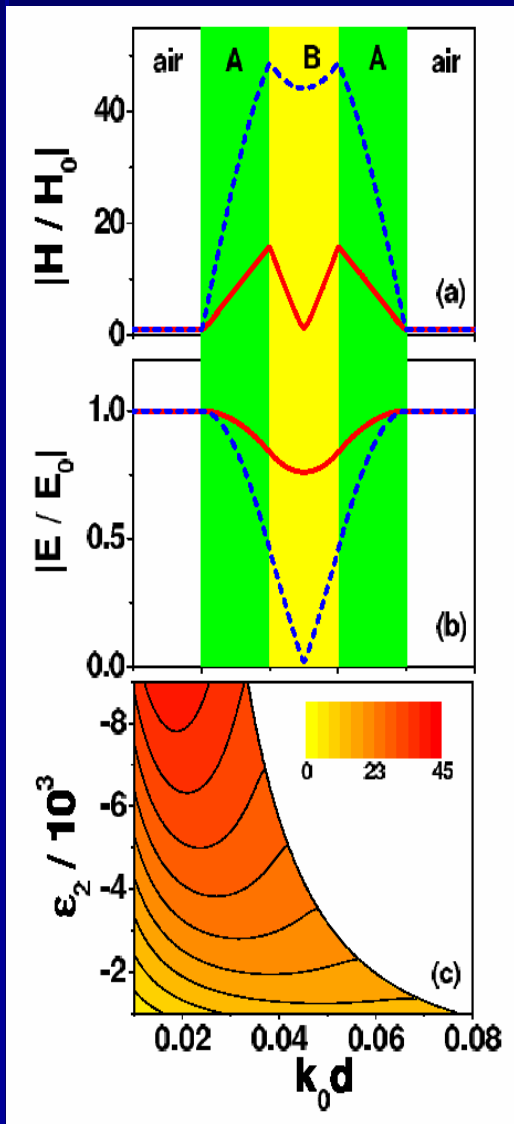
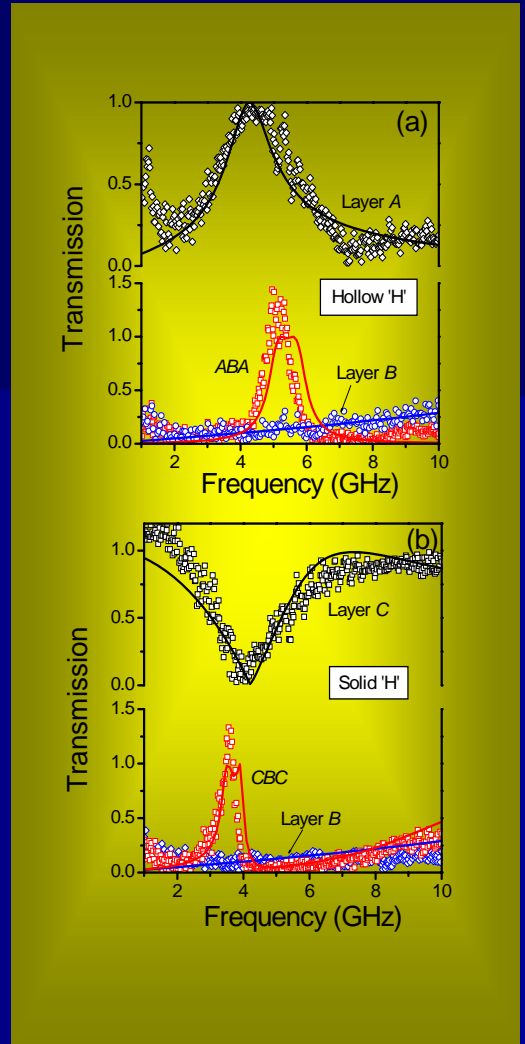
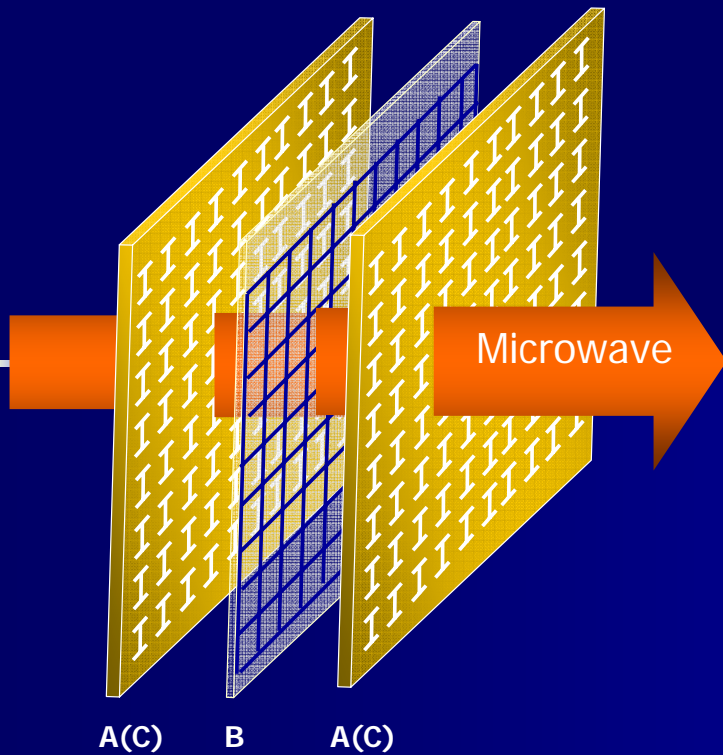


# Subwavelength Tunneling of Electromagnetic Waves



The enhanced transmission of electromagnetic waves through an opaque object (subwavelength metallic mesh) is achieved by sandwiching it between two metallic plates with periodically arranged H slits (ABA for short), or between two plastic plates with periodically arranged metallic fractals (CBC for short). Such ABA or CBC configurations exhibit transmission peaks, indicating wave penetration through the opaque metallic mesh at those frequencies. The experimental observations and theoretical simulations demonstrate the transmission enhancements to be induced by local resonances in the sandwiching layers.

References:

- [1] L. Zhou, W. Wen, C. T. Chan, and P. Sheng, *Phys. Rev. Lett.* **94**, 243905 (2005).
- [2] W. Wen, L. Zhou, J. Li, W. Ge, C. T. Chan, and P. Sheng, *Phys. Rev. Lett.* **89**, 223901 (2002).