

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Sorting Category: 06.11.7 (E)

Field dependent ordering temperature in copper pyrazine perchlorate, $\text{Cu}(\text{pz})_2(\text{ClO}_4)_2$ CHRISTOPHER LANDEE, FAN XIAO, MARK TURNBULL, Clark University, N. TSURULIN, MICHEL KENZELMANN, ETH, Zurich, Switzerland, HANS VAN TOL, National High Magnetic Field Laboratory, Florida — Copper pyrazine perchlorate is a molecular-based 2D $S=1/2$ Heisenberg anti-ferromagnet (QHAF) with a moderate exchange constant ($J/k = 17.5$ K) and a saturation field of 60 T. The zero-field ordering temperature, as recently determined by muon spin relaxation experiments [1], is 4.3 K corresponding to excellent isolation ($J'/J \approx 8 \times 10^{-4}$) between magnetic layers [2]. Recent studies of $\text{Cu}(\text{pz})_2(\text{ClO}_4)_2$ in applied fields (specific heat and ESR) show the ordering transition to increase with field by as much as 30% in a field of nine tesla. This effect will be discussed in terms of a field-induced anisotropy crossover model [3]. 1. T. Lancaster, S. J. Blundell et al, submitted for publication. 2. P. Sengupta, A. W. Sandvik, and R. R. P. Singh, Phys. Rev. B **68**, 094423 (2003). 3. A. Cuccoli et al, Phys. Rev. B **68**, 060402 (2003).

Prefer Oral Session
 Prefer Poster Session

Christopher Landee
CLandee@clarku.edu
Clark University

Date submitted: 04 Dec 2006

Electronic form version 1.4