

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.

Review of the paper entitled "A Novel Computational Approach for Solving Fully Implicit Singular Systems of Ordinary Differential Equations."

Upon conducting a thorough examination of the manuscript, it is evident that the author possesses a solid grasp of the subject matter concerning differential equations. I would like to offer some suggestions for revisions that could enhance the article's appeal, merit for publication, and accessibility to a broader readership within the field of mathematics. In my opinion, the following points merit attention:

The manuscript would benefit from a more comprehensive explanation of differential transforms and Adomian polynomials. It would be especially advantageous to include illustrative examples to elucidate these concepts.

Several typographical errors are present throughout the paper. For instance, on page #1, the sentence, "All these approximation methods were limited to solving explicit ordinary differential equations and their systems," requires punctuation or grammatical correction.

Similar typographical errors, such as "sought solution" and "initial values problems," can be found on page #2 and subsequent pages. These should be rectified to improve the overall readability of the manuscript.

In the introduction section, it is mentioned that the Runge-Kutta method is an integration method. However, I believe that this characterization may not be accurate. I recommend reviewing the literature to ensure the correct terminology is used.

Since the proposed method provides solutions in series form that converge to the exact solution, it is pertinent to address the speed of convergence. Exploring the rate of convergence would be beneficial to readers seeking a comprehensive understanding of the method.

As the proposed method is iterative, it would be worthwhile to investigate and discuss its stability, both theoretically and through practical examples. This analysis would contribute to the readers' confidence in the method's applicability.

In light of the aforementioned points, the conclusion section of the paper should be enhanced to provide a more substantial summary and insights into the research findings.

Recommendation: I recommend this paper for publication in your journal, provided that the author incorporates the suggested revisions. These improvements will elevate the quality and clarity of the manuscript, making it a valuable addition to the field of differential equations.