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| Journal Name: | [**Journal of Advances in Mathematics and Computer Science**](https://journaljamcs.com/index.php/JAMCS) |
| Manuscript Number: | **Ms\_JAMCS\_132067** |
| Title of the Manuscript: | **Numerical Solution of Fractional order Epidemic Mathematical Model on Dengue Using FDTM and FADM** |

PART 1: Comments

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|  | **Reviewer’s comment**  **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This article models the mathematical model of fractional order differential equation on Dengue disease and provides numerical solutions. In addition, "Fractional Differential Transform Method (FDTM) and Fractional Adomian Decomposition Method (FADM) methods were used together, adding a different perspective to this study and providing both numerical and analytical solutions in this model. This research contributed to the reader's understanding of the spread of the dengue virus epidemic, and the applied fractional derivative model aroused interest in the researcher. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The title of this article is quite appropriate. |  |

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| **Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.** | There are a few shortcomings. There are a few points in particular that need improvement. There is no dramatic omission, but the summary could be improved by detailing the findings in the studies, the comparative performance analysis of the FDTM and FADM methods, and adding their real-world importance and impact on humanity. |  |
| **Is the manuscript scientifically, correct? Please write here.** | Now, this study does not pose a scientific problem. But in scientific articles, before the main purpose of the information, the basic parts of that information, that is, the preliminary information part, should be added and the information should be presented to the reader in detail. How?  If I were to write an article on this subject; 1- Definitions of Fractional Derivatives  1.1- Riemann-Liouville Fractional Derivative (Do not take it as basis in the model) 1.2- Caputo Fractional Derivative  1.3 Atangana-Baleanu Fractional Derivative should be explained.  The Atangana-Baleanu fractional derivative model provides more flexible solutions regarding "short-term and long-term behavior" in virus epidemics. However, for example, Caputo derivative can also be taken as basis. But different results will definitely be obtained by using both models. What I'm saying is not just my own opinion, of course, but it should be something that should be included in any preliminary information section. Additionally, the parameters should be explained and detailed. The differences between the Fractional and Classical model can be touched upon. As a result of this model used, its effects on human health should be interpreted. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Relevant references have been cited and are up to date. |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language of the article and academic writing are suitable for this study. However, there are grammatical errors in some parts and these errors need to be double-checked to reduce them. |  |
| **Optional/General** comments | I think it would be sufficient in an academic context if preliminary information is added along with the development of the summary and the differences between the classical and fractional models and their effects on human health are interpreted in the mathematical modeling section. |  |

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| **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?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

**Reviewer details:**

Taylan Demir, Ankara University, Turkey Krishna Ghode