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INSIGHT SEMINAR: Local Probes of Spin Excitations in Quantum Matter

AMIR YACOBY

January 24, 2025
12:00 to 13:00
Elements Room

Major scientific discoveries are often enabled by new measurement capabilities that provide novel perspectives into complex physical problems. Recent advances and discoveries made on quantum materials have challenged experimentalists to come up with new ways to probe their intrinsic properties. In this talk I will describe some of our recent work that uses NV center magnetometry to explore spin excitations in quantum matter. By employing differen measurement modalities we are able to directly probe the spin chemical potential of a t in magnet and directly observe signatures of magnon hydrodynamics in a layered magn t. Finally by directly detecting coherent spin waves we are able to devise a new scatte ing platform for exploring mesoscopic magnetism.

ABSTRACT:
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BIO:

Amir Yacoby is a Professor of Physics at Harvard University. He is also a Professor of Applied Physics at the School of Engineering and Applied Sciences at Harvard University and a visiting Professor at the University of Waterloo. He currently holds the Lazaridis Chair i Physics.

Hosted by: Prof. Dr. Adrian Bachtold