Abstract

In this paper, we employ the \( \exp(-\alpha(x)) \)-expansion method to find the exact traveling wave solutions involving parameters of nonlinear evolution equations Fitzhugh-Nagumo (FN) equation and Modified Liouville equation. When these parameters are taken to be special values, the solitary wave solutions are derived from the exact traveling wave solutions. It is shown that the proposed method provides a more powerful mathematical tool for constructing exact traveling wave solutions for many other nonlinear evolution equations.

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Exact Traveling Wave Solutions for Fitzhugh-Nagumo (FN) Equation and Modified Liouville Equation


Index Terms

Computer Science
Applied Mathematics

Keywords

The exp(-?(x))-expansion method; Fitzhugh-Nagumo (FN) equation; Modified Liouville equation; Traveling wave solutions; Solitary wave solutions; Kink-antikink shaped.