

Variable Separation Solution for (1+1)-Dimensional Nonlinear Models Related to Schrodinger Equation

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Abstract: A variable separation approach is proposed and successfully extended to the (1+1)-dimensional physics models. The new exact solution of (1+1)-dimensional nonlinear models related to Schrodinger equation by the entrance of three arbitrary functions is obtained. Some special types of soliton wave solutions such as multi-soliton wave solution, non-stable soliton solution, oscillating soliton solution, and periodic soliton solutions are discussed by selecting the arbitrary functions appropriately.

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Key words: variable separation approach, (1+1)-dimensional nonlinear models, solution of soliton

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