Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Microscopic Coexistence of Antiferromagnetic and Spin-Glass States[1] SHRAVANI CHILLAL, MATTHIAS THEDE, ETH Zuerich, FRED JOCHEN LITTERST, Technische Universitaet Braunschweig, SEVERIAN GVASALIYA, ETH Zuerich, TATIANA SHAPLYGINA, SERGEY LUSHNIKOV, Ioffe Physico-Technical Institute, ANDREY ZHELUDEV, ETH Zuerich — The disordered antiferromagnet PbFe1/2Nb1/2O3 (PFN) is investigated in a wide temperature range by combining Mossbauer spectroscopy and neutron diffraction experiments. It is demonstrated that the magnetic ground state is a microscopic coexistence of antiferromagnetic and spin-glass orders. This speromagnet-like phase features frozen-in short-range fluctuations of the Fe3+ magnetic moments that are transverse to the long-range ordered antiferromagnetic spin component.

[1]This work is partially supported by the Swiss National Fund through MANEP.

Shravani Chillal
ETH Zuerich

Date submitted: 05 Nov 2012 Electronic form version 1.4