

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.

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

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A class of implicit block methods of the seventh derivative type is studied in this research, by interpolating and collocating using finite power series as the basis functions. The discrete schemes, which are implicit two-point block methods, are obtained by selecting collocation points to guarantee stability of the methods. Some numerical tests are investigated to show the applicability of the proposed method. I think the work is very interesting, but I have some questions

- What is the difference between the use of a seventh derivation scheme and, for example, an eight derivation scheme?
- At which values of step-size h is the solution stable?
- Did the matrix system invertible for all choices of collocation points?
- All of the selected examples are linear; what about the nonlinear examples?