

Dear Authors,

Many thanks for submitting your revised manuscript, which is improved thanks to the useful comments from reviewers. In particular, amendments made to the introduction, which update the literature basis for EARS inherited structures and extension velocity/propagation, and to the discussion, which make the work clearer/rigorous through detailing additional important limitations of the modelling approach, have improved the work.

In light of the revisions you have made following suggestions from the reviewers, I now recommend your manuscript for publication subject to technical corrections, which I outline below:

- **Reply:** We kindly thank the editor for the positive assessment of our manuscript, and have addressed the comments below

- In line 23 (Abstract), please clarify that ‘rotational rifting leads to the overall lateral propagation of deformation towards the rotation axis’, to be consistent with your reply to Reviewer 1: “The Western Rift actually propagates in both directions (north and south) in our models, which is in fact in agreement with what the reviewer suggests.”. This sentence is also slightly long and complex, so I suggest to split it into two.

- **Reply:** We have rephrased the abstract a bit, and made sure to mention that the Western Rift is also seen to be propagating northward, i.e. against the overall southward propagation direction of the East African Rift System. Note that we did a check of the overall manuscript and have slightly modified some wording and corrected figure reference errors here and there, as well as some minor details in the figures.

- Line 59, “comprising” is better changed to “comprises”.

- **Reply:** We have corrected the text as suggested

- Line 76, “However” is not necessary here.

- **Reply:** We have removed “however”

- Please take a moment review the written language within your introduction section (which has been subject to numerous revisions) to make sure sentences are now as clear for the reader as they can be. Please also replace some uses of “various” for more specific reference to publications or regions as relevant, which will be more informative for the reader.

- **Reply:** We have rewritten some parts of the text to clarify the characteristics of the East African Rift System. We also did a check of the overall manuscript and have slightly modified some wording and corrected figure reference errors here and there.

- Please add a scale bar to figure 1a.

- **Reply:** We have added a scale bar + lat/lon coordinates to figure 1a, as well as to the similar figure 9a

- Line 297, is the use of “deformation” as you intend in this sentence?

- **Reply:** thanks for noting this, it should be “sieving” instead, and is now corrected

Many thanks,

Jordan