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New solutions for investigation of nonlinear fractional differential equations

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Abstract

In this essay, the nonlinear fractional integral equation is studied. Akbari-Ganji's Method (AGM), Homotopy Perturbation Method (HPM) and Vibrational Iteration Method (VIM) are applied to obtain its solution. We present a new strategy for finding the approximate solutions to Fractional differential equations. We experience Fractional differential equations, which are broadly utilized in fluids. In this article, we have used analytical methods to check the correctness of the answers. Ordinary equations and fractional differential equations are related to entropy and wavelets, and so on. A few examples are employed to appear accurate and simple to implement and demonstrate the method. The solutions are clarified in convergent series. Some well-known models for anticipating the oscillation behavior of the action in a vibrating system are presented, then with the help of fractional calculus which could exceptionally powerful tool in mathematics and modeling of complex systems, a model for the same system is proposed. Compare the models and finally show that the proposed fractional model not only includes non-fractional models but also predicts the behavior of the system more comprehensively.

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