Variable Separation Approach to Solve Nonlinear Systems

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Abstract: The variable separation approach method is very useful to solving (2+1)-dimensional integrable systems. But the (1+1)-dimensional and (3+1)-dimensional nonlinear systems are considered very little. In this letter, we extend this method to (1+1) dimensions by taking the Redekopp system as a simple example and (3+1)-dimensional Burgers system. The exact solutions are much general because they include some arbitrary functions and the form of the (3+1)-dimensional universal formula obtained from many (2+1)-dimensional systems is extended.

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