Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Lattice vibration modes in CdCr2O4 J.-H. KIM, S.-H. LEE, University of Virginia, M. MATSUDA, JAEA, Japan, H. UEDA, Y. UEDA, ISSP, University of Tokyo, J.-H. CHUNG, Korea University, Korea, S. TSUTSUI, A. BARON, SPring8, Japan — In geometric frustration magnets, spin-lattice coupling can play an important role in lifting the magnetic frustration. In order to understand the mechanism, we have performed inelastic synchrotron x-ray measurements on a single crystal of a frustrated magnet CdCr2O4 that undergoes such a three-dimensional spin-Peierls phase transition at T_N = 7.8 K. Our data taken above and below T_N could be well explained by the rigid ion model, which led to a full identification of the lattice vibration modes in CdCr2O4. A phonon anomaly that might be associated with the transition, however, was not observed.

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Date submitted: 21 Nov 2008 Electronic form version 1.4