

Travelling Wave Solutions for Two Generalized Hirota-Satsuma Coupled KdV Systems

Engui Fan

Institute of Mathematics, Fudan University, Shanghai 200433, P.R. China.

Reprint requests to Dr. E. F.; Fax: 86-21-65643045, E-mail: faneg@fudan.edu.cn

Z. Naturforsch. **56a**, 312–318 (2001); received January 3, 2001

In this paper we present an extended tanh method that utilizes symbolic computations to obtain more travelling wave solutions for two generalized Hirota-Satsuma coupled KdV systems in a unified way. The key idea of this method is to take full advantage of a Riccati equation involving a parameter and use its solutions to replace the tanh-function by the tanh method. It is quite interesting that the numbers and types of the travelling wave solutions can be judged from the sign of the parameter.

Key words: Generalized Hirota-Satsuma Coupled KdV System; Travelling Wave Solution; Symbolic Computation.