

Engineering Correlation and Topology in Two-Dimensional Moire Superlattices

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Van der Waals heterostructures of atomically thin crystals offer an exciting new platform to design novel electronic and optical properties. In this talk, I will describe how to engineer correlated and topological physics using moire superlattice in two dimensional heterostructures. I will show that we can realize essentially all important condensed matter physics in a single device, ranging from correlated Mott insulator and superconductivity to ferromagnetism and topological Chern insulator, in a single device feature a moire superlattice between ABC trilayer graphene and boron nitride