

Nonlinear Partial Differential Equations Solved by Projective Riccati Equations Ansatz

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Z. Naturforsch. **58a**, 511 – 519 (2003); received June 23, 2003

Based on the general projective Riccati equations method and symbolic computation, some new exact travelling wave solutions are obtained for a nonlinear reaction-diffusion equation, the high-order modified Boussinesq equation and the variant Boussinesq equation. The obtained solutions contain solitary waves, singular solitary waves, periodic and rational solutions. From our results, we can not only recover the known solitary wave solutions of these equations found by existing various tanh methods and other sophisticated methods, but also obtain some new and more general travelling wave solutions.

Key words: General Projective Riccati Equations Method; Nonlinear Partial Differential Equation; Symbolic Computation; Travelling Wave Solution.