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Magnetic excitations of $\text{Sr}_3\text{Ru}_2\text{O}_7$ MATTHEW STONE, MARK LUMSDEN, STEPHEN NAGLER, BRIAN SALES, RONGYING JIN, DAVID MANDURS, Condensed Matter Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831 — Although transport measurements of the layered perovskite $\text{Sr}_3\text{Ru}_2\text{O}_7$ abound, a clear understanding of the underlying magnetic excitation spectrum is far from complete. Knowledge of the details of the magnetic fluctuations in this material has implications for both cuprate superconductors as well as other doped and undoped ruthenate compounds. We present a series of inelastic neutron scattering measurements as a function of temperature and wave-vector transfer in the (H 0 L) scattering plane. The magnetic response is clearly visible in constant E scans at the wavevector (0.75,0,L) measured carefully for $T = 3.8$ K up to $T = 100$ K up to $\hbar\omega = 14$ meV. ORNL is managed by UT-Battelle for the US DOE under contract DE-AC05-00OR22725.

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