Abstract Submitted
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**Penetration depth study of $CeIrIn_5$**[1] DANIEL VANDERVELDE, Univ. of Illinois, Urbana, H.Q. YUAN, Zhejiang University, Y. ONUKI, Osaka University, M.B. SALAMON, Univ. of Texas at Dallas — The heavy-Fermion compounds $CeTIn_5$, with T a transition metal, provide a fertile ground for studying the interplay between magnetism and superconductivity. The T = Co compound has a transition temperature $T_c = 2.4$ K, and has a d-wave order parameter. As Ir is substituted for Co, the transition temperature decreases sharply to $T_c = 0.4$ K. One report of the thermal conductivity of $CeIrIn_5$ supports a d-wave state, another argues in favor of a hybrid gap state with broken time-reversal symmetry. We report penetration depth studies of $CeIrIn_5$ to $T_c/5$ that supports the d-wave scenario. Converted to superconducting fraction, the data taken with the *rf* measuring field along various crystallographic axes can be scaled to collapse to a single curve that matches a d-wave calculation with a zero-temperature gap of $2.5 k_B T_c$.

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