

Abstract Submitted
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Doping evolution of nodal quasiparticles in the cuprate superconductor YBCO via low-temperature thermal conductivity SAMUEL RENE DE COTRET, J.-PH. REID, N. DOIRON-LEYRAUD, L. TAILLEFER, University of Sherbrooke, Sherbrooke, Canada, B.J. RAMSHAW, R. LIANG, D.A. BONN, W.N. HARDY, University of British Columbia, Vancouver, Canada — The thermal conductivity of the cuprate superconductor $\text{YBa}_2\text{Cu}_3\text{O}_y$ was measured at temperatures down to $T \sim 50$ mK in magnetic fields up to $H = 15$ T on high-quality single crystals with a hole doping ranging from $p = 0.08$ to $p = 0.18$. The residual linear term at $T \rightarrow 0$, a direct measure of the nodal quasiparticle velocities [1], is tracked as a function of doping, and compared to recent, high-resolution ARPES measurements of the Fermi velocity and gap magnitude as a function of doping, in the related cuprate superconductor $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ [2].

[1] D.G. Hawthorn *et al.*, Phys. Rev. B **75**, 104518 (2007).

[2] I.M. Vishik *et al.*, Phys. Rev. Lett. **104**, 207002 (2010).

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