Stratified shear instabilities at low Peclet numbers

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In astrophysical fluids, i.e. within the interior of stars and planets, the Prandtl number is often asymptotically small. In this limit, it is possible have shear flows that have very small Peclet numbers but very large Reynolds numbers, and exist in a region of parameter space that is not normally available in geophysical flows. I will review what is known of stratified shear instabilities at low Peclet number, going from linear and energy stability analyses to the outcome of direct numerical simulations.