Quantum Sensing and Quantum Materials (QSQM)

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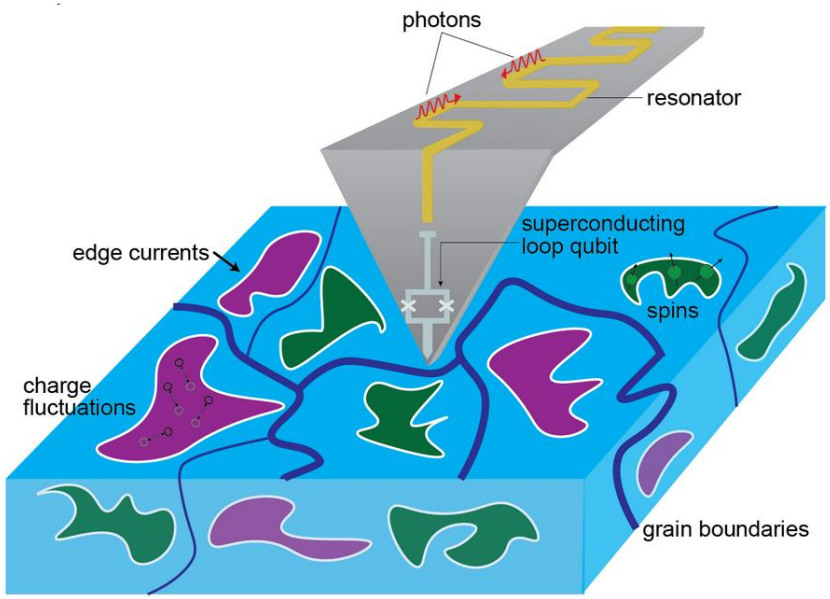
MISSION: To develop three new quantum sensing techniques—scanning qubit microscopy, two-electron Einstein-Podolsky-Rosen (EPR) spectroscopy, and nonlinear x-ray optics—and use them to study local and nonlocal quantum observables in quantum materials.



(Website URL TBA)

RESEARCH PLAN

QSQM will construct three new instruments, a scanning qubit microscope, a two-electron EPR spectrometer, and an x-ray four wave mixing setup. QSQM will use them to study the origin of exotic superconductivity, the signatures of topological order, and the nature of strange metal behavior in a wide variety of quantum materials.

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