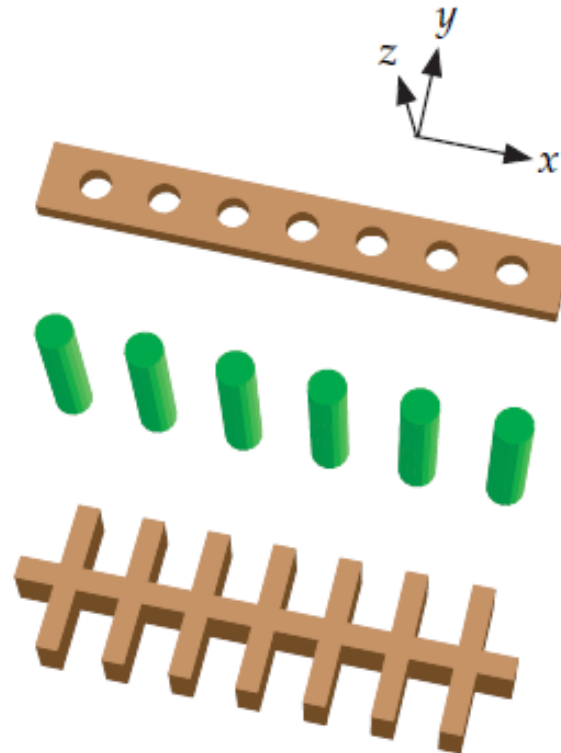


Nanophotonic Modeling

Lecture 1.9: Photonic Crystal 1D Periodic Waveguides

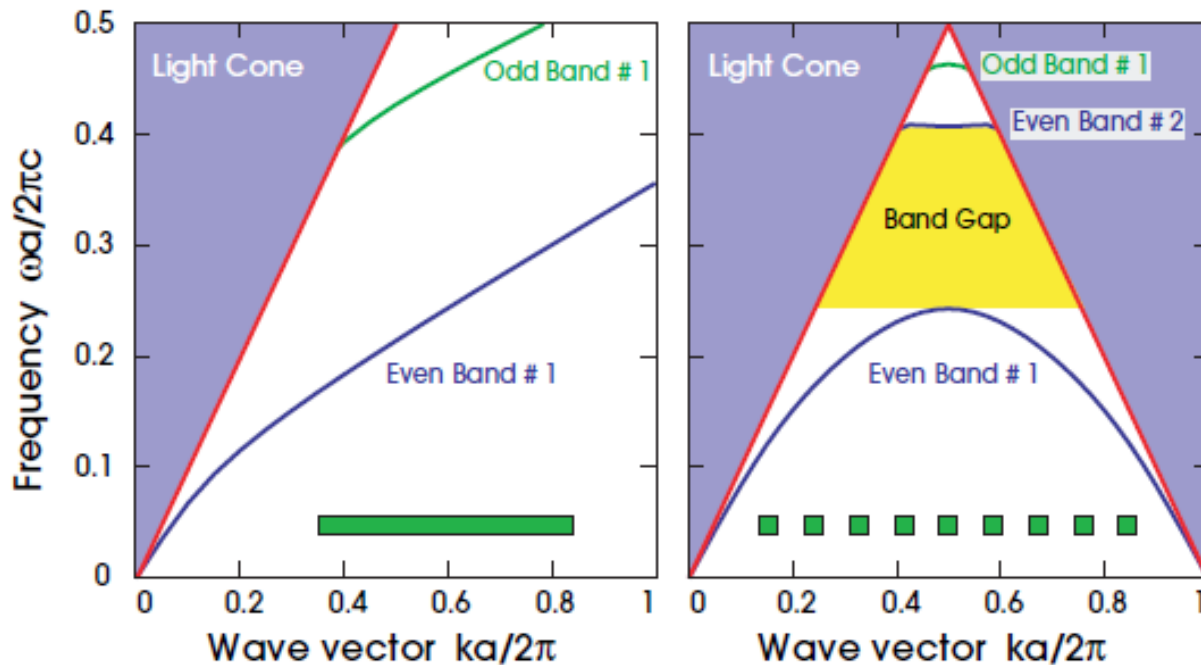
Prof. Peter Bermel

Periodic Dielectric Waveguides



- To confine light to a small volume, can combine a 1D photonic crystal with index guiding in other 2 dimensions

Periodic Dielectric Waveguides

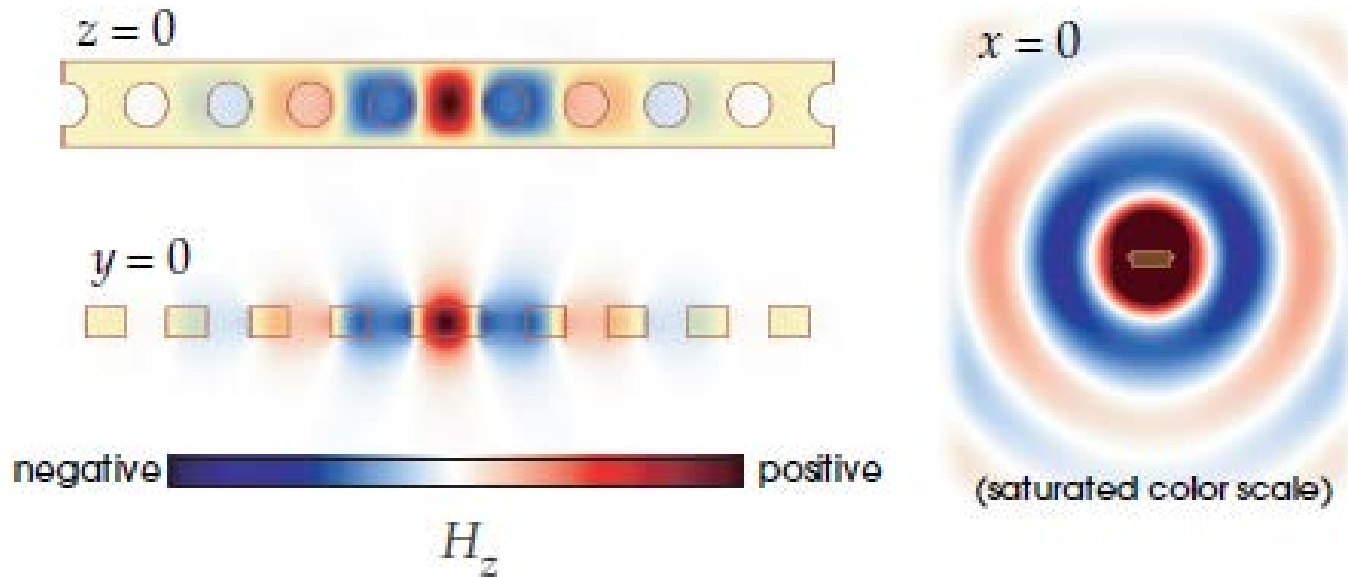


Uniform index waveguide

Periodic graded waveguide

- Bandstructures for index-guided waveguides
- Introducing periodicity restricts Brillouin zone

Periodic Dielectric Waveguides



- Introducing a pointlike defect creates 3D confinement at one or more bandgap frequencies