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Magnetic Transitions In UCuSn KARUNAKAR KOTHAPALLI, SAMI EL-KHATIB[1], FARZANA NASREEN, New Mexico State University, IAN SWAINSSON, Chalk River Laboratories, ANNA LLOBET, Los Alamos National Laboratory, HEINZ NAKOTTE, New Mexico State University — We report on the dependence of the magnetic moment of UCuSn with temperature as determined from neutron-diffraction data that were obtained at Chalk River laboratory. In this compound, the magnetic moment is solely due to uranium. Using the Rietveld method, we were able to determine the magnitude and direction of the magnetic moments for various temperatures in the range 15 K to 70 K. Magnetic intensities are observed for temperatures below 62 K, and their temperature dependence shows that the magnetic moment increases with decreasing temperature. At around 31 K, there is a second anomaly in the temperature dependence of the moment, and this suggests that UCuSn exhibits two magnetic phase transitions at about 30 and 65 K.

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