

A New Approach to Solve Nonlinear Wave Equations

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Abstract: From the nonlinear sine-Gordon equation, new transformations are obtained in this paper, which are applied to propose a new approach to construct exact periodic solutions to nonlinear wave equations. It is shown that more new periodic solutions can be obtained by this new approach, and more shock wave solutions or solitary wave solutions can be got under their limit conditions.

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Key words: sine-Gordon equation, Jacobi elliptic function, nonlinear wave equation, periodic wave solution, solitary wave solution

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