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Diffuse Magnetic Scattering in $GeNi_2O_4$ M.K. CRAWFORD, DuPont Company, Wilmington, DE, P. MANUEL, D.T. ADROJA, ISIS, Rutherford Appleton Laboratory, Didcot, UK, S. HARA, Y. YOSHIDA, S.I. IKEDA, AIST, Tsukuba, JP, J.W. LYNN, Y. CHEN, NIST Center for Neutron Research, Gaithersburg, MD, R.A. FISHER, Los Alamos National Laboratory, Los Alamos, NM — The cubic spinel $GeNi_2O_4$, in which the spin-1 Ni^{2+} ions are located at the vertices of a lattice of corner-sharing tetrahedra, exhibits interesting magnetic properties. For example, $GeNi_2O_4$has two Néel transitions (T_{N1} = 12.1 K and T_{N2} = 11.4 K) that are not associated with any obvious structural phase transition. In the past we have reported the results of magnetic susceptibility, heat capacity, synchrotron x-ray powder diffraction, and neutron powder diffraction measurements for this material. In this talk we will describe the results of diffuse magnetic scattering measurements of the magnetic correlations in $GeNi_2O_4$ made at temperatures above and below T_{N1} and T_{N2}. The samples were single crystals grown by the traveling solvent floating zone technique at AIST. The measurements were made using the PRISMA spectrometer at ISIS and a triple-axis spectrometer at NIST.

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