Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Coupling to nanoscale negative-refraction planar waveguides
ROBYN WANGBERG, VIKTOR PODOLSKIY, Oregon State University — Negative index non-magnetic strongly anisotropic waveguides have been shown to provide efficient beam steering and manipulation in nanoscale areas with applications that include sub-diffraction planar lens imaging and photonic funnels. In this work we study the coupling to and from sub-wavelength planar waveguides of different sizes and compare the transmission through a negative-index structure to the Bethe prediction for positive index materials. We simulate EM wave propagation and imaging in arbitrary waveguide configurations with a focus on designing and optimizing planar-waveguide based beam-steering photonic devices.

Robyn Wangberg
Oregon State University

Date submitted: 20 Nov 2006 Electronic form version 1.4