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A Study of the Magnetic Properties of the Frustrated Spinels GeNi2O4 and GeCo2O4 M.K. CRAWFORD, R.L. HARLOW, R. FLIPPEN, DuPont, Wilmington, DE, S. HARA, Y. YOSHIDA, S.I. IKEDA, AIST, Tsukuba, Japan, Q. HUANG, J.W. LYNN, Y. QUI, J.R.D. COPLEY, Y. CHEN, NIST, Gaithersburg, MD, R.W. STEVENS, California Institute of Technology, Pasadena, CA, B.F. WOODFIELD, J. BOERIO-GOATES, Brigham Young University, Provo, UT, P.L. LEE, Y. ZHANG, APS, ANL, Argonne, IL, J. HORMADALY, Ben Gurion University, Beer Sheeva, Israel, R.A. FISHER, LBNL, Berkeley, CA — The spinels $GeNi_2O_4$ and $GeCo_2O_4$, in which the spin-1 Ni^{2+} or spin-3/2 Co^{2+} ions are located on the vertices of a lattice of corner-sharing tetrahedra, exhibit interesting magnetic and structural properties. $GeNi_2O_4$ has a double Néel transition (T_{N1} = 12.13 K and T_{N2} = 11.46 K), but the crystal structure remains cubic in the Néel state. In contrast, $GeCo_2O_4$has a single Néel transition (T_N = 20.6 K) that coincides closely with a cubic to tetragonal structural phase transition, below which $c/a > 1$. In the past we have used magnetic susceptibility, heat capacity, synchrotron x-ray, and neutron powder diffraction to study these materials. In this talk we will describe selected recent results of elastic and inelastic neutron scattering measurements of polycrystalline and single crystalline samples, the latter grown by the floating zone technique at AIST.

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