On Numerical Solutions of Systems of Ordinary Differential Equations via a Numeric-Analytical Method

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Abstract:

This paper considers the solutions of systems of ordinary differential equations via a numeric-analytical method referred to differential Transforms Method (DTM). For numerical interpretation, two illustrative examples are used. The results obtained show a strong agreement with their corresponding exact solutions. The method is therefore proven to be effective and reliable, and as such, can be applied to systems of ODEs involving higher orders.

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Keywords: System of equations, Differential transform, ODEs, Exact solution.

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