



Core-Flood Experiment for Transport of Reactive Fluids in Rocks

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The investigation of transport of reactive fluids in porous rocks is an intriguing but challenging task and at the border of present-day experimental feasibility. We designed and constructed an experimental setup to investigate physical and chemical processes caused by the injection of reactive fluids such as supercritical CO₂ and/or H₂S in geological formations. Potential applications range from disposal options, carbon storage (CCS) and acid-gas injection (AGI), to enhanced oil recovery. This paper outlines the requirements and the experimental implementation to investigate reactive transport in porous rocks. The focus is on the specification, the experimental processes and the analytical possibilities for the *in-situ* investigation of changes of the rock matrix and the fluid composition as result of chemical rock/fluid interaction, and the coupling of the chemistry to fluid flow in the rock matrix.