

1129-35-332

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Stability shift for the Muskat problem.

The Muskat problem models the evolution of incompressible fluids of different nature in porous media. It is known that if the denser fluid is below the lighter fluid, the system is stable, and unstable otherwise. In this talk we will show the existence of solutions that transition between stable and unstable regimes several times, without breaking down. Joint work with Diego Cordoba and Andrej Zlatos. (Received March 19, 2017)