Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Negative Refraction in One-Dimensional Photonic Crystal[1]
PLARENTA VODO, Northeastern University, WENTAO LU, Northeastern University, PATANJALI PARIMI, Northeastern University, SRINIVAS SRIDHAR, Northeastern University — We demonstrate experimentally negative refraction of plane waves by a one-dimensional Photonic crystal (PhC) prism at microwave frequencies. The prism was fabricated from a microwave alumina PhC acting as a left-handed metamaterial. Focusing of plane waves from a one-dimensional PhC plano-concave lens is predicted theoretically and realized experimentally. The focal point is observed to move with the radius of curvature of the lens. The measured values of refractive index are in complete agreement with those determined from band structure calculations.

[1]Work supported by NSF and Hanscom Air Force Lab

Plarenta Vodo
Northeastern University

Date submitted: 30 Nov 2005 Electronic form version 1.4