New Soliton-like Solutions of Variable Coefficient Nonlinear Schrödinger Equations

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The improved projective Riccati system method for solving nonlinear evolution equations (NEEs) is established. With the help of symbolic computation, one can obtain more exact solutions of some NEEs. To illustrate the method, we take the variable coefficient nonlinear Schrödinger equation as an example, and obtain four families of soliton-like solutions. Eight figures are given to illustrate some features of these solutions.

Key words: Variable Coefficient Schrödinger Equation; Soliton-like Solutions;
　　　　　　 Symbolic Computation.