TRAVELING WAVE SOLUTIONS FOR NONLINEAR WAVE EQUATION WITH DISSIPATION AND NONLINEAR TRANSPORT TERM THROUGH FACTORIZATIONS

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Abstract

In this work, we use the factorization method to find explicit exact particular traveling wave solutions for the nonlinear wave equation with dissipation and nonlinear transport term. The two-parameter solution is obtained by using the particular solution and the known solutions for the Newell–Whitehead equation, Kolmogorov–Petrovsky–Piscounov equation, Fitzhugh–Nagumo equation, and the Burgers equation with cubic nonlinearity obtained as special cases from the solutions of the nonlinear wave equation with dissipation and nonlinear term.

*Keywords***: Factorization method; traveling wave; nonlinear wave equation**

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