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## Interfacial curvature and capillary pressure measurements during water displacement by supercritical CO<sub>2</sub> in a micromodel

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Multiphase immiscible displacement in porous media is a process occurring in different applications, such as CO<sub>2</sub> sequestration in saline aquifers and oil/gas production from hydrocarbon reservoirs. Capillary pressure,  $P_c$ , is one of the variables that controls flow behavior and displacement patterns that ultimately determines residual saturation. Capillary pressure is a function of interfacial tension and interfacial curvature. In this work, displacement of water by supercritical CO<sub>2</sub> in a heterogeneous micromodel is studied using a high-speed camera coupled to a long-distance microscope with large field of view. Interfacial curvature of individual menisci is measured to estimate the capillary pressure in each meniscus. The correlation between the dynamic local capillary pressure measurements and pressure difference across the micromodel during the drainage process is examined in detail.

### References

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