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【131】Correlated many-body physics in moiré superlattices of graphene

Wednesday, September 1, 2021 5:00 PM (15 minutes)

This talk will be about the rich set of possibilities provided by graphene-based moiré superlattices to create and study interesting many-body physics at the intersection of strong correlations and topology. Initially driven by experimental findings in twisted bilayer graphene, related systems have been realized experimentally more recently and found to exhibit similar properties; examples are twisted double-bilayer or twisted trilayer graphene. In this presentation, I will discuss some of our recent efforts, involving a combination of analytics, numerics, and experiment, to elucidate the origin and form of correlated insulating and semimetallic phases, flavor polarization, and superconductivity in graphene moiré systems.

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