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Observation of Magnetic Excitations in Na_3RuO_4 using Inelastic Neutron Scattering J.T. HARALDSEN, University of Tennessee, M.B. STONE, M.D. LUMSDEN, Oak Ridge National Laboratory, T. BARNES, University of Tennessee and Oak Ridge National Laboratory, R. JIN, S.E. NAGLER, Oak Ridge National Laboratory, J.W. TAYLOR, F. FERNANDEZ-ALONSO, ISIS Facility, Rutherford Appleton Laboratory — We report results on magnetic excitations observed in polycrystalline sodium ruthenate (Na_3RuO_4) in an inelastic neutron scattering study. Previous work has suggested that this material consists of relatively isolated tetramers of $S=3/2$ Ru(V) ions, and a Heisenberg antiferromagnet Hamiltonian was proposed. We compare predictions for the neutron inelastic structure factor in this model with our observations, and suggest future studies that might clarify apparent discrepancies between this model and our results.

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