

## عنوان مقاله:

Dynamics of combined soliton solutions of unstable nonlinear fractional-order Schrödinger equation by beta-fractional derivative

## محل انتشار:

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## خلاصه مقاله:

In this article, a new version of the trial equation method is suggested. This method allows new exact solutions of the nonlinear partial differential equations. The developed method is applied to unstable nonlinear fractionalorder Schrödinger equation in fractional time derivative form of order  $\alpha$ . Some exact solutions of the fractionalorder fractional PDE are attained by employing the new powerful expansion approach using by beta-fractional derivatives which are used to get many solitary wave solutions by changing various parameters. New exact solutions are expressed with rational hyperbolic function solutions, rational trigonometric function solutions, 1-soliton solutions, dark soliton solitons, and rational function solutions. We can say that unstable nonlinear Schrödinger equation exist different dynamical behaviors. In addition, the physical behaviors of these new exact solutions are given with two and three dimensional graphs.

## کلمات کلیدی:

Unstable nonlinear fractional-order Schrödinger equation, Beta-fractional derivative, New powerful expansion approach, Nonlinear partial differential equations

## لینک ثابت مقاله در پایگاه سیویلیکا:

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