Abstracts

A Hybrid Method for Paraxial Beam Propagation in Multimode Optical Waveguides

A hybrid (nonray, nonmodal) method for computing the fields of a paraxial beam propagating in a multimode waveguide (parallel-plate or dielectric slab) at large axial distances is presented. The method is based on the Fourier and Fresnel self-imaging properties of these waveguides, and is capable of high accuracy. The method is much more efficient than ray or mode approaches, while giving complete field information which coupled-power equations do not provide.

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