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Reacting flow in confined aquifers and CO2 sequestration

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We present a series of models of reacting flows in permeable rocks and test these with new laboratory experiments. The models illustrate the separation of the fluid and reacting fronts, and the importance of the change in rock properties on the flow pattern, The new experiments using an analogue aqueous solution are in reasonable accord with the models and illustrate the role of changes in mobility on the advance of such fronts. We explore the relevance and import of the results for CO2 sequestration in deep saline aquifers