Characterization of Microwave Cavity

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Quantum Optics

- How photons interact with atoms and molecules
- Quantum entanglement, teleportation
- Used to improve security, computation, and sensitivity

Project Outlook

- Working with microwave cavity
  - Characterizing properties
  - Adding atomic vapor cell

Optical Cavity

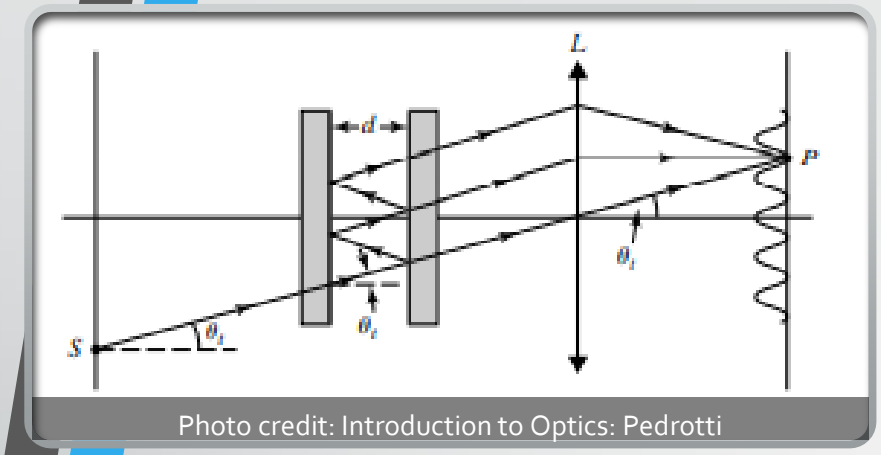
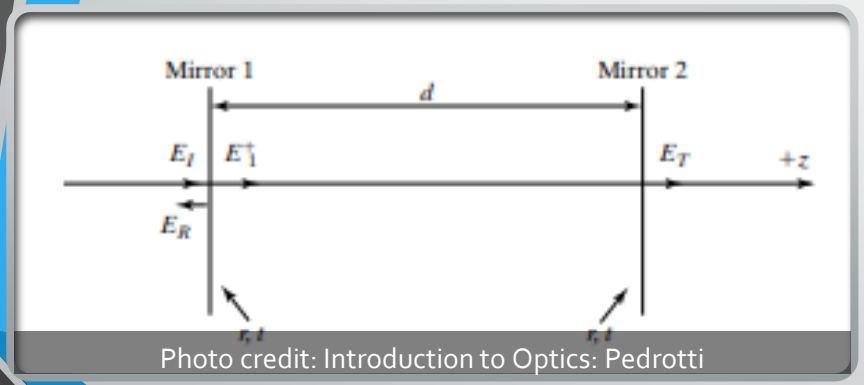


