عنوان مقاله:

GDTM-Padé Technique for Solving the Nonlinear Delay Differential Equations

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خلاصه مقاله:

The delay differential equations, which have some arguments with time-lags, arewidely used in many areas of physics, engineering, economics and biology. In thiswork, we have applied the generalized differential transform method which is a seminumerical-analytical method, for solving a delay differential equation and used thePadé-approximation for improving the accuracy and convergence of differentialtransform method's solutions. Theoretical considerations are discussed. Some examplesare used to illustrate the validity and the great potential of this method in solving delaydifferential equations. Comparisons are made between the results of the approximatesolutions and exact solutions. The results show that proposed method is an effectivemethod in solving delay differential equations.

کلمات کلیدی:

Delay differential, equations,Generalized differential, transform method, Padé-approximation

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