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Single crystal growth and magnetic excitations of transistion metal oxide CoV2O6 CHRISTOPHER STOCKDALE, F. WALLINGTON, Univ of Edinburgh, J.W. TAYLOR, V. GARCIA-SAKAI, Rutherford Appleton Laboratory, A.M. AREVALO-LOPEZ, P. ATTFIELD, C. STOCK, Univ of Edinburgh — Low-dimensional magnetic materials are an area of interest due to their unusual properties such as metamagnetism and magnetization plateaus [1]. Solid state synthesis has produced polycrystalline CoV_2O_6 which exists in two polymorphs: one with a monoclinic structure, and the other with a triclinic structure [2]. Single crystals have been grown from polycrystalline CoV_2O_6 using the flux method under vacuum and are large enough to aid in single crystal neutron diffraction [3]. Magnetic excitations have been measured using powder neutron diffraction in the low temperatures regime with variable energy. The magnetic excitations have been compared between the two phases. The energy of the system has been modelled in terms of the spin-orbit coupling, structural distortions, and the crystal field and compared to neutron data.

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