

Relationship Between Soliton-like Solutions and Soliton Solutions to a Class of Nonlinear Partial Differential Equations

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Abstract: By using the generally projective Riccati equation method, a series of doubly periodic solutions (Jacobi elliptic function solution) for a class of nonlinear partial differential equations are obtained in a unified way. When the module  $m \rightarrow 1$ , these solutions exactly degenerate to the soliton solutions of the equations. Then we reveal the relationship between the soliton-like solutions obtained by other authors and these soliton solutions of the equations.

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Key words: nonlinear partial differential equation, doubly periodic solution, soliton solution

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