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Bulk evidence for single-gap s-wave superconductivity in the intercalated graphite superconductor C_6Yb NICOLAS DOIRON-LEYRAUD, Universite de Sherbrooke, MIKE SUTHERLAND, University of Cambridge, LOUIS TAILLEFER, Universite de Sherbrooke and CIAR, THOMAS WELLER, MARK ELLERBY, University College London, MONTU SAXENA, University of Cambridge — We report measurements of the in-plane electrical resistivity ρ and thermal conductivity κ of the intercalated graphite superconductor C_6Yb to temperatures as low as $T_c/100$. When a magnetic field is applied along the c-axis, the part of κ associated with fermionic quasiparticles increases exponentially for $H_{c1} < H < H_{c2}/2$. This activated behaviour is consistent with an s-wave order parameter, as well as being strong evidence against a multi-gap scenario.

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