

**“Negative refraction and focusing using photonic crystal superlattice”, pp.94-99**

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**Abstract** – We consider a planar periodic array of dielectric cylinders of two different diameters. This array forms a two-dimensional photonic crystal superlattice. The structural modulation results in a narrow passband inside the photonic stopband. For the frequencies corresponding to this passband, our computer simulations indicate high transmittivity accompanied by a negative refractive index. We consider also transmission through a prism based on this superlattice and demonstrate a positive-negative refraction. Transmission through a plano-concave lens made of our superlattice demonstrates focusing associated with negative refraction.