

## Localized Excitations in a Sixth-Order (1+1)-Dimensional Nonlinear Evolution Equation

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(Received: 2005-3-23; Revised: 2005-6-20)

**Abstract:** In this letter, by means of the Lax pair, Darboux transformation, and variable separation approach, a new exact solution of a sixth-order (1+1)-dimensional nonlinear evolution equation, which includes some arbitrary functions, is obtained. Abundant new localized excitations can be found by selecting appropriate functions and they are illustrated both analytically and graphically.

PACS: 02.30.1k, 05.45.Yv

**Key words:** variable separation, Lax pair, Darboux transformation, nonlinear evolution equation, localized excitation

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