with an antiferromagnetic transition temperature $T_N \approx 5$ K [1]. In addition, the unconventional temperature dependence of the resistivity and specific heat, observed when an external magnetic field suppresses T_N to 0 K, has led to the identification of CeAuSb₂ as a system showing possible magnetic field-induced quantum critical behavior [2]. Here we report on neutron scattering measurements of CeAuSb₂ in magnetic fields up to 9 T applied along the $\langle h, h, 0 \rangle$ direction. Both elastic and inelastic measurements were carried out to track the evolution of the magnetic structure and spin fluctuations as a function of applied field.

[1] A. Thamizhavel et al., Phys. Rev. B **68**, 054427 (2003).

[2] L. Balicas et al., Phys. Rev. B **72**, 064422 (2005).

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