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Low-temperature thermal transport in the Kondo insulator SmB_6 MARIE-EVE BOULANGER, F. LALIBERTÉ, S. BADOUX, N. DOIRON-LEYRAUD, L. TAILLEFER, University of Sherbrooke, Sherbrooke, Canada, W.A. PHELAN, S.M. KOOPAYEH, T.M. MCQUEEN, Johns Hopkins University, Baltimore, USA — The striking observation of quantum oscillations in the Kondo insulator SmB_6 suggests that there may be chargeless fermionic excitations at low temperature in the bulk of this material [1]. One way to detect such putative excitations is through their ability to carry entropy, which a measurement of thermal transport should in principle detect as a non-zero residual linear term in the $T = 0$ limit, *i.e.* $\kappa_0/T > 0$. Here we report low-temperature measurements of the thermal conductivity κ in SmB_6, down to 50 mK, performed on various single crystals in magnetic fields up to 15 T. By extrapolating, we obtain κ_0/T at each field. We observe no residual linear term at any field, *i.e.* $\kappa_0/T = 0$ at all H, in agreement with a previous study [2]. In other words, we do not detect mobile fermionic excitations. However, unlike in the prior study [2], we observe a large enhancement of $\kappa(T)$ with increasing field. We discuss possible interpretations of this field dependence.

[1] B. S. Tan *et al.*, Science **349**, 287 (2015).
[2] Y. Xu *et al.*, Physical Review Letters **116**, 246403 (2016).

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