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Experimental Models of CO2 Leakage from Subsurface Aquifers

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We present a series of novel experiments and supporting models of the potential processes by which CO2 injected into a deep subsurface reservoir may rise from the original aquifer and ascend towards the surface. The models are based on the presence of faults or fractures which provide a flow path to the surface, and thereby enable the buoyant CO2 to escape from the system. The modelling accounts for possible dissolution of the CO2 into the host reservoir water and the competition between this and the possible ascent towards the surface.