

Abstract Submitted
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A neutron scattering study on a ferrimagnetic magnetocapacitance system Mn_3O_4 JAE-HO CHUNG, NIST Center for Neutron Research & University of Maryland, JUNG HWA KIM, SEUNG-HUN LEE, University of Virginia, TAKURO KATSUFUJI, Waseda University — The low-temperature phase of the tetragonal Mn_3O_4 has long been known as a ferrimagnet with the Yafet-Kittel structure. The long-range ferrimagnetic order first develops at 41.2 K, upon cooling, and a commensurate cell-doubling magnetic order occurs along the b -axis at 32.7 K. Recently magnetocapacitance behaviors were observed in Mn_3O_4 . We present our high-resolution neutron scattering data to show that Mn_3O_4 undergoes an additional lattice distortion around 25 K. Peak broadening of selected reflections suggests that the crystal structure becomes pseudo-orthorhombic at low temperatures. Relation between the lattice distortion and magnetism will also be discussed.

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