TRR 80 Sonderseminar

Am Dienstag, den 4. Februar um 16:00 Uhr

spricht

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über das Thema

Superconductivity and chirality in twisted bilayer graphene

Twisted bilayer graphene has attracted much attention due to its novel electronic and optical properties. After a brief introduction, I will present our recent theoretical results on the superconducting instability and also on the inherent chirality of the system.
Inparticular, I will argue that an extended van Hove singularity can give rise to Kohn-Luttinger superconductivity and strange metal behavior [1,2]. I further show that the Moiré structure of TBG leads to a paramagnetic response and chiral plasmons which are accommodated by a longitudinal magnetic moment [3]. This unusual response also leads to an emergent magnetic texture when the system is driven out-of-equilibrium [4].

[1] J. Gónzalez and T. Stauber: Kohn-Luttinger superconductivity in twisted bilayer graphene. Phys. Rev. Lett. 122, 026801 (2019)
[2] J. Gónzalez and T. Stauber: Marginal Fermi liquid in twisted bilayer graphene. arXiv:1903.01376
[3] T. Stauber, T. Low, and G. Gómez-Santos: Chiral response in twisted bilayer graphene. Phys. Rev. Lett. 120, 046801 (2018)
[4] D. A. Bahamon, G. Gómez-Santos, and T. Stauber: Emergent magnetic texture in driven twisted bilayer graphene. arXiv:1909.09341

Gäste sind herzlich willkommen.
Der Vortrag findet im Seminarraum S-288, Institut für Physik, Universität Augsburg statt.

Gastgeber: PD Dr. Marcus Kollar
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