A generalized fractional sub-equation method for nonlinear fractional differential equations

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Abstract: This letter studies some nonlinear fractional differential equations [1,2,3,4]. The sub-equation method is used for finding exact solutions of these equations [5,6]. Meanwhile, the traveling wave transformation method has been used to convert fractional order partial differential equation to fractional order ordinary differential equation. Calculations in this method are simple and effective mathematical tool for solving fractional differential equations in science and engineering. The power of this manageable method is presented by applying it to several examples. This approach can also be applied to other nonlinear fractional differential equations.

Keywords: exact solutions, traveling wave transform, sub-equation method, space-time fractional differential equation.

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