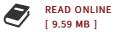


## Polarizing Devices Based on One-Dimensional Photonic-Crystal Layers

## 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 450 to 750. An achromatic QWR that uses an Si3N4-coated N-BK10-Schott glass prism is also presented with retardance error of 30 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 450 angle of incidence. A high extinction ratio in reflection (50 dB) over the 4-12 m 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. 60 and in the presence...



## Reviews

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