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.

1. A clearer justification should be given as to why to use the Atangana-Baleanu derivative and why it is necessary to introduce a non-singular kernel to analyze the spread of COVID-19.

2. It is necessary to add bibliographic support where other fractional derivatives may or may not adequately describe the dynamics of the coronavirus.

3. Dado que las derivadas de Atangana-Baleanu y Caputo-Fabrizio (ambas con kernel no singular) han sido altamente cuestionadas, recomiendo verificar si la solución de la ecuación diferencial usada satisface las condiciones iniciales y de frontera. Ver, por ejemplo, las Refs: "Mariano-Morales, J., Vivas-Cruz, L. X., & Taneco-Hernández, M. A. Initial-boundary value and interface problems on the real half line for the fractional advection–diffusion-type equation. Mathematical Methods in the Applied Sciences", and "H. Yépez-Martínez and J. F. Gómez-Aguilar, Laplace variational iteration method for modified fractional derivatives with non-singular kernel, J. Appl. Comput. Mech. 6 (2020), no. 3, 684–698".

4. I suggest adding statements regarding the physical meaning of replacing the integer derivative with the Atangana-Baleanu derivative.

5. In Figure 2, expand the time interval to better see the details of the graphs at short times.