

BEAM STEERING WITH THE ENHANCED HYPERPRISM

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To the best of our knowledge topological change of the iso-frequency surface of hyperbolic metamaterials paves the way for the unique capabilities aiming to engineer propagation of the wave. Herein, an enhanced semiconductor-based hyperprism structure is presented aiming to seek for the optical switching and beam steering dependencies. Based on the outcomes of the numerical simulations one may conclude that by engineering the doping level of the semiconductor-based hyperprism, a maximum adjustable angle of 1.4 rad can be obtained. It has been concluded that changes in doping level allow for a variety of fascinating phenomenon.