Magnetic Field Driven Quantum Phases in Magic-angle Twisted Bilayer Graphene

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Résumé

The recent discovery of magic angle twisted bilayer graphene (MATBG), in which two sheets of monolayer graphene are precisely stacked to a specific angle, has opened a plethora of grand new opportunities in the field of topology, superconductivity, and other strongly correlated effect. In twisted van der Waals materials, lattice mismatch can generate moiré patterns, which act as an additional periodicity that has a length scale order of magnitude larger than the underlying atomic lattice scale. For MATBG with a small twist angle close to