

Review of: "A Novel Computational Approach for Solving Fully Implicit Singular Systems of Ordinary Differential Equations"

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Potential competing interests: No potential competing interests to declare.

This paper solve fully implicit singular nonlinear systems of ordinary differential equations, a unique computer method is presented in this study. These systems have two challenges: they are simultaneously singular and entirely implicit. Software packages like Maple are generally unable to solve such systems because of their totally implicit structure. Moreover, numerical techniques such as Runge-Kutta cannot be used. The suggested approach in this manuscript is predicated on the notion of directly applying the differential transform technique (DTM) to these systems while taking advantage of a significant Adomian polynomial characteristic. A broad and effective algorithm that is implement with Mathematical software has been developed as a result of this new approach. Here, the authors emphasize that the desired method does not necessitate turning the hands-implicit system into an explicit differential system. they also provide the DTM with a strong tool to solve additional fully implicit differential systems with their method. Four numerical examples that are unsolvable by software programs such as Maple are provided to demonstrate the effectiveness and capabilities of the suggested strategy. The exact answers in a convergent power series form are provided by our method, which has successfully solved these problems, according to numerical results.

There are some points that need to be corrected as follows

1. There are a few typos and grammatical mistakes
2. Check punctuation in whole the paper.
3. The authors should state clearly the motivation of this paper.
4. All the equations in the manuscript should be numbered
5. The conclusions section should contain the future work.
6. the mathematical software code must be add and illustrate.
- 7 The introduction need to added some recent references such as

"Non-integer order analysis of electromagnetic thermo elastic with diffusion and voids considering lord-shulman and dual-phase-lag models with rotation and gravity"

Waves in random and complex media 2022

"Noninteger Derivative Order Analysis on Plane Wave Reflection from Electro-Magneto-Thermo-Microstretch Medium with a Gravity Field within the Three-Phase Lag Model", *Advances in Mathematical Physics*, vol. 2022, Article ID 6559779, 13 pages,

Fractional derivative order analysis and temperature-dependent properties on p- and SV-waves reflection under initial Results in Physics Volume 18, 2020, 103270

<https://doi.org/10.1016/j.rinp.2020.103270>

Effects of the Caputo fractional derivatives on convective flow in wavy vented enclosures filled with a porous medium using Al_2O_3 -Cu hybrid nanofluids

Heat Transfer 2020