



The University of Texas at Austin
Department of Physics
College of Natural Sciences

Colloquium

Wednesday, October 19, 2022

John Archibald Wheeler Lecture Hall

PMA 4.102, 4:00pm

Quantum Materials: A View from the Lattice

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Abstract

Connecting theoretical models for exotic quantum states to real materials is a key goal in quantum materials science. The structure of the crystalline lattice plays a foundational role in this pursuit in the subfield of quantum material synthesis. We here revisit this long-standing perspective in the context low dimensional emergent electronic phases of matter. In particular, we discuss recent progress in realizing new lattice and superlattice motifs designed to address model superconducting and correlated phenomena. We comment on the perspective for realizing further 2D model systems in complex material structures and connections to further paradigms for programmable quantum matter.