A nonlinear superposition formula of the solutions to Riccati equation and its application. 

(Chinese. English summary) [Zbl 1249.35297]


Summary: A nonlinear superposition formula of the solutions to Riccati equation is given, then exact infinite sequence complex solutions including infinite sequence soliton-like solutions and triangular function solutions of the variable coefficients combined KdV equation with forcible term are obtained with the aid of symbolic computation system Mathematica.

MSC:

35Q53 KdV equations (Korteweg-de Vries equations)

Keywords:

Riccati equation; nonlinear superposition formula; complex solution; nonlinear evolution equation

Software:

Mathematica