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History Dependence of the Vortex Lattice Rotation in the B-phase of UPt_3[1] M.R. ESKILDSEN, University of Notre Dame, IN, USA, W.J. GANNON, W.P. HALPERIN, Northwestern University, IL, USA, C. RASTOVSKI, C. STEINER, University of Notre Dame, IN, USA, U. GASSER, G. NAGY, J.L. GAVILANO, Paul Scherrer Institute, Switzerland — The unconventional superconductor UPt_3 is widely believe to be a triplet superconductor, where the low temperature superconducting B-phase is a chiral state. We have performed small angle neutron scattering from the vortex lattice (VL) of UPt_3 in the B-phase with magnetic fields parallel to the hexagonal *c*-axis. Our field dependent measurements show scattering from multiple VL domains, with a subtle magnetic field history dependence of the domain orientation; VL's prepared with the magnetic field parallel or antiparallel with respect to the angular momentum from the circulating screening currents show different field history dependence. These results indicate a coupling of a chiral superconducting order parameter with the applied magnetic field, in agreement with other recent results.

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Morten Eskildsen
Univ of Notre Dame

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