

Review of: "New Computational Methods Using Seventh Derivative Type for the Solution of First Order Initial Value Problems"

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Potential competing interests: No potential competing interests to declare.

Reviewer report about the **New computational methods using seventh derivative type for the solution of first order initial value problems**

I have the following (minor) corrections to improve the paper:

1. There are several grammar, style, and formatting issues throughout the paper that need to be addressed. Carefully proofread and polish the writing. For example:

On page 1, the implementation of methods is achieved...

On page 1, The expansion of the ODE on page 1 should be written first and then abbreviated.

On page 2, more recently, the applications of multi-derivatives...

On page 6, The numerical methods in Equations (21)– (24) are said to be zero stable if no root of the first...

On page 18, while time of iterations is important, accuracy of numerical methods is most significant as it shows

On page 26, Formulae were derived through interpolation and collocation techniques.

- 2) At the end of all equations, "comma" or "point" must be added according to the typing rules. Therefore, they need to pre-check all the paper.

- 3) Authors should add the following relevant paper in the references for better presentation of the manuscript:

- a. A collocation algorithm based on septic B-splines and bifurcation of traveling waves for the Sawada Kotera equation, Mathematics and Computers in Simulation, vol. 203, pp. 12–27, 2023.
- b. Numerical and dynamical behaviors of nonlinear traveling wave solutions of the Kudryashov-Sinelshchikov Equation, Wave Motion, vol.118, 103121, 2023.
- c. New exact soliton solutions, bifurcation, and multistability behaviors of traveling waves for the 3+1 -dimensional modified Zakharov-Kuznetsov equation with higher order dispersion, Mathematical Sciences and Applications E-Notes, vol. 11, no. 4, pp. 226–240, 2023.

- d. Optical soliton solutions of the fractional perturbed nonlinear Schrodinger equation, TWMS Journal of Applied and Engineering Mathematics, 10(4) (2020) 930–939.
- e. A novel implementation of the Petrov-Galerkin method to shallow water solitary wave pattern and superperiodic traveling wave and its multistability in the generalized Korteweg-de Vries equation, Chinese Journal of Physics, vol. 68, pp. 605–617, 2020. The reference section should be written in the same format.
- f. 4) The Abstract lacks clear motivation and justification for studying this specific topic. The authors need to better highlight the significance, relevance, and potential applications of the work.

In the end, this work is suitable for publication in this journal after taking into account the previous points.