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EXACT SOLUTIONS OF SOME NONLINEAR PDEs VIA THE BERNOULLI SUB-ODE METHOD

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Abstract

The Bernoulli sub-ODE method can be used to construct exact traveling wave solutions of nonlinear PDEs. In this paper, we explore new application of this method to some special nonlinear PDES, the balance number of which are not positive integers. Then new types of exact traveling wave solutions are obtained to the nonlinear reaction- diffusion equation, the nonlinear modified Burgers equation and the nonlinear Eckhaus equation. This method is more powerful and will be used in further works to establish more entirely new solutions for other kinds of nonlinear PDEs arising in mathematical physics.

Key Words : *Bernoulli sub-ODE method, Traveling wave solutions, Reaction- diffusion equation, Modified Burgers equation, Eckhaus equation.*

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