

## ***Interactive comment on “Simulating permeability reduction by clay mineral nanopores in a tight sandstone by combining $\mu$ XCT and FIB-SEM imaging” by Arne Jacob et al.***

### **Anonymous Referee #2**

Received and published: 7 November 2020

This paper demonstrates a new method to calculate the permeability of the tight sandstone with clay mineral nanopores by simulation. This is a very interesting and important topic for the development of pore scale imaging method. The authors combined micro-CT images for macro pores and FIBSEM images for clay mineral nanopores to capture all the pores and throats. Then Geodict was used for simulation. With the consideration to the suggested comments, as well as other reviewers' comments, this paper is suggest to for publication.

Here are some comments:

1. Line 104, list the brand, type and accuracy of the differential pressure transducer.

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Discussion paper



2. Line 111, MIP should be replaced by MICP. 3. Line 128, add more details of the machine learning segmentation used in this study. 4. Line 156, how did the authors calculate the error bound? 5. Line 258, modify the absolute permeability format. 6. The unit of the permeability should be consistent for the whole paper. 7. Additional question: is this method applicable for shale?

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Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2020-151>, 2020.

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