

279. Title:Negative refraction and the spectral filtering of terahertz radiation by a photonic crystal prism

Authors:Swift, G.P. (1); Gallant, A.J. (2); Kaliteevskaya, N. (1); Kaliteevski, M.A. (1); Brand, S. (1); Dai, D. (1); Baragwanath, A.J. (1); Iorsh, I. (1); Abram, R.A. (1); Chamberlain, J.M. (1)

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Abstract:We demonstrate how micromachined photonic crystals can be used to negatively refract terahertz frequency light. The photonic crystals, which are constructed from conventional dielectric materials, manipulate the incident beam via interaction with their photonic bands. Consequently, we show that different components of a broadband beam incident on the structure may be positively or negatively refracted, depending upon its frequency and that the structure can be used as an effective spectral filter of THz radiation.