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Controllability of the Navier-Stokes equations with Navier slip-with-friction boundary conditions

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SUMMARY

In this work in collaboration with J.-M. Coron and F. Marbach, we consider the incompressible Navier-Stokes equations in a smooth bounded domain, either in 2D or in 3D, with a Navier slip-with-friction boundary condition except on a part of the boundary. This underdetermination encodes that one has control over the remaining part of the boundary. We prove that for any initial data, for any positive time, there exists a weak Leray solution which vanishes at this given time.

Keywords: Controllability, Navier-Stokes equations, Boundary layers

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