



Contribution ID: 547

Type: **Oral Presentation**

Predictive multi-scale network models with micro-porosity

Thursday, 2 June 2022 14:00 (15 minutes)

In pore-scale imaging, it is often not possible to visualize pores of all scales present in one experiment due to the resolution/sample size trade-off. This sub-resolution pore space for some rocks such as Estailades or the reservoir sample is a significant fraction of the total porosity. We consider this sub-resolution pore space as the micro-porosity. Differential imaging makes it possible to identify micro-porosity in a micro-CT experiment and to quantify its porosity. Including micro-porosity in the pore network model leads to correct saturation and pore volume. Also, it is essential to improve our prediction of connectivity and permeability. Furthermore, it has a significant effect on the accessibility to network elements. In this study microporosity is modeled using a multiscale pore network model. Sensitivity analysis on the effect of micro-porosity in pore network modeling demonstrates the importance of microporosity in pore network modeling for both single-phase flow and multiphase flow.

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References

Time Block Preference

Time Block B (14:00-17:00 CET)

Participation

In person

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