

# Physikalisches Kolloquium

**Kamran Behnia, ESPCI Paris**

**»Thermal transport and quasi-particle hydrodynamics in crystals«**

*Einführung: J. Schmalian*

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Heat travels in solids thanks to mobile electrons and phonons, collective vibrations of atoms. The Boltzmann picture of this flow is based on quantifying the rate of collisions, which due to the presence of the lattice, degrade the entropy current. However, there are situations where most collisions conserve momentum. In this hydrodynamic regime, the quasi-particle viscosity plays a significant role and the fluid “flows” less metaphorically than usual. I will present a number of recent experiments showing that such situations, where more collisions paradoxically enhance the flow rate, occur more frequently than what was thought before.

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**Freitag, 08.11.2019, 15:45 Uhr,**

**KIT, Campus Süd,  
Otto-Lehmann-Hörsaal, Physik-Flachbau (Geb. 30.22).  
Anschließend Nachsitzung.**