

Abstract Submitted  
for the MAR17 Meeting of  
The American Physical Society

**Resonant X-ray Magnetic Diffraction of all-in-all-out antiferromagnetic order in Cd<sub>2</sub>Os<sub>2</sub>O<sub>7</sub> Under Pressure** YISHU WANG, Caltech, YEJUN FENG, OIST, A. PALMER, U Chicago, J.-W. KIM, Argonne National Lab, J.-Q. YAN, Oak Ridge National Lab, D. MANDRUS, U Tennessee, Knoxville, T. F. ROSENBAUM, Caltech — The pyrochlore structured Cd<sub>2</sub>Os<sub>2</sub>O<sub>7</sub> orders magnetically with spins on each Os tetrahedron arranged in either all-in or all-out geometries. Simultaneously, the system manifests a continuous metal-insulator transition at the Néel temperature of 227 K at ambient pressure. In an attempt to better understand the relationship between magnetism and electron localization, we explore the evolution of the antiferromagnetic order using pressure as the tuning technique and resonant x-ray magnetic diffraction as the direct probe. Our diffraction results indicate that while the antiferromagnetic state is stable to above 30 GPa at T = 4 K with a gradually suppressed intensity, the crystal lattice and its symmetry evolve.

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Date submitted: 11 Nov 2016

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