

Negative Refractive Index Metamaterials and Highly Birefringent Wave Plates

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- Refractive index: Ratio between light's velocity in a medium and its free space velocity.
- Metamaterials: Subwavelength structures able to interact and manipulate electromagnetic radiation.
- Wave Plates: Used to alter the polarisation of incoming radiation.
- Thinner wave plates possible using metamaterials with a positive refractive index on one axis and a negative refractive index in the other.
- Current Half Wave Plate and Quarter Wave Plate prototypes have bandwidths of 6.6 % and 7.8 % respectively. >20 times wider than previous negative refractive index wave plates.

