

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**High field magnetic studies of  $S=1/2$  Kagome lattice single crystalline Herbertsmithite** T. ASABA, GANG LI, BEN J. LAWSON, F. YU, Z. XIANG, P. CAI, C. TINSMAN, University of Michigan, TIANHENG HAN, YOUNG LEE, MIT, LU LI, University of Michigan — Herbertsmithite  $\text{ZnCu}_3(\text{OH})_6\text{Cl}_2$  is a promising system to study frustrated magnetism on  $S=1/2$  kagome lattice. A continuum of spinon excitations has been revealed by recent neutron scattering measurements on single crystals. Interesting questions arise on the fate of this spinon excitation under intense external magnetic field. We report field-driven transitions in the high field magnetization of single crystalline  $\text{ZnCu}_3(\text{OH})_6\text{Cl}_2$ . These transitions appear below 1 K, and the transition field values are almost independent of the magnetic field orientation. We further discuss methods to separate the magnetic contribution from the impurity to reveal the intrinsic response of the kagome lattice.

Lu Li  
University of Michigan

Date submitted: 09 Nov 2012

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