

# LINEAR STABILITY PROPERTIES OF SHEAR FLOWS IN INHOMOGENEOUS FLUIDS

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A fundamental question in hydrodynamics is the understanding of stability properties of shear flows, with the earlier studies of Reynolds, Rayleigh and Kelvin, among many others, dating back to the end of the nineteenth century. In the last decade, especially for homogeneous fluids, the problem received renewed attention thanks to the introduction of new analytical techniques particularly useful to tackle these classical problems, e.g. [2]. When the fluid is inhomogeneous, the dynamics is richer and less is known. In this talk, I will present two results obtained in my PhD thesis [4]. I will first discuss quantitative linear stability properties of the Couette flow with constant density in an isentropic compressible fluid [1]. Then, I will show some properties of a class of linearly stratified shear flows in an inhomogeneous fluid under the Boussinesq approximation [3].

## REFERENCES

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