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Time Reversal Symmetry of A and B phases of $PrOs_4Sb_{12}$[1] ELI LEVENSON-FALK, ELIZABETH SCHEMM, RUBY SHI, Stanford University, M. BRIAN MAPLE, UC San Diego, AHARON KAPITULNIK, Stanford University —
The heavy-fermion superconductor $PrOs_4Sb_{12}$ has attracted great interest because of the existence of two superconducting transitions at zero magnetic field. However, there is great debate over whether the two superconducting phases (A and B) corresponding to these transitions are intrinsic or simply the result of impurity-induced inhomogeneities. Further, there is strong evidence for time reversal symmetry breaking (TRSB) in the superconducting state. We present polar Kerr effect measurements of $PrOs_4Sb_{12}$ crystals. By moving the focused optical spot over the surface of our samples, we are able to discern whether the strength and onset temperature of TRSB is homogeneous over the entire crystal.

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Eli Levenson-Falk
Stanford University

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