

An Evaluation of Water-CO₂ Two-Phase Flow in Rock Mass for CO₂ Geologic Sequestration

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It is very important to predict a movement of CO₂ injected in rock mass with high pressure and temperature for considering CO₂ geosequestration. Water-CO₂ two-phase flow characteristic in rock is necessary parameter to perform numerical simulation for the prediction. In this study, we acquired several capillary and relative permeability data as two-phase flow characteristic to conduct laboratory measurement of the water-CO₂ two phase flow using sandstone testpieces which have moderate porosity and permeability, and are considered domestic reservoir rock for CO₂ geosequestration. We also investigated capillary and relative permeability model which can illustrate these acquired data.