

Abstract Submitted  
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**Probing the gap symmetry by magnetic field in superconductors with anisotropic Fermi surfaces**<sup>1</sup> ILYA VEKHTER, Louisiana State University, ANTON VORONTSOV, Montana State University — Measurements of the thermal conductivity and specific heat under rotated magnetic fields aimed at determining the nodal directions in unconventional superconductors are being done on the ever-growing class of materials. Theoretical underpinnings of this method are by now well established for simple Fermi surfaces that are fully symmetric in the plane of field rotation. We show that in anisotropic materials the correct interpretation of experimental results requires knowledge of the shape and the topology of the Fermi surface as well as its curvature near the nodal points. We also investigate the dependence of the results on the strength of impurity scattering. We apply our results to the analysis of the thermal conductivity and heat capacity in two-dimensional organic superconductors, where recent experiments reignited the debate on the gap symmetry.

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