

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Crystal structure of Rb_4C_{60} under pressure¹ ASHFIA HUQ, Oak Ridge National Laboratory, PETER W. STEPHENS, Stony Brook University — We show that Rb_4C_{60} transforms from its orientationally disordered tetragonal structure at ambient pressure to an orthorhombic phase in the neighborhood of 0.4 GPa. Lattice parameters, interfullerene distances, and closest Rb-C distances evolve continuously up to 2.2 GPa. Rietveld refinements establish that the high pressure phase is isostructural to Cs_4C_{60} . The previously observed conducting phase at 0.8 GPa is therefore structurally distinct from the ambient pressure insulator.

¹Work at the NSLS and APS was supported by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences, under Contracts DE-AC02-98CH10886 and W-31-109-Eng-38.

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Date submitted: 19 Nov 2006

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