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Nonlocal energy transfers in rotating homogeneous turbulence

Turbulent flows subject to solid-body rotation are known to generate large scale two-dimensional columnar vortices. The dominant mechanisms leading to the accumulation of energy in the two-dimensional columnar vortices remain undetermined. Here, I will discuss scale-locality of the nonlinear interactions directly contributing to the growth of the two-dimensional columnar structures observed in the intermediate Rossby number regime. Implications for existing theories of rotating flows will be discussed.