1 Kelvin-Helmholtz instability

We will investigate the Kelvin-Helmholtz instability from a Fourier mode perspective. The reference I will use is §9.2 of Vallis 2017.

2 Centrifugal instability

A circular patch of vorticity can be unstable too. We will replicate some of the procedure for the study of Kelvin-Helmholtz instability to circular vortex patch. The reference is §3.3 of McWilliams 2006.

References

McWilliams, James C. (July 20, 2006). *Fundamentals of Geophysical Fluid Dynamics*. Cambridge University Press. 273 pp. ISBN: 978-0-521-85637-9.

Vallis, Geoffrey K. (2017). *Atmospheric and Oceanic Fluid Dynamics: Fundamentals and Large-Scale Circulation*. 2nd ed. Cambridge: Cambridge University Press. ISBN: 978-1-107-06550-5. DOI: 10.1017/9781107588417.