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

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Title: New computational methods using seventh derivative type for the solution of first order initial value problems

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In this research, the authors have examined a class of implicit block methods of a seventh derivative type through interpolation and collocation techniques using finite power series as the basis functions. They have presented the discrete schemes, which are implicit two-point block methods, obtained by carefully and unevenly choosing collocation points that ensure better methods' stability via test. However, these schemes require seventh derivative functions, unlike other existing numerical formulae. The new methods are found, investigated, and proven to be convergent and A-stable. The implementation of the methods is achieved by using the Newton-Raphson method. Experiments show the efficiency and accuracy of the developed formulae on different classes of first-order initial value problems, including SIR, growth models, and the Prothero-Robinson oscillatory problem, and in comparison to such existing methods. In addition, it is observed that the uneven positioning of collocation points greatly influences the efficiency and accuracy of numerical methods.

This paper can be considered for publication after the authors address the

following comments and suggestions:

1. What is the main advantage of the proposed method? Please provide more details in the revised version.
2. Can the proposed method be developed for other classes of differential equations, such as integro-differential equations or partial differential equations?
3. In conclusion, can you describe the direction of your further work?
4. The paper also has some typos and language issues that need to be checked and corrected.