

*Quantum Mechanics and
Quantum Computation with
Electrical Circuits:
Coupling a Single Photon
to a
Single 'Atom'*

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Recent experimental breakthroughs have led to the construction of artificial superconducting 'atoms': nanoscale objects containing approximately one billion aluminum atoms coherently acting in concert. When placed inside a resonant cavity, these 'atoms' can strongly interact with single microwave photons. This talk will give an elementary introduction to recent remarkable experiments in the lab of Rob Schoelkopf at Yale. In addition to being a new test bed for quantum mechanics and quantum optics, this system has many promising features for quantum computation.

THURSDAY, APRIL 14, 2005

4:00 PM IN 102 JFB

REFRESHMENTS AT 3:30 PM IN 219 JFB