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Magnetic and crystallographic properties of Cr1-xFexGe YUEN YIU, NIRMAL GHIMIRE, DAVID MANDRUS, University of Tennessee, STEPHEN NAGLER, MICHAEL MCGUIRE, Oak Ridge National Laboratory, DAVID MANDRUS COLLABORATION — According to previously published bulk measurements, Cr1-xFexGe exhibits a quantum critical point at x=0.75, where it turns from a paramagnet (for x¡0.75) into a ferromagnet (for x¿0.75). Cr1-xFexGe is a simple cubic B20 (FeSi) crystal. The endpoints of the alloy are binary compounds that have been studied to some degree. FeGe, the better known of the two, is a spiral ferromagnet similar to MnSi. However, less is known for CrGe, which is thought to be a weakly ferromagnetic paramagnet with bulk properties that may be explained by the paramagnon theory. We report new neutron scattering results on Cr1-xFexGe for x=0.6, 0.7, 0.75, 0.8.

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