

Abstract Submitted  
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**Hybridization effects and magnetism in UPdSn** KARUNAKAR KOTHAPALLI, New Mexico State University, SAMI EL-KHATIB, University of Minnesota, HEINZ NAKOTTE, New Mexico State university, EKKEHARD BRUCK, University of Amsterdam, NEW MEXICO STATE UNIVERSITY TEAM, UNIVERSITY OF MINNESOTA TEAM — We report on the dependence of the interatomic distances in the intermetallic compound UPdSn as determined from the neutron diffraction data done on HIPD at Los Alamos spallation neutron source. The U-U distance gives a measure of the direct  $5f$ - $5f$  overlap. The U-Pd and U-Sn distances give a measure of  $5f$ -ligand hybridization. Using the Rietveld refinement method, we were able to determine the interatomic distances in the range 15K-300K. The interatomic distances are found to decrease with decreasing temperature until the compound exhibits antiferromagnetic order around 40K. A second transition occurs around 25K.

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