Abstracts

Analysis of Dielectric Guiding Structures by the Iterative Eigenfunction Expansion Method

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Numerical results demonstrating capabilities of a recently developed method for determining guided modes of dielectric waveguides are presented. Apart from accuracy tests for the single-core waveguides, examples of the wavelength-selective coupler, the directional coupler with an adhesive layer, and of the side-pit structure are briefly analyzed. The theoretical background of the iterative eigenfunction expansion method (IEEM) and a comprehensive description of the numerical algorithm are also given. As it is efficient, highly accurate, and versatile, the IEEM proved to be useful in the analysis of various dielectric guiding structures.

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