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The Effect of the Nonlinearities on Gaussian Pulses Propagation in Photonic Crystal Fiber

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Abstract

Nonlinear effects are attributed to the dependence of the susceptibility on the electric field, which becomes important at high field strengths, in optical fibers impose different limitations on the communications link, and an understanding of such effects is almost a prerequisite for actual light wave system designers. On the other hand, they offer a variety of possibilities for all-optical signal processing, amplification and regeneration, in the nonlinear regime, is introduced and shows the influence and consequences of the nonlinear effects of the propagation Gaussian pulse in photonic crystal fibers. In this paper, one reviews the effects - both detrimental and potentially beneficial - of optical nonlinearities in photonic crystal fibers.

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