“Chiral charge pumping and circular photogalvanic effect in twisted bilayers”

Twisted bilayers of atomically thin crystals provides a highly tunable platform to investigate structural chirality. In this talk I will discuss two effects related to the chiral structure of twisted bilayer graphene. The first is a chiral topological Thouless pump, in which a sliding motion between the two layers will produce a transverse current. The second is a tunable layer circular photogalvanic effect, in which circular lights can induce an out-of-plane static polarization whose sign is controlled by light chirality. These effects could be useful for developing nanodevices with tunable chiral properties.

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