

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Heat capacity and magnetization of CoNb_2O_6 near quantum critical point¹ TIAN LIANG, Department of Physics, Princeton University, SEYED KOOHPAYEH, Institute for Quantum Matter, Johns Hopkins University, JASON KRIZAN, SIAN DUTTON, Department of Chemistry, Princeton University, TYREL MCQUEEN, Department of Physics and Astronomy, Johns Hopkins University, ROBERT CAVA, Department of Chemistry, Princeton University, N. PHUAN ONG, Department of Physics, Princeton University — CoNb_2O_6 is a quasi-1D quantum magnet in which magnetic Co^{2+} ions are ferromagnetically arranged into nearly isolated chains along the c axis with the magnetic moment confined in the ac -plane. By applying transverse magnetic field along b -axis, quantum phase transition from magnetically ordered phase to paramagnetic phase occurs. Evidence for emergent E_8 symmetry was recently obtained by neutron scattering near the quantum critical point (QCP) in an applied transverse magnetic field of 5.5 T We will report on experiments to investigate the behavior of the heat capacity and torque magnetization in the vicinity of the QCP and discuss their implications.

¹Supported by NSF-DMR Grant 0819860 and the Office of Basic Energy Sciences (DOE) under Award DE-FG02-08ER46544

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Date submitted: 28 Nov 2011

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