

Thin film quantum matter: unconventional conventional superconductivity and more

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In this presentation I will discuss recent intermetallic and oxide thin film materials we have grown in our lab, including an array of ultra-thin materials which display magnetic field-induced superconductivity, along with topological materials which are sufficiently clean to show the quantum Hall effect. I will take time to emphasize the correlations between the unique synthesis pathways these compounds take and the physics they display, with the goal of connecting an understanding of subtle physical and chemical distortions with the ability to resolve profound emergent electronic phases.