

**Regularity for the 3D evolution Navier-Stokes  
equations under Navier boundary conditions in some  
Lipschitz domains**

Alessio Falocchi

*Politecnico di Torino*

alessio.falocchi@polito.it

Filippo Gazzola

*Politecnico di Milano*

filippo.gazzola@polimi.it

For the evolution Navier-Stokes equations in bounded 3D domains, it is well-known that the uniqueness of a solution is related to the existence of a regular solution. They may be obtained under suitable assumptions on the data and smoothness assumptions on the domain (at least  $C^2$ ). With a symmetrization technique, we prove these results in the case of Navier boundary conditions in a wide class of merely *Lipschitz domains* of physical interest, that we call *sectors*.