

Comparison of the analytical and the numerical solutions calculated by finite-difference method for a round fiber

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Abstract

This paper considers a finite-difference method for calculating the propagation constants and fields of vector modes of round optical fibers with a stepped refractive index. The accuracy of the resulting solution of the wave equation with the corresponding analytical solution known for this type of fiber, is evaluated.

Keywords: round fiber, finite-difference method, round optical fibers, wave equation

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