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Universal heat transport in the heavy-fermion superconductor CeIrIn₅ HAMIDEH SHAKERIPOUR, M.A. TANATAR, Département de Physique, Université de Sherbrooke, Sherbrooke, Canada, C. PETROVIC, Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, Upton, NY 11973, USA, LOUIS TAILLEFER, Département de Physique, Université de Sherbrooke, Sherbrooke, Canada — In superconductors with nodes in the gap, zero-energy quasiparticles give rise to a residual linear term in the thermal conductivity at $T=0$. When the quasiparticle density of states is linear in energy, this term is universal, in the sense that it does not depend on impurity concentration. Such universal heat transport has been observed in cuprates and ruthenates but never in heavy-fermion superconductors. Here we show that heat transport in the heavy-fermion superconductor CeIrIn₅ is unchanged by the doping of La impurities. This universal transport confirms the presence of a line node in the gap [1].

[1] H. Shakeripour et al., Phys. Rev. Lett. 99, 187004 (2007).

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