



Asymptotic description of solutions of the exterior Navier Stokes problem in a half space

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We consider the problem of a body moving within an incompressible fluid at constant speed parallel to a wall, in an otherwise unbounded domain. This situation is modeled by the incompressible Navier-Stokes equations in an exterior domain in a half space, with appropriate boundary conditions on the wall, the body, and at infinity. We focus on the case where the size of the body is small. We prove in a very general setup that the solution of this problem is unique and we compute a sharp decay rate of the solution far from the moving body and the wall.

Subjects: **Analysis of PDEs (math.AP)**; Mathematical Physics (math-ph)

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