

Rational Form Solitary Wave Solutions and Doubly Periodic Wave Solutions to(1+1)-Dimensional Dispersive Long Wave Equation

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(Received: 2004-11-1; Revised: 2004-11-23)

Abstract: In this work we devise an algebraic method to uniformly construct rational form solitary wave solutions and Jacobi and Weierstrass doubly periodic wave solutions of physical interest for nonlinear evolution equations. With the aid of symbolic computation, we apply the proposed method to solving the (1+1)-dimensional dispersive long wave equation and explicitly construct a series of exact solutions which include the rational form solitary wave solutions and elliptic doubly periodic wave solutions as special cases.

PACS: 03.40.kf

Key words: elliptic equation rational expansion method, rational form solitary wave solutions, rational form Jacobi and Weierstrass doubly periodic wave solutions

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