



Advances in OptoElectronics

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Research Article

Anisotropic Left-Handed and μ -Negative Slab Waveguides: Physics and Device Applications

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Abstract

We study the properties of various anisotropic left-handed slab waveguides. The analysis is extended to anisotropic μ -negative slab waveguides. The possible existence of the plasmon modes in various anisotropic slab waveguide configurations is discussed. An FDTD program is developed to investigate the potential device applications of these anisotropic structures. A new signal detector and a two-channel harmonic separator multiplexer are designed employing the μ -negative slab waveguide.