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Analytic study on nonlinear fractional partial differential equations.

In this study, we present a kind of analytical method homotopy analysis method (HAM) to obtain solution of nonlinear fractional partial differential equations. Analytical results validate the convergence and accuracy of the homotopy analysis method. The fractional derivative is described in the Caputo sense. Finally, the accuracy properties are demonstrated by some example. (Received December 22, 2010)