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Stabilizing the Interface in a Saffman-Taylor Problem by Heating

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UNIVERSITY OF FLORIDA TEAM — The interface in a Saffman Taylor problem
can be stabilized to perturbations of *any wave length* by simply heating from above.
The same is true for the Rayleigh Taylor instability. We present simple formulas
for estimating the temperature difference required to do this and find that more
reasonable temperature differences obtain in the Saffman-Taylor problem because
the temperature dependence of the viscosity is ordinarily much stronger than the
temperature dependence of the density.

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