Colloquium

Entanglement Randomness

James Analytis
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Host: Veronika Sunko

Strongly interacting electrons are the cause of some of the most exotic phenomena in materials, from high temperature superconductivity to the appearance of fractional excitations. Fundamentally, this is due to the interplay of broken symmetry and many-body entanglement. The interplay leads to strange properties, many of which appear to contradict our most basic understanding of the physics of materials. In this talk, I discuss one such challenge, pertaining to the ability of a exotic magnets to store and transport entropy - a fundamental property rooted in the quantum nature of solids. I argue that the resolution comes from the existence of different scales of many-body entanglement, all simultaneously present and randomly distributed.Speaker Name, Affiliation, and BiographyJames G. Analytis, University of California, Berkeley,James Analytis is an experimental physicist who focuses on the discovery and understanding of exotic materials manifesting novel quantum phenomena that have both fundamental and technological implications, particularly superconductors, exotic magnets and topological insulators.More here: https://physics.berkeley.edu/people/faculty/james-analytis

Tuesday, December 9, 2025 11:00am - 12:00pm
Office Bldg West / Ground floor / Heinzel Seminar Room (I21.EG.101)

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.
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https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.