Seminar/Talk

Coherent Superconductor-Semiconductor Quantum Circuits

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Host: Georgios Katsaros

The recent development of semiconductors with epitaxial superconducting Al contacts offers new approaches to realizing coherent superconducting quantum devices. In particular, we have demonstrated superconducting transmon qubits with Josephson junctions based on hybrid superconductor-semiconductor nanowire materials. These gate tunable transmons (gatemons) have the potential advantage that they can be readily controlled through local electrostatic gating of the junction element. I will discuss progress in understanding and optimizing gatemon qubits, as well as approaches to scaling the materials. I will also discuss how these hybrid materials might be used to realize novel qubits that are intrinsically protected against sources of decoherence.

Tuesday, November 21, 2017 11:00am - 12:30pm
Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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