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Exploratory approach to explicit solution of nonlinear evolution equations. (English)

Zbl 0962.35033

Int. J. Theor. Phys. 39, No. 1, 207-222 (2000).

Summary: By introducing a concept of “rank”, an exploratory approach is presented for finding the explicit traveling wave solutions to some physically interesting nonlinear evolution equations in physics and other fields. To show the efficiency of this approach, the explicit traveling wave solutions to some well-known equations, such as the MKdV-Burgers equation, the generalized Fitzhugh Nagumo equation, the generalized Burgers-Fisher equation, and some coupled ones in fluid mechanics, are given.

MSC:

[35C05](#) Solutions to PDEs in closed form

[35G20](#) Nonlinear higher-order PDEs

Cited in **15** Documents

Keywords:

explicit traveling wave solutions; MKdV-Burgers equation; generalized Fitzhugh Nagumo equation; generalized Burgers-Fisher equation

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