

A smooth introduction to fluid flow in rough domains

PATRICK TOLKSDORF (UNIVERSITÉ PARIS-EST CRÉTEIL)

Fluid flow around obstacles whose boundaries have edges and corners appear almost everywhere in everyday life. A simple glimpse out of the window already suffices to see for example the air flowing around a house. The mathematical investigation of PDEs that describe the flow of fluids in the presence of boundaries with edges and corners is, however, a challenging task, as simple classical results that hold in situations of smooth boundaries cease to exist. In this talk, I will introduce to problems that occur in the investigation of the Stