

Review of: "Analysis of the Spread of Covid-19 via Atangana-Baleanu Fractional Derivatives"

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Potential competing interests: No potential competing interests to declare.

Review of "Analysis of the Spread of Covid-19 via Atangana-Baleanu Fractional Derivatives":

The paper presents a mathematical analysis and formulation of a fractional model for the spread of the Covid-19 epidemic using Atangana-Baleanu Fractional Derivatives. The study establishes the existence and uniqueness of the solution for the proposed model and investigates the existence of a disease-free equilibrium, along with its stability properties. Additionally, the authors provide a numerical scheme for the fractional model and present simulation results to validate the theoretical findings. Overall, the paper offers valuable insights into understanding and mitigating the spread of the epidemic.

However, there are some areas that require improvement. Firstly, the introduction could benefit from a more structured overview of the problem statement to provide clarity to the readers. Secondly, the authors are encouraged to thoroughly check the manuscript for any typographical or grammatical errors to ensure its readability and coherence.

Moreover, it is suggested that the authors improve the alignment of mathematical expressions for better clarity and readability. Additionally, clarification is needed on how the novel approach introduced in the article differs from traditional methods in simulating and analyzing similar phenomena.

Furthermore, the paper lacks explicit discussion of the key findings or results of the numerical simulations presented. Providing a concise summary of these findings would enhance the understanding of the paper's contributions.

Finally, the authors are advised to enhance the References section by including articles that utilize advanced simulation methods. This addition will complement the current literature and provide additional insights into advanced simulation methods. I recommend enhancing the References section by including articles that utilize advanced simulation methods. These articles are as follows:

<https://doi.org/10.1186/s13662-021-03262-7>

<https://doi.org/10.1016/j.cma.2009.12.001>

<https://doi.org/10.1016/j.rinp.2022.105889>

<https://doi.org/10.1016/j.rinp.2023.106938>

<https://doi.org/10.1016/j.compstruc.2020.106246>

<https://doi.org/10.1016/j.rinam.2022.100258>

In summary, the paper contributes valuable insights into numerical simulation methods for the subject matter and offers a promising avenue for addressing complex problems. With revisions addressing the points raised, the manuscript has the potential to make a significant contribution to the field.