

New Optical Solitons in High-Order Dispersive Cubic-Quintic Nonlinear Schrödinger Equation

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Abstract: By using the generalized tanh-function method, we find bright and dark solitary wave solutions to an extended nonlinear Schrödinger equation with the third-order and fourth-order dispersion and the cubic-quintic nonlinear terms, describing the propagation of extremely short pulses. At the same time, we also obtained other types of exact solutions.

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Key words: nonlinear Schrödinger equation, high-order dispersion, optical soliton solution

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