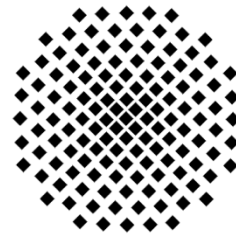


Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

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17:15 Uhr

Hörsaal V 57.01

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Martin Dressel, Universität Stuttgart, Telefon: 0711 - 685-64946

Viscosity in electron liquids

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Abstract

Viscosity is a characteristic property of common liquids such as water or honey, and is also believed to play a role in the properties of the quark-gluon plasma formed in high-energy colliders. In the case of He-3, a fermionic liquid, viscosity has been studied experimentally and theoretically during the past half a century. Electrons are also fermions, and they condense into a liquid which carries the electrical current in a copper wire. This colloquium addresses the state of affairs in electron liquids. Electronic viscosity is expected to be an important property characterizing the state of matter in graphene, high-T_c superconductors and other materials. A reference point is provided by Fermi-liquids. The theoretical and experimental situation will be discussed of the peculiar experimental consequences for electromagnetic waves interacting with various different states of electronic matter.