Review of: "A Mathematical Characterisation of COVID-19 in Mauritius"

Yunpeng Wang[1]

1 Guangzhou Institute of Geochemistry

Potential competing interests: No potential competing interests to declare.

It is an interesting study, However, some specific comments and concerns are: 1. In Page 4 Section 3, why reducing α equates to reducing the peak number of cases? The author has plotted their relationship in Figure 2, but mathematical derivation is still required. 2. Is it contradictory to reduce α and increase t0? In actual situations, a specific measure, such as lockdown, will reduce the peak number of cases (reduce α) and reduce t0 simultaneously. 3. Figure 2(left) is given under the assumption that t0 is fixed. However, Figure 3 is not given under the same assumption. In fact, the time when different countries reached peak values (t0) is completely different, but the author did not discuss the impact of t0 in Figure3. 4. Most problems of this article lie in the relationship between and α and t0, it is suggested that the author provide a more detailed discussion about these two parameters, especially considering their synchronized changes in actual situations. 5. In equation (5), Φ is assumed to be a constant value in a second wave model. However, in some countries the number of cases is still increasing before the start of a second wave, but in a lower growth rate. Can Φ be assumed to be a constant value in these countries?