

Solid Earth Discuss., community comment CC3
<https://doi.org/10.5194/se-2021-23-CC3>, 2021
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Reply on AC1

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Community comment on "Fault interpretation uncertainties using seismic data, and the effects on fault seal analysis: a case study from the Horda Platform, with implications for CO₂ storage" by Emma A. H. Michie et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-23-CC3>, 2021

Dear Emma,

Thanks for your reply. In general we do agree on the overall issue and limitations, and I'm guessing lots of other people came across the same issue although it was probably just not written down :) You are absolutely right about the optimum strategy needed, and I don't necessarily see not picking every line as counter-intuitive (although that may come to interpreters after some years of experience).

On the software used, there may be the possibility that using the same package for picking and analysis, as you did with T7, may limit the creation of artifacts on the surfaces that may derive from data export and import across different ones. I say this with limited (or no) experience on testing both methods, but it sure will save (and optimize) the time spend with the work. On importing faults to move, the first step ended up being the correction of the sticks to create the surfaces - depending on the size of the datasete, that is at least one week not lost if everything is on the same environment. Perhaps there could be a very brief mention on your paper that this 1 package vs multiple could be an advantage/issue if you have the place and space to do it. Not too much, one or two lines, just to bring awareness to the reader/user. Again, only if deemed relevant or suitable.

One thing I do hope is that your paper gets noticed by a wide audience, including industry. Although the latter often have some very good people, there is also a good ammount of less versatile interpreters (often a consequence of the type of work). I came across examples where, given a 3D cube, the tendency would be to pick every line (or close to that), leading to the aforementioned artifacts and irregulaties on horizonas as described for the faults. This can impact both on deliverable quality and time constraints if, using your words, an optimum mapping strategy is not followed.

Regards,

Davide

