



Wavelength dependence of equilibrium mode distribution and steady state distribution in W-type plastic-clad silica fibers



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ABSTRACT

Wavelength dependence of equilibrium mode distribution (EMD) and steady state distribution (SSD) in W-type plastic-clad silica fibers (PCSFs) is investigated in this paper for parametrically varied width of the fiber's intermediate optical layer and refractive index of the outer cladding. We have shown that the W-type PCSF has better transmission characteristics at longer infrared wavelengths. This is explained by the rise of the leaky mode losses with increasing wavelength. This facilitates tailoring W-fibers to a specific application at hand in the infrared wavelength region.

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