New Cnoidal and Solitary Wave Solutions of Coupled Higher-Order Nonlinear Schrödinger System in Nonlinear Optics

HAN Zhao-Xiu

Collage of Statistics and Computing Science, Zhejiang Gongshang University, Hangzhou 310018, China

Abstract: The coupled higher-order nonlinear Schrödinger system is a major subject in nonlinear optics as one of the nonlinear partial differential equation which describes the propagation of optical pulses in optic fibers. By using coupled amplitude-phase formulation, a series of new exact cnoidal and solitary wave solutions with different parameters are obtained, which may have potential application in optical communication.

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