

Solid Earth Discuss., referee comment RC1  
<https://doi.org/10.5194/se-2021-150-RC1>, 2022  
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## Comment on se-2021-150

Anonymous Referee #1

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Referee comment on "The estimation of porosity in Japan Trench plate boundary using low-resolution X-ray computed tomography (XCT) images and laboratory measurements" by Hamed Amiri et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-150-RC1>, 2022

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While the premise behind the MS (to provide better ways to quantify features in XCT data when the resolution of the image is too low to do so easily) is good, the MS as a whole isn't easy to follow (especially the technical aspects of the method being applied) and the mix of method development and science driven results doesn't improve the discussion about the suitability. The suitability and effectiveness of the method is limited and under tested against both the decisions taken in the MS (including key issues of the impact of filters on outcome, impact of final subjective step, and how does this method perform on this dataset further downsampled) and other published methods (comparing any new method against a badly chosen global threshold will suggest the new method is better). This means several of the key statements are unsupported by the data presented. Full comments are included on the pdf attached.

Please also note the supplement to this comment:

<https://se.copernicus.org/preprints/se-2021-150/se-2021-150-RC1-supplement.pdf>