



Polarizing Devices Based on One-Dimensional Photonic-Crystal Layers

By Hazem Khanfar

LAP Lambert Academic Publishing. Paperback. Condition: New. 88 pages. Dimensions: 8.7in. x 5.9in. x 0.2in. Quarter-wave retarders (QWR) that employ TIR and interference of light in a transparent thin-film coating at the base of a prism are presented. Explicit equations that guide the optimal design are provided. The optimal refractive index and normalized thickness of QWR coatings on glass and ZnS prisms are determined as functions of the internal angle of incidence from 45° to 75°. An achromatic QWR that uses an Si₃N₄-coated N-BK10-Schott glass prism is also presented with retardance error of 3° over the 400-600 nm wavelength range. An iterative procedure for the design of a polarizing beam splitter that uses a form-birefringent, subwavelength-structured, one-dimensional photonic-crystal layer (SWS1-D PCL) embedded in a high-index cubical prism is presented. The PBS is based on index matching and total transmission for the p polarization and TIR for the s polarization at the prism-PCL interface at a 45° angle of incidence. A high extinction ratio in reflection (50 dB) over the 4-12 μm IR spectral range is achieved using a SWS 1-D PCL of ZnTe embedded in a ZnS cube within an external field of view of 6.6° and in the presence...



READ ONLINE
[9.59 MB]

Reviews

Good e-book and beneficial one. it absolutely was writtern quite flawlessly and beneficial. I am delighted to explain how this is basically the very best ebook i have read through within my very own daily life and may be he greatest ebook for at any time.

-- Prof. Leonardo Parker

Very useful to all category of individuals. It is one of the most amazing publication i have got read through. You will not feel monotony at anytime of your respective time (that's what catalogs are for about when you question me).

-- Mr. Johnathon Dach