

New Explicit Solitary Wave Solutions and Periodic Wave Solutions for the Generalized Coupled Hirota-Satsuma KdV System

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(Received: 2001-12-7; Revised: 2002-1-23)

Abstract: In this paper, we study the generalized coupled Hirota-Satsuma KdV system by using the new generalized transformation in homogeneous balance method. As a result, many explicit exact solutions, which contain new solitary wave solutions, periodic wave solutions, and the combined formal solitary wave solutions, and periodic wave solutions, are obtained.

PACS: 03.40.Kf

Key words: coupled Hirota-Satsuma KdV system, KP equation, homogeneous balance method, Riccati equation, solitary wave solution, periodic wave solution

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