

# 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.

In this manuscript, the author presents a novel computational approach to solve fully implicit singular nonlinear systems of ordinary differential equations.

The result of this manuscript is useful for the interested reader of the current journal. In my opinion, this manuscript can be accepted for publication after a minor revision, and the following items should be clarified in a revised version of the manuscript:

1. The authors claim that the current work employs a novel numerical method but no comparison is given by the authors. The authors don't give enough comments about the comparison between the obtained numerical results of the present method with the other method. Provide some comparison so that readers can compare this novel method with existing methods.
  2. To see why a reader would choose to use the presented scheme, the authors can highlight in the introduction what are the advantages of the presented method besides other methods with some comments.
  3. Throughout the manuscript, commas and full stops are not used properly. Correct these things throughout the manuscript.
  4. Stability and Convergence analysis of the developed numerical scheme are missing. Discuss it thoroughly.
  5. At least the CPU time of the prescribed method for one test problem should be compared with the other available methods.
  6. Some details about the information about mathematical software which has been used in the current chapter could be considered in the revised version.
  7. Considering the subject of this chapter and its discussion, the introduction be completed by reviewing the following works:
    - i. A high-order adaptive numerical algorithm for fractional diffusion wave equation on non-uniform meshes, Numerical Algorithm, (2022),
- DOI: <https://doi.org/10.1007/s11075-022-01372-1>**
- i. Multistep schemes for one and two dimensional electromagnetic wave models based on fractional derivative approximation, Journal of Computational and Applied Mathematics, volume 380,

(2020). DOI: <https://doi.org/10.1016/j.cam.2020.112985>

- ii. Stability and convergence of multistep schemes for 1D and 2D fractional model with nonlinear source term, Applied Mathematical Modelling, volume 89, (2021), pages 1721-1746. DOI: <https://doi.org/10.1016/j.apm.2020.08.038>
- iii. Analysis of a robust implicit scheme for space-time fractional stochastic non-linear diffusion wave model; **International Journal of Computer Mathematics**, (2023) DOI: <https://doi.org/10.1080/00207160.2023.2207677>