

The Magic of Moiré Quantum Matter

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The understanding of strongly-correlated quantum matter has challenged physicists for decades. The discovery four years ago of correlated phases and superconductivity in magic angle twisted bilayer graphene has led to the emergence of a new materials platform to investigate strongly correlated physics, namely moiré quantum matter. These systems exhibit a plethora of quantum phases, such as correlated insulators, superconductivity, magnetism, Chern insulators, and more. In this talk I will review some of the recent advances in the field, focusing on the newest generation of moiré quantum systems, where correlated physics, superconductivity, and other fascinating phases can be studied with unprecedented tunability. I will end the talk with an outlook of some exciting directions in this emerging field.