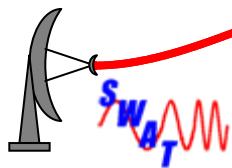


THz Low Loss Flexible Waveguide (Caltech/CAS)



Program: NIH R21 with Cavour Yeh (California Advanced Systems-CAS)
(ends in Sept. 2008)

Purpose: Develop THz low loss flexible waveguide for potential endoscopy applications

Underlying Technology: Dielectric ribbon guide

State-of-the-Art: No low loss single mode waveguide media exists at THz frequencies. Some work on PTFE dielectric waveguide. Some work on photonic bandgap PBG structures.

Major Accomplishments to date:

- Tested THz PBG concept using PTFE fibers
- Developed encased quartz ribbon guide concept
- Fabricated material through extrusion process
- Currently measuring 1.8-2.5 THz prototypes

