

Investigating solute transport and multi-phase flow in geological porous media with fast lab-based micro-CT

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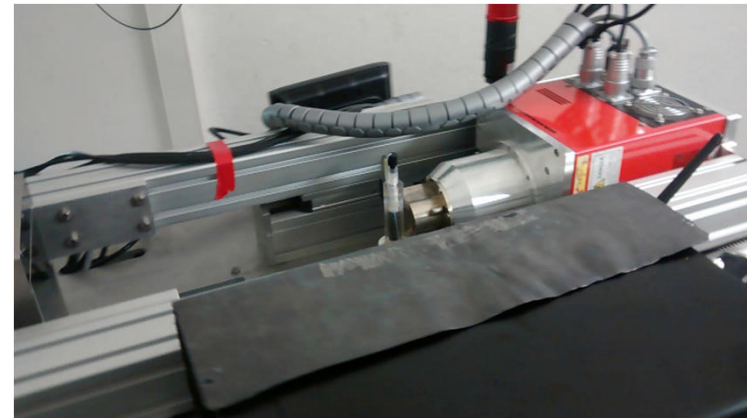
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Investigating fast pore scale processes requires fast pore scale imaging:



Synchrotron



Bench-top scanner

Solute transport in heterogeneous carbonate rock

Cesium-chloride brine is pumped into a water-saturated carbonate

⇒ CsCl transport by advection and diffusion.

Continuous scanning with **EMCT** at **12 s / scan**, voxelsize 14.8 μm .

Sample size: 6 mm \varnothing



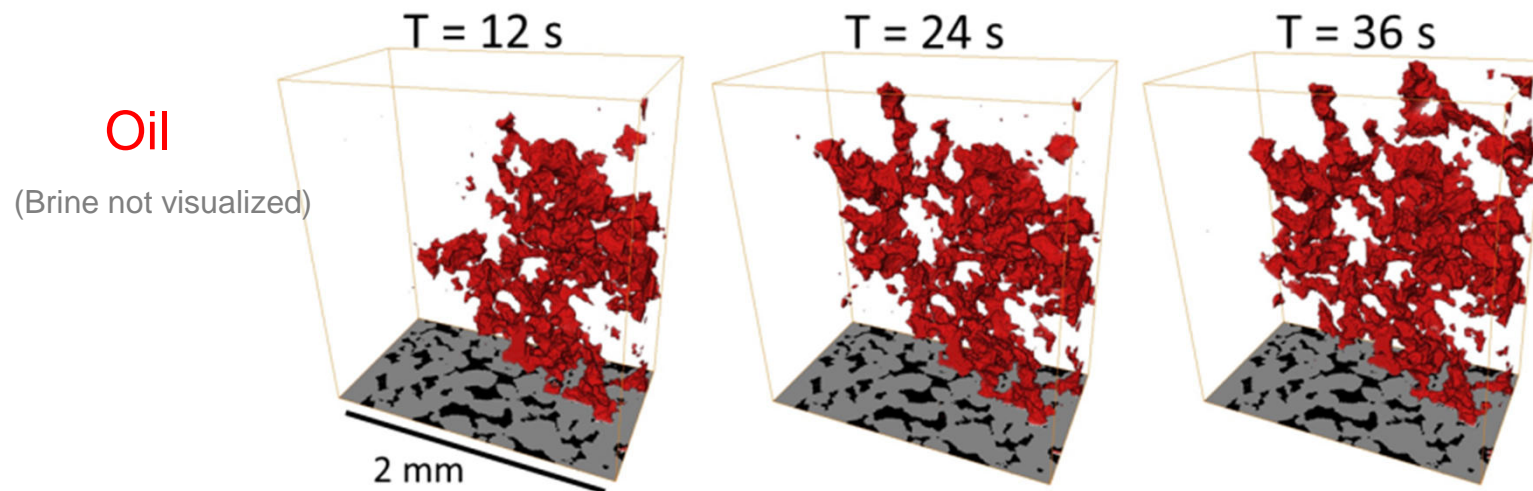
Visualizing drainage in sandstone

Scanning while pumping oil into a brine-saturated sandstone

⇒ Allows to study drainage at the pore scale under dynamic conditions

Continuous scanning with **EMCT** at **12 s / scan**, voxelsize 14.8 μm .

Sample size: 6 mm \varnothing



Thanks!



www.ugct.ugent.be



www.pprogress.ugent.be



www.xre.be

More info on fast lab-based μ CT:

Bultreys et al. 2015, Fast laboratory-based micro-computed tomography for pore-scale research: Illustrative experiments and perspectives on the future.

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