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(POS-11) Calculation of angle-dependent magnetoresistance with magnetic breakdown for temperature dependent anisotropic scattering

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Uncovering Fermi surface geometry and scattering mechanisms can lead to important insights into the physics of strongly correlated electron systems. Angle dependent magnetoresistance (ADMR) measurements are a tool to obtain this information that has been used widely in layered metals such as organic charge transfer salts and cuprates. Simple analytic expressions for ADMR based on isotropic Fermi surfaces and isotropic scattering do not capture the full physics of real materials, in which both the Fermi surface and scattering may be anisotropic, scattering may be temperature dependent and there may also be magnetic breakdown. We use a Boltzmann equation framework to calculate expressions for ADMR in the presence of an anisotropic Fermi surface, temperature dependent anisotropic scattering and magnetic breakdown and comment on the applicability of our results to experimental systems.

Keyword-1

Magnetic breakdown

Keyword-2

Anisotropic scattering

Keyword-3

Authors: Mrs MIRABI, Sepideh (Simon Fraser University); Prof. KENNETT, Malcolm (Simon Fraser University)

Presenter: Mrs MIRABI, Sepideh (Simon Fraser University)

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