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## Magneto-Thermal Conductivity Oscillations in Spin-Orbit-Coupled Nodal Superconductors

*Monday, June 7, 2021 12:50 PM (3 minutes)*

The symmetries of unconventional superconductors may be classified by the locations of their gap nodes. Recently, the role of spin-orbit coupling (SOC) has become important, as sufficiently strong SOC generates novel mixed-parity superconductivity. In this talk, I show that the nodal structure of unconventional superconductors may be determined by angle-dependent magneto-thermal conductivity measurements, provided the SOC is larger than the quasiparticle scattering rate. This effect is complementary to vortex-induced magneto-thermal oscillations identified previously, and is dominant in strongly anisotropic materials. As an application, I present results for the magneto-thermal conductivity of the “Rashba bilayer”  $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$ , which possesses a so-called “hidden spin-orbit coupling.” We find that the SOC endows  $\kappa_{xx}/T$  with a characteristic field-angle dependence that should be easily observed experimentally.

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