北京大学量子材料科学中心

International Center for Quantum Materials, PKU

Seminar

Berry Phase and Electric Dipole in Strongly Interacting Fermions

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Time: 10: 00 am, July. 15, 2019 (Monday)

时间：2019年7月15日 （周一）上午10:00

Venue: Room W563, Physics building, Peking University

地点：北京大学物理楼，西563会议室

Abstract

The Berry phase in a free Fermi gas leads to interesting transport phenomena such as the anomalous Hall effect and the magnetic field induced density. In this talk we extend our scope to interacting fermions, including Fermi liquid and non-Fermi liquid. We will see some familiar as well as some new physics. In particular, in Fermi liquid, we will emphasize an emergent electric dipole Hall effect beyond the usual Berry phase effect. In non-Fermi liquid, while most properties are mysterious, we will show the magnetic field induced density is given by the Berry phase, just as in a Fermi gas or Fermi liquid.

About the speaker

Jing-Yuan Chen obtained his B.Sc. in Physics and Math from the University of Michigan Ann Arbor in 2011, and his Ph.D. in Physics, advised by Dam Thanh Son, from the University of Chicago in 2016. He is currently a Gordon and Betty Moore Postdoctoral Fellow in Condensed Matter Physics at the Stanford Institute for Theoretical Physics.