

Review Form 1.7

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_117344
Title of the Manuscript:	Block multi-derivative linear multistep methods for solving first, second and third order ordinary differential equations
Type of the Article	

Review Form 1.7

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>1.Indeed, the scientific world finds the article noteworthy since it introduces a new method for solving first, second, and third order ordinary differential equations (ODEs). An continuing difficulty in numerical techniques for ODEs is addressed in the research by presenting block multi-derivative linear multi-step approaches, which have the potential to enhance accuracy and efficiency. Researchers and practitioners in the area may find the methods outlined in the paper useful for solving a variety of differential equation problems, which might lead to technological advancements.</p> <p>2.The title "Block multi-derivative linear multistep methods for solving first, second and third order ordinary differential equations" effectively conveys the main focus of the article. However, it could be slightly refined for clarity and conciseness. Alternative Title:"Advancing Numerical Methods: Block Multi-Derivative Approaches for ODEs of Various Orders".</p> <p>3.The summary effectively summarizes the article's substance, including the creation and implementation of block multi-derivative linear multi-step algorithms for solving ordinary differential equations of first, second, and third order. It does a good job of outlining the process, with an emphasis on how the suggested numerical solution is derived using interpolation and collocation methods. It also discusses the method's practical applications and emphasizes its essential features including stability, consistency, and convergence. A little editing might make it more thorough, however, by, for example, explaining the results in more depth and how they pertain to the larger scientific community.</p> <p>4.There seems to be a logical framework to the paper, with sections outlining various parts of the study. With sections like Introduction, Method Derivation, Basic Properties, Numerical Examples, Discussion, and Conclusion, the approach, analysis, results, and interpretation of the findings are presented in a clear and organized manner. It is critical, nevertheless, to check that each segment is self-contained and leads naturally into the next. In order to make it easier for readers to navigate and understand the text, it is important that headings and subheadings appropriately represent what they introduce.</p> <p>5.The data presented here suggest that the paper follows standard practices in the scientific community. However, in order to prove its scientific soundness conclusively, a more comprehensive review by subject area specialists would be required.</p> <p>6.References are far more good.</p> <p>Additional Comments:</p> <ol style="list-style-type: none"> 1. Clarity and Structure: Ensure the paper has a clear and logical structure, with distinct sections for Introduction, Methodology, Analysis, Numerical Results, Discussion, and Conclusion. 2. Title Revision: Consider refining the title to be more descriptive and indicative of the specific focus of the paper. 3. Introduction: Provide a more concise and focused introduction that clearly states the problem being addressed and the novelty of the proposed method compared to existing approaches. 4. Literature Review: Expand the literature review section to provide a more comprehensive overview of existing methods in the field and how the proposed method builds upon or differs from them. 5. Methodology Description: Clarify the derivation process of the block multi-derivative linear multi-step method, ensuring each step is explained thoroughly and logically. 6. Equation Presentation: Improve the presentation of equations by ensuring they are numbered sequentially and referenced appropriately within the text. 7.Explanation of Properties: Provide a more detailed explanation of how the basic properties of the method, such as order, stability, consistency, and convergence, are analyzed and 	

Review Form 1.7

	<p>demonstrated.</p> <p>8. Numerical Examples: Consider including additional numerical examples to further validate the proposed method and demonstrate its applicability to a wider range of problems.</p> <p>9. Comparison with Existing Methods: Expand the discussion on how the proposed method compares to existing methods in terms of accuracy, efficiency, and computational complexity.</p> <p>10. Discussion Interpretation: Ensure the discussion section provides a thorough interpretation of the numerical results and addresses any limitations or potential areas for improvement of the proposed method.</p> <p>11. Conclusion Recap: Strengthen the conclusion by summarizing the key findings of the study and emphasizing the significance of the proposed method in the context of solving ordinary differential equations.</p> <p>12. References: Double-check the accuracy and completeness of the references, ensuring they are formatted correctly according to the chosen citation style (e.g., APA, IEEE).</p> <p>13. Language and Grammar: Proofread the entire paper for grammatical errors, awkward phrasing, and unclear expressions to ensure clarity and readability.</p> <p>14. Visual Presentation: Consider adding figures, diagrams, or tables to visually illustrate key concepts, equations, or numerical results, enhancing the overall presentation of the paper.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>The essay seems to have academically acceptable language and English quality. The text is well-organized and descriptive, and the vocabulary is in line with what is often used in academic discussions on numerical techniques for solving ordinary differential equations. Complex mathematical derivations and explanations, in particular, may benefit from a last editing run to guarantee clarity and grammatical correctness.</p>	
<p>Optional/General comments</p>	<p>No General Comments.</p> <p>References to relevant literature, numerical examples demonstrating the method's efficacy, and analyses of its qualities (including order, stability, consistency, and convergence) are all part of this article. In general, it follows the structure of an academic research article.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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