

Abstract Submitted
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Magnetic Order and Spin Dynamics in a Hexagonal Rare Earth Manganite J.S. HELTON, D.K. SINGH, NIST Center for Neutron Research, S. ELIZABETH, S. HARIKRISHNAN, Indian Institute of Science, Bangalore, J.W. LYNN, NIST Center for Neutron Research — Hexagonal rare earth manganites, $R\text{MnO}_3$ ($R = \text{Dy, Ho, Er, Tm, Yb, Lu, Y, or Sc}$), have attracted a great deal of recent attention as magnetoelectric multiferroics as most of these systems are ferroelectric at room temperature and display magnetic order below $T_N \approx 100$ K. This magnetic order can be quite complex, as both the R and Mn ions lie on geometrically frustrated triangular lattices. DyMnO_3 is typically orthorhombic, but can also be grown in the hexagonal phase; $\text{Dy}_{0.5}\text{Y}_{0.5}\text{MnO}_3$ displays the hexagonal phase and is magnetically diluted at the rare earth site. We have used neutron scattering experiments to explore the magnetic structure and spin dynamics of $\text{Dy}_{0.5}\text{Y}_{0.5}\text{MnO}_3$.

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