

The Exp-Function Method for the Riccati Equation and Exact Solutions of Dispersive Long Wave Equations

Sheng Zhang, Wei Wang, and Jing-Lin Tong

Department of Mathematics, Bohai University, Jinzhou 121000, P. R. China

Reprint requests to S. Z.; E-mail: dr.szhang@yahoo.com.cn

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In this paper, the Exp-function method is used to seek new generalized solitary solutions of the Riccati equation. Based on the Riccati equation and one of its generalized solitary solutions, new exact solutions with three arbitrary functions of the (2+1)-dimensional dispersive long wave equations are obtained. Compared with the tanh-function method and its extensions, the proposed method is more powerful. It is shown that the Exp-function method provides a straightforward and important mathematical tool for solving nonlinear evolution equations in mathematical physics.

Key words: Exp-Function Method; Riccati Equation; Tanh-Function Method;
Generalized Solitary Solutions; Nonlinear Evolution Equations.