Photo credit: Introduction to Optics: Pedrotti



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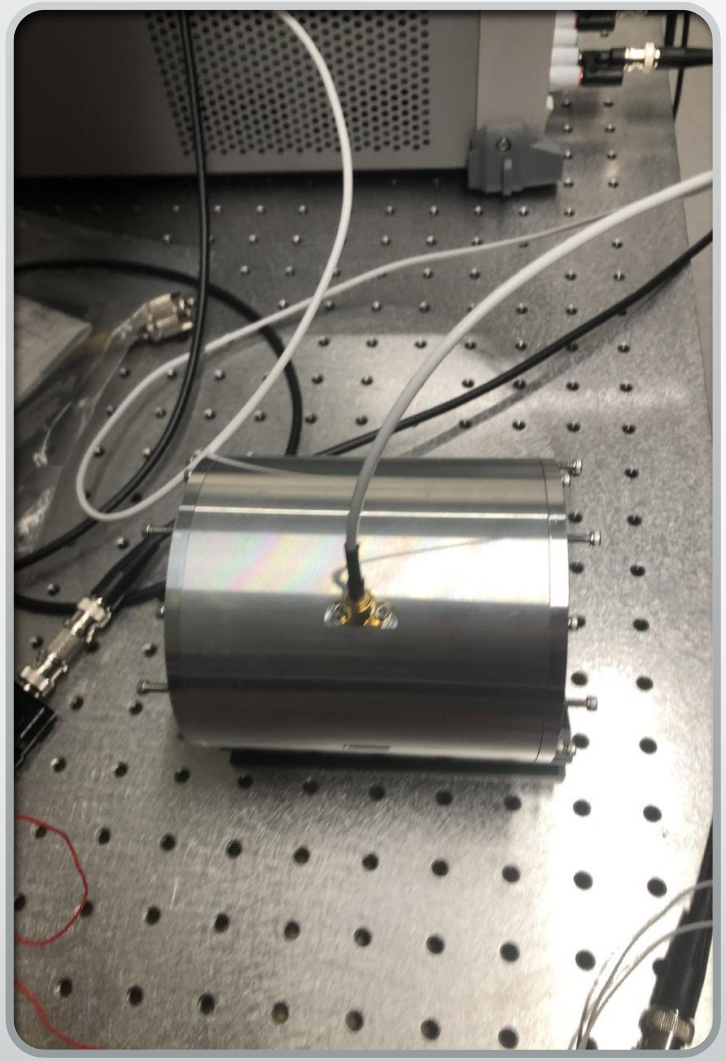
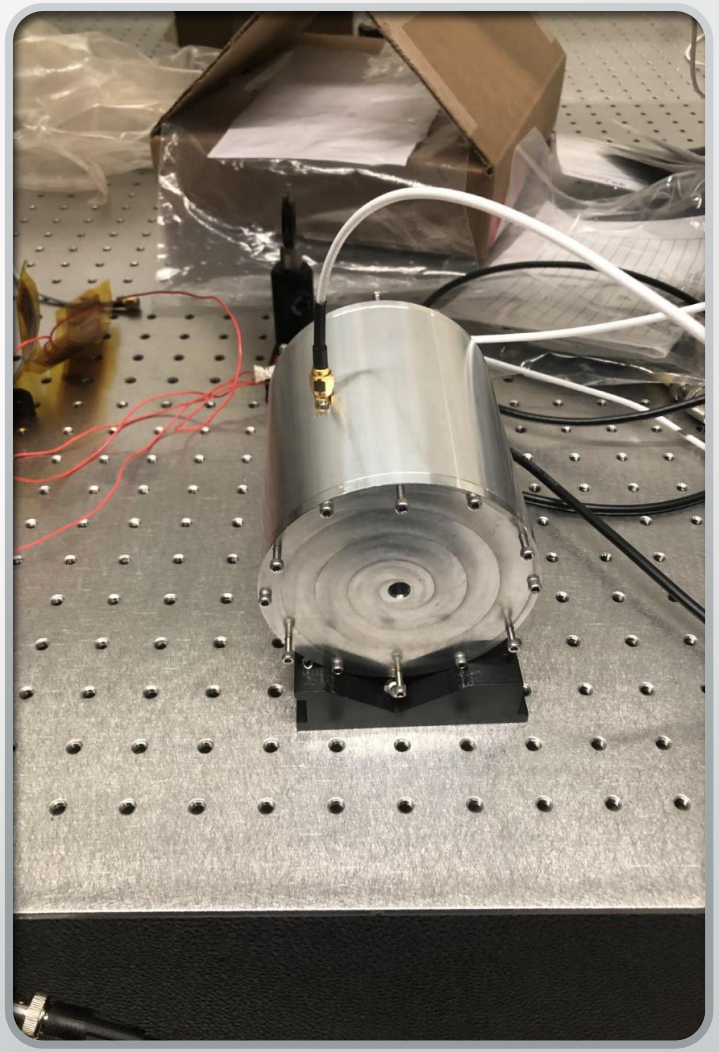
- Object with two parallel mirrors
- Creates standing waves through interference
- Light is amplified at resonant frequency
- Mainly used in interferometers

Detecting Resonant Frequency





Detecting Resonant Frequency