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Stability of a hydrodynamic discontinuity[1] SNEZHANA I. ABARZHI, Carnegie Mellon University, USA, YASUHIDE FUKUMOTO, Kyushu University, Japan, LEO P. KADANOFF, The University of Chicago, USA — While looking from a far field at a discontinuous front separating two incompressible ideal fluids of different densities, we identify two qualitatively different behaviors of the front (unstable and stable) depending upon whether the energy flux produced by the perturbed front is large or small compared to the flux of kinetic energy across the planar front. Landau's solution for the Landau-Darrieus instability is consistent with one of these cases, whether the gravity is present or not.

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