Title: Superconductivity in an engineered moiré quasiperiodic system

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Layering two-dimensional periodic materials to form moiré structures is a convenient method of constructing emergent periodicity with length scales in between those typical of crystals and optically defined atomic lattices. This scheme has proven fruitful for engineering new electronic structures with on-demand properties like superconductivity, strong electronic interactions, topology, and even simulations of certain lattice models. In contrast, quasiperiodic structures, without periodicity or a Bloch description, have proven more challenging to engineer and thus are much less explored. Here, we demonstrate how moiré lattices can be used to generate emergent quasiperiodicity with both a high degree of tunaility and conditions favorable for interacting electronic phenomena. I will discuss a graphene-based realization of a moiré quasiperiodic system that exhibits a wide array of phenomena, including superconductivity, flavor symmetry-breaking, quantum oscillations, and signatures of both periodic-like and quasiperiodic regimes in the electronic structure.