

**DISSIPATIVE QUANTUM PHASE TRANSITIONS IN
SUPERCONDUCTING SYSTEMS: ENTANGLEMENT AND PHASE
DIAGRAMS**

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In this talk I address the simplest quantum critical problem of a two-level system (a qubit) coupled to an Ohmic heat bath. I will discuss this basic problem from the perspective of the notion of entanglement and discuss the usefulness of von Neumann entropy in identifying quantum criticality. If time permits, I will touch upon the possible dissipative quantum phase transition in a superconducting nanowire from the perspective of an array of coupled Josephson junctions.