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Projection methods for computation of spectral characteristics of weakly guiding optical waveguides

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Abstract

The original problem on surface and leaky eigen-modes of a weakly guiding step-index optical waveguide is considered. The original problem is reduced to a nonlinear spectral problem for the set of weakly singular boundary integral equations. We approximate the integral operator by collocation and Galerkin methods. Their convergence and quality are proved by numerical experiments. © 2013 IEEE.

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