

MAR15-2014-000469

Abstract for an Invited Paper
for the MAR15 Meeting of
the American Physical Society

Aneesur Rahman Prize Talk: Working at the Speed of Light

JOHN JOANNOPOULOS, Massachusetts Institute of Technology

Photonic crystals are periodic dielectric structures possessing a photonic band gap that forbids propagation of a certain frequency range of light. This gap, and other curious properties of these systems, enable control of light with amazing facility and produce effects that are impossible to achieve with conventional optics. By combining analytical theory with state-of-the-art numerical calculations, examples of novel, and even anomalous, light behavior will be presented.