

New Exact Solutions to NLS Equation and Coupled NLS Equations

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Abstract: A transformation is introduced on the basis of the projective Riccati equations, and it is applied as an intermediate in expansion method to solve nonlinear Schrödinger (NLS) equation and coupled NLS equations. Many kinds of envelope travelling wave solutions including envelope solitary wave solution are obtained, in which some are found for the first time.

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Key words: projective Riccati equations, NLS equation, envelope travelling wave solution, envelope solitary wave solution

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