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New exact solutions for three nonlinear evolution equations. (English) Zbl 0995.35003

Summary: By using general solutions of coupled Riccati equations and the relations between them a direct algebra method is described to construct several kinds of closed-form travelling wave solutions for some nonlinear differential equations. By this method three important nonlinear partial differential equations are studied and, in addition to re-deriving all known solutions, several new solutions are explicitly obtained with the aid of symbolic computation.

MSC:
35A08 Fundamental solutions to PDEs

Keywords:
coupled Riccati equations; closed-form travelling wave solutions; partial differential equations

Software:
MACSYMA

Full Text: DOI

References:
[4] Li, Z.B., (), 389

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