Beam Propagation in Optical Waveguides: 3D Semi Vectorial Nonparaxial

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BPM3D-SV Module

Design and Simulate Optical Waveguides with 3D Semi Vectorial, Nonparaxial Beam Propagation Method

Module Overview

This module simulates 3D semi vectorial wide-angle beam propagation in waveguides with high index contrast using finite difference split step scheme. The method gives good accuracy even for moderate discretization and is stable with the reference refractive index. It can also model total internal reflection very efficiently.

Module Features

3 Dimensional
Semi Vectorial
Nonparaxial
Finite Difference Split-Step Method
The method does not utilize the ADI scheme
Ease of PML boundary condition with only a marginal increase in computational effort
Completely analytical formulation without involving any numerical matrix inversion

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Module Applications

Three Dimensional Wide Angled Optical Waveguides

Module Type

Software Module with Matlab (**.**m files)

Module Users

OEMs and Other Photonics Software Companies can Implement this Module into their Software and Hardware Products

Government lab researchers

Company researchers

University Researchers