

Chez Pierre

Presents ...

Wednesday, May 9, 2018

12:00pm Noon

MIT Room 4-331

Special Chez Pierre Seminar

Allan H. Macdonald – University of Texas

“More Moirés”

When two-dimensional crystals are overlaid with a small relative twist or a small difference in lattice constants, they form long period moiré-pattern superlattices. In semimetals and semiconductors many electronic and excitonic properties of moiré superlattice systems can be described using simple continuum models in which the commensurability of the underlying lattices plays no role. I will discuss a few examples of moiré pattern physics, emphasizing the case of the magic angle flat bands of twisted graphene bilayers which, as recent MIT experiments have shown, support strongly correlated insulating and superconducting states when partially occupied.

