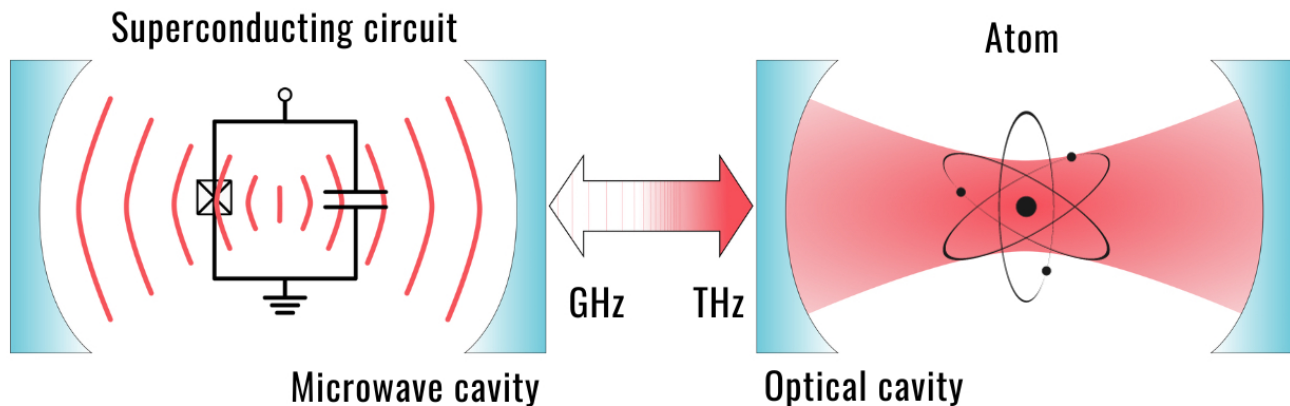


Quantum Electromagnetics

EECS 498 004 Winter 2024

TuTh 10:30am-11:50am



Recent advances in quantum information science and technology are causing a shift in both academic and industrial research efforts. The use of quantum phenomena in emerging technologies requires engineers and scientists to fully understand these quantum interactions to not only contribute to, but lead this emerging field. This course will introduce students to the quantum theory of electromagnetic radiation, matter and their interactions, which underpins all new quantum technologies. Course material will cover the following concepts:

- The Quantized Electromagnetic Field
- Quantum States of Radiation and Matter
- Quantum Matter-Field Interactions
- Quantum Measurement and Entanglement
- Cavity Quantum Electrodynamics
- Circuit Quantum Electrodynamics

Course: EECS 498 sec 004 (class no 33837)

Prerequisites: Phys 240, Math 215 & 216

Instructor: Alex Burgers