

Abstract Submitted
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Refraction at a photonic crystal surface: exact characterization¹

PRABASAJ PAUL, Denison University — Refraction at plane air-photonic crystal surfaces in a class of photonic crystals is studied. The class of photonic crystals has particularly simple band-structure and Bloch wave solutions, which make the evaluation of exact reflection and transmission coefficients relatively simple. New analytical results are presented, and the effects of variation in surface location and orientation are explored. A close look is taken at two important issues – negative refraction, and the validity of the Rayleigh hypothesis. The results obtained are consistent with those in existing literature.

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