

Public justification (visible to the public if the article is accepted and published):

Dear authors,

Thank you very much for uploading the new version of the manuscript and congratulation on the nice study.

I will forward your manuscript to the executive editor recommending it for publication.

NB: There are only a couple of details regarding the figures that may need some attention (see details below).

These details can be modified/corrected during the production stage, I will leave that to you.

Best regards,

Frank Zwaan

Dear Editors,

Dear Frank Zwann,

thank you very much. Also, we would like to thank for the additional comments. Please, see below our answers in blue. We considered all feedback and modified the colours in the figures.

On behalf of my co-authors,

Sincerely,

Thorben Schöfisch

Comments:

Graphical abstract:

- The red/orange colors on greyish/brown background are poorly visible (I have slight red-green colorblindness). Could you please use another color (black?) for the faults. Perhaps consider using dotted lines to distinguish between initial normal faults and subsequent reverse faults? Note that the old graphical abstract was better in this sense. I would suggest reverting to the old yellowish background color for the sand body.
- The same issue of red/orange faults on greyish background exists in Figs. 2, 4, 5. Please check this as well. There are some tools in the Solid Earth figure guidelines: <https://www.solid-earth.net/submission.html#figurestable>

Actually, the background is yellowish as in the old version. However, we made the yellow more yellow and changed the colour of the faults to black. Moreover, we distinguish between dashed and solid lines for normal and thrust faults respectively. We also checked the guidelines and tested the figures using *Coblis*. Similar as the previous version of the figures, we cannot identify any difficulties. Please, come back to us, if there are still problems. We want to be inclusive as we can and looking forward to each feedback. Thanks again.

Fig. 3:

- The layout of violin plot is not fully consistent it seems? (e.g. check distances of different entries, and “height” of the block in the middle of each line)
 - We improved the layout and checked the spacing more consistent.
 - I have some trouble distinguishing which violin plot is representing which data especially when they overlap. (again, might be some slight colorblindness on my side). You could perhaps consider labeling each of the lines in the violin plot?
 - An identification, which block/data belongs to which half-violin/raincloud, can be interpreted by using the width of the box-plots. But, actually, that is not the point of this arrangement. The major take-away is that the single hanging and footwalls are distributed similarly and that they have a different P_j —distribution as observed at the faults (therefore, separation between faults and data away from faults). Differences between hanging walls and footwalls can be identified by the box-plot (mean and width of box).
 - The violin plots distinguish between different footwalls. Yet, in the raincloud plots for each model, this data is not presented. Instead the distance to the fault is indicated, which is already shown on the Y-axis as well. It may be better to indicate the different components shown in the violin plots here instead, as to make the link between the different plots for each model clearer.
 - The “rain” of the “rainclouds” is not distinguished between footwall and hanging wall, correct. A distinguishing would lead to a more complex graphic with additional symbols. Doing so, would not provide any additional information. A distinguishing between the different hanging and footwalls can be seen in the “rainclouds” and associated box-plots below the “clouds”.
- Moreover, please be aware that the y-axis shows something different as the grey colour-scale of the symbols. The y-axis shows the distance to the closest thrust fault, whereas the grey-scale in the symbols shows the distance towards the closest fault (i.e., normal fault or thrust fault). The idea

behind that is to show that there is a general decrease in P_j with distance to a thrust and not to a normal fault (as discussed in the text section 4.3.4).

- Should the violin plots not go to zero on both side? Some lines in the violin plots do not go to zero as is.

Yes, this pinching out of the density distribution (rainclouds) is cut due to spacing and size of the figure. However, having the complete pinching out does not provide any further information.

- There seems to be a square in panel (d)

- Apparently, this square did not appear in our pdf-version on our Windows-computers. However, we could identify the square and removed it. Thanks for this comment!

- Consider swapping panels (c) and (d) to first show the model results, followed by the summarizing Jelinek graphs. That would be a more logical way to present the data I think.

- We will not swap these panels. Models II and III can be better compared with this arrangement, as the x-axes/ P_j values are aligned between both panels.