Abstracts

Nonlinear surface waves on the interface of two non-Kerr-like nonlinear media

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In recent years, there has been growing interest in studying nonlinear guided-wave propagation as they present potential, yet not fully-explored, applications for high-speed optical signal processing and transmission. In this paper, analytical solutions for nonlinear surface waves on the interface of two nonlinear non-Kerr-like media are derived. The dispersion relations and their relations to the transmission power and initial field distributions are calculated. Several observations are made on the behaviors of the surface waves and their potential applications.

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