

Abstract Submitted
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Magnetism in double-perovskite $\text{Sr}_2\text{GdIrO}_6$ and Sr_2YIrO_6 ¹ J. TERZIC, T.F. QI, L. LI, O.B. KORNETA, Center for Advanced Materials, Department of Physics and Astronomy, University of Kentucky, S. PARKIN, Center for Advanced Materials, Department of Chemistry, University of Kentucky, G. CAO, Center for Advanced Materials, Department of Physics and Astronomy, University of Kentucky — $\text{Sr}_2\text{GdIrO}_6$ and Sr_2YIrO_6 with $\text{Ir}^{5+}(5d^4)$ ions are magnetic insulators with a double-perovskite structure derived from the perovskite SrIrO_3 , which is a paramagnetic metal. We report results of our study of structural and physical properties of single-crystal $\text{Sr}_2\text{GdIrO}_6$ and Sr_2YIrO_6 . This study reveals that while Sr_2YIrO_6 exhibits no long-range order above 1.7 K, $\text{Sr}_2\text{GdIrO}_6$ displays an anisotropic and antiferromagnetic state at low temperatures that is clearly manifested in the magnetization and specific heat. The results will be presented and discussed along with comparison drawn with other related iridates driven by the strong spin-orbit interaction.

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