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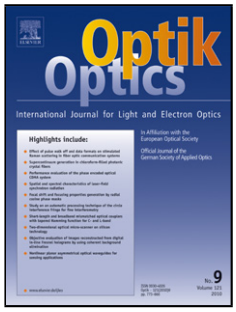

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Optical dark and dark-singular solitons with anti-cubic nonlinearity

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Abstract

This paper studies the dynamics of optical dark and dark-singular solitons for nonlinear Schrödinger equation under anti-cubic nonlinearity with extended direct algebraic method. The constraint conditions for the existence of optical dark and dark-singular solitons are also listed. Additionally, a couple of other solutions known as singular periodic, fall out as a by-product of this scheme.

Key words: Optical solitons; anti-cubic nonlinearity; integrability.

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