

Earth Syst. Dynam. Discuss., referee comment RC4  
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## Comment on esd-2021-26

Anonymous Referee #3

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Referee comment on "ESD Ideas: planetary antifragility: a new dimension in the definition of the safe operating space for humanity" by Oliver López-Corona et al., Earth Syst. Dynam. Discuss., <https://doi.org/10.5194/esd-2021-26-RC4>, 2021

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The manuscript is very interesting and very new aspects of research on antifragility. The work is very impressive. However, due to the novelty of the work, it needs implicit pros and cons of the notion as well as previous studies. The objective of this study is not clear and the mathematical treatment lacks proper definitions. Moreover, it is not implicitly explained how Fisher Information is related to human operating space. For this, the authors shall demonstrate the physical meaning of such qualifiers and also align with the scope of ESD.

- There are some jargon need to be defined properly and hence hard to understand. For instance, the authors introduced "**TOA**" on line 80 for the first time. What it stands for? Give its full form. Likewise, the reviewer asks to define  $L_{rad}$ ,  $L_{in}$ , and  $\lambda$  implicitly in Equation 3 and other variables in Equation 4.
- On line 20, "of" is missing between work and Equihua et al.