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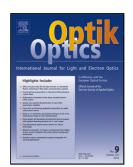
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SOLITONS IN OPTICAL METAMATERIALS WITH FRACTIONAL TEMPORAL EVOLUTION

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Abstract

This paper obtains bright, dark and singular soliton solutions in optical metamaterials with fractional temporal evolution where Jumarie's modified Riemann-Liousville derivative is considered. There are four types of nonlinear metamaterials that are studied. These are Kerr law, power law, parabolic law and dual-power law. The integration scheme that is employed is the extended trial equation method. The existence of these solitons are guaranteed with constraint conditions.

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