Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Quasi-Spin Glass in a Geometrically Frustrated Magnet ARTHUR RAMIREZ, ANDREW LAFORGE, University of California, Santa Cruz, BENNY CHAN, The College of New Jersey, GAVIN LAWES, Wayne State University — A spin glass state is observed in the B-spinel $ZnCr_{2(1-x)}Ga_{2x}O_4$ for x $<$ 0.05 via low-temperature magnetization and specific heat. The spin glass phenomenology is conventional. The degrees of freedom (quasi-spins) that undergo freezing are unconventional, however, both in structure as well as their mutual interactions. In particular, below x = 0.05, the freezing temperature is independent of quasi-spin density, yielding a strong violation of mean field theory.

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Date submitted: 11 Nov 2011 Electronic form version 1.4