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.

Report on: A Novel Computational Approach for Solving Fully Implicit Singular Systems of Ordinary Differential Equations

Recommendation: Major Revision

This paper investigates a Fully Implicit Singular Systems of Ordinary Differential Equations. The basic idea is interesting and worth publishing, yet the results requires improvement so that it can be of interest to other branches of mathematics and applications. I recommend this paper for the publication in your journal after the incorporation of the following questions that arise when reading the current version:

1. Authors should provide more information about their specific assumptions. Specifically, why this new approach is expected to be the best method for investigating such equations. This is very important as anyone in the world can reproduce the provided results easily at any time.

2. In the formulation section needs more attention. Describe the parameters and transmission involved in the model in a clearer way.

3. Page 3 section 3 need more explanation.

4. Provide biological significance of R_0 on the disease dynamics.

5. They should double check the mathematical formulations, and also add appropriate references for governing equations.

6. What are the advantages of the selected numerical method? Is there any limitation? Please clarify it.

7. The importance of the design carried out in this manuscript can be explained better than other important studies published in this field. I recommend the authors to review other recently developed works.

8. Figure need more explanation.

9. The superiority of the proposed approach must be compared with other established works.

10. The authors should justify the main role of the fractional-order derivatives in their study

11. The performance of the proposed method should be better analyzed, commented and studied in more detail.

12. Cite each figure in the text.

13. Please pay attention to all punctuation marks in the text.

14. The conclusion of the paper is unclear, so rewrite the conclusion section and add the future directions of the study at the end of the conclusion section.

15. Authors can add the following references to enrich the introductory section:

Mathematical analysis of spread and control of the novel corona virus (COVID-19) in China." Chaos, Solitons and Fractals 141 (2020): 110286.

The complex dynamics of hepatitis B infected individuals with optimal control." Journal of Systems Science and Complexity (2021): 1-23.

Viral dynamics and control of hepatitis B virus (HBV) using an epidemic model." Alexandria Engineering Journal 59, no. 2 (2020): 667-679.

On Analysis of fractional order mathematical model of Hepatitis B using Atangana–Baleanu Caputo (ABC) derivative." Fractals (2021): 2240017.

Caputo type fractional operator applied to Hepatitis B system." Fractals (2021):

Numerical dynamics and fractional modeling of hepatitis B virus model with non-singular and non-local kernels." Results in Physics 39 (2022): 105757.

Fractal fractional based transmission dynamics of COVID-19 epidemic model." Computer Methods in Biomechanics and Biomedical Engineering 25, no. 16 (2022): 1852-1869.

Modeling and numerical analysis of a fractional order model for dual variants of SARS-CoV-2." Alexandria Engineering Journal 65 (2023): 427-442.

Authors should improve the work according to comments. After the above Major revisions, I strongly recommended this paper for publication without any kind of hesitation in your journal.