Stability of the Couette flow in dimension 3
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I will present results on the asymptotic stability of the Couette flow in 3D Navier-Stokes. The results are quantitative: they provide estimates on the size of the basin of attraction in different topologies. The proofs rely on a precise understanding of physical phenomena such as lift up effect, enhanced dissipation, and inviscid damping.

This is joint work with Jacob Bedrossian and Nader Masmoudi.