

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Dynamic Spin Correlations in a Pyrochlore Slab GORAN GASPAROVIC, NIST and University of Maryland, S.-H. LEE, University of Virginia, C. BROHOLM, Johns Hopkins University, R. J. CAVA, Princeton University — We use neutron scattering to study the spin dynamics of $\text{Ba}_2\text{Sn}_2\text{ZnGa}_3\text{Cr}_7\text{O}_{22}$, an $S = 3/2$ strongly frustrated, disorder free, quasi-two-dimensional spin system based on a kagomé sandwich. Low temperature spin freezing, with timescale dependent onset and magnitude, is observed. Relaxation rate distribution displays ω/T scaling, characteristic of quantum critical regime, and anomalously broadens below 11 K. Wavevector dependence of the excitation spectrum supports the notion that the dynamics is driven by the interaction of spin simplexes, which carry no dipole moment.

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Date submitted: 20 Nov 2006

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