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

Ali Khalouta[1]

1 Say Yes to Education

Potential competing interests: No potential competing interests to declare.

Reviewers' Comments

Title of Paper: Analysis of the Spread of Covid-19 via Atangana-Baleanu Fractional Derivatives

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Overall Evaluation: Accept after Minor Revisions

In this paper, the authors study the spread of the epidemic via Atangana-Baleanu fractional derivatives. Additionally, the existence and uniqueness of the solution for the proposed model is proven. To validate the theoretical results, a numerical scheme for the fractional model is presented, and various simulation results are presented.

Comments for the Authors:

1) Please check the entire manuscript carefully for grammatical errors and typos. There are some. For example, on page 4, "Baleaneau" should be "Baleanu".

2) In order to make the introduction of the paper more meaningful, the following references should be added to the list of references and appropriately incorporated in the introduction of the paper:

- *A novel computational method for solving the fractional SIS epidemic model of two different fractional operators,*Annals of the University of Craiova, Mathematics and Computer Science Series, 50(1) (2023), 136-151.

- *New approaches for solving Caputo time-fractional nonlinear system of equations describing the unsteady flow of a polytropic gas,* International Journal of Nonlinear Analysis and Applications, 14(3) (2023), 33-46

- *A new decomposition transform method for solving nonlinear fractional logistic differential equation,*The Journal of Supercomputing, 80 (2024), 8179-8201.

The manuscript presents a significant contribution to the field of fractional calculus. So my recommendation is to accept the manuscript after minor changes.