

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**The pressure effects on the antiferromagnetic orders in iron-based ladder compounds  $\text{BaFe}_2\text{S}_3$**  SONGXUE CHI, Quantum Condensed Matter Division, Oak Ridge National Laboratory, YOSHIYA UWATOKO, None, YASUYUKI HIRATA, KENYA OHGUSHI, Institute for Solid State Physics (ISSP), University of Tokyo — The ladder compounds have recently become a new test ground for the studies on Fe-based superconductors. The building block for such materials, the two-leg Fe ladder surrounded by edge-sharing chalcogen tetrahedra, has provided a quasi-one-dimensional channel for the remaining critical issues in this field. Recently, superconductivity was successfully induced by pressure in one of such compounds,  $\text{BaFe}_2\text{S}_3$ . The knowledge of the pressure effect on its antiferromagnetic order is crucial in understanding the superconductivity in the low-dimensional system. I will present the results of our neutron diffraction studies on the evolution of the magnetic phase under hydraulic pressure in single crystalline  $\text{BaFe}_2\text{S}_3$ .

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Date submitted: 06 Nov 2015

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