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Impact of inter-ladder coupling in a coupled spin-1/2 two-leg ladder[1] TAO HONG, Oak Ridge National Laborarory, K.P. SCHMIDT, K. COESTER, Lehrstuhl für Theoretische Physik 1, TU Dortmund, F.F. AWWADI, Department of Chemistry, The University of Jordan, M.M. TURNBULL, Carlson School of Chemistry and Department of Physics, Clark University, Y. QIU, J.A. RODRIGUEZ, National Institute of Standards and Technology, X. KE, Department of Physics and Astronomy, Michigan State University, C. AOYAMA, Y. TAKANO, Department of Physics, University of Florida, H. CAO, W. TIAN, J. MA, Oak Ridge National Laborarory, R. CUSTELCEAN, Chemical Sciences Division, Oak Ridge National Laboratory, H.D. ZHOU, Department of Physics and Astronomy, University of Tennessee, M. MATSUDA, Oak Ridge National Laborarory — We present the zero-field specific heat and neutron scattering studies on an S =1/2 Heisenberg antiferromagnet to understand the nature of its spin Hamiltonian. The system is magnetically ordered below $T_{\rm N}$ =2.0(1) K. The conclusion that the system is best described as coupled two-leg spin-1/2 ladders is supported by the material structure, neutron scattering measurements, and theoretical calculation.

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