# 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.

**Manuscript title:** *A Novel Computational Approach for Solving Fully Implicit Singular Systems of Ordinary Differential Equations*

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In this paper, the author proposed a computational approach to solve fully implicit singular nonlinear systems of ordinary differential equations. In specific, the author stated that these systems have a two fold difficulty: being fully implicit and singular at the same time, and further cannot be solved in general by software packages and numerical methods like Runge-Kutta. Moreover, he mentioned that the proposed method is based on applying the differential transform method (DTM) directly to these systems while exploiting an important property of Adomian polynomials. Four numerical examples that are not solvable by software packages are exhibited to advocate the efficiency of the proposed method. Finally, the numerical results showed that the proposed method has successfully solved these examples by providing the exact solutions in a convergent power series form.

This paper can be accepted for publication after addressing the following minor issues:

1. The “Abstract” section should be modified to be more concise and focused. The author should highlight the novelty, significance, and outlines without going into too many details.
2. There are a few typo errors that must be fixed. For instance:

- In the “Introduction” section, the author wrote “such Maple, Mathematica or Matlab are given”. It should be corrected to be “such as Maple, Mathematica, or Matlab”.
- Also, in the “Introduction” section, the author should replace “we give a conclusion in the Section 5” with “we give a conclusion in Section 5”.
- In the “Conclusion” section, the author wrote “methodslike” instead of “methods like”.
- “ode” should be capitalized in the title of the third section. The author has to scan the whole manuscript for similar mistakes and correct them accordingly.

3. Any sentence should not be repeated in the context more than once. Paraphrasing has to be employed instead of using the same exact structure. For example, the sentence “these systems have a two fold difficulty: being fully

implicit and singular at the same time" was identically repeated twice in the "Abstract" and" Introduction" sections. The author has to adjust one of them accordingly.

4. The specific software used to perform the numerical experiments in this study was not mentioned either in the "Abstract", "Introduction", or "Conclusion" sections. It is recommended to highlight clearly the software that was used to obtain the achieved numerical results demonstrated in this paper in each of these sections.
5. The fourth section "Numerical results and discussion" should be extended to comprise a study for computing the resulted error between the proposed approximate solution and the exact solution to corroborate the significance and efficacy of the demonstrated computational scheme.