

Review of: "Qualitative Analysis of a Time-Delay Transmission Model for COVID-19 Based on Susceptible Populations With Basic Medical History"

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Potential competing interests: No potential competing interests to declare.

In this paper, the authors utilized the SEIR COVID-19 epidemic model, which considers susceptible individuals with basic medical histories. They introduced a crucial element, time delay, into the model, leading to the creation of a novel COVID-19 transmission model accounting for time delays. The study focused on determining the basic reproduction number of this transmission model and establishing the existence of an equilibrium point within it.

To evaluate the stability of this equilibrium point, the researchers employed the construction of a Lyapunov function and the application of the LaSalle invariance principle, demonstrating its global stability. This theoretical framework was validated through numerical simulations. Additionally, the paper explored the impact of varying time delays on the spread of COVID-19.

In summary, this research contributes to our understanding of COVID-19 transmission dynamics by incorporating time delay into the SEIR model and analyzing its implications. The theoretical findings were supported by numerical evidence, shedding light on the role of time delays in the spread of the virus.

The article is well-crafted. It would be greatly appreciated if the authors could provide assistance to the reader in translating the term "ylable" in Figures 2 and 3 into English.