

## CO<sub>2</sub> TRAPPING IN SLOPING AQUIFERS: HIGH RESOLUTION NUMERICAL SIMULATIONS

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**Summary.** We performed numerical simulations of the migration of a supercritical CO<sub>2</sub> current in a sloping aquifer in the presence of residual and solubility trapping. Compared to simulations with residual trapping only, when dissolution is accounted for the trapping efficiency is nearly doubled and the speed and maximum up-dip extent of the plume are affected. The saturations in the plume correspond well to transition zones consistent with capillary equilibrium. The pressure gradients slightly ahead of the leading tip of the current remain at the initial values, and that opens up the possibility to use a simple moving boundary to model extremely long aquifers.