

Abstract Submitted  
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**Gap structure of the iron-pnictide superconductor LiFeAs via low-temperature thermal conductivity** J.-PH. REID, S. RENÉ DE COTRET, LOUIS TAILLEFER, University of Sherbrooke, Sherbrooke, Canada, M.A. TANATAR, H. KIM, K. CHO, R. PROZOROV, Ames Laboratory, Ames, Iowa, Y.J. SONG, Y.S. KWON, Sungkyunkwan University, Gyeonggi-Do, Korea — The thermal conductivity of the stoichiometric iron-pnictide superconductor LiFeAs was measured at temperatures down to  $T \sim 50$  mK in magnetic fields up to  $H = 17$  T on high-quality single crystals with  $T_c \simeq 18$  K. The absence of any residual linear term at  $T \rightarrow 0$  shows that there are no nodal quasiparticles. The slow increase of thermal conductivity with magnetic field shows that the gap is large everywhere on the Fermi surface. The same behaviour is observed for both in- plane and out-of-plane directions. We conclude that the superconducting gap in LiFeAs is basically isotropic. This is similar to what has been found in the iron-pnictide superconductors  $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$  [1] and  $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$  [2] at optimal doping (maximal  $T_c$ ).

[1] X.-G. Luo *et al.*, Phys. Rev. B **80**, 140503 (2009).

[2] J.-Ph. Reid *et al.*, Phys. Rev. B **82**, 064501 (2010).

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