Gap structure of heavy-fermion superconductor CeIrIn5 from heat transport

HAMIDEH SHAKERIPOUR, Physique Department, Université de Sherbrooke, S.Y. LI, N. DOIRON-LEYRAUD, LOUIS TAILLEFER, C. PETROVIC, Brookhaven National Laboratory — We present measurements of the in-plane and out-plane thermal conductivity of heavy-fermion superconductor CeIrIn5 down to temperatures approaching $T_c/10$, throughout the vortex state. We use the observed anisotropy in residual linear term and response to a magnetic field to shed light on the nodal structure of the superconducting gap. We compare our results to existing theoretical calculations and discuss the possibility of multi-band superconductivity, observed recently in the related material CeCoIn5 [1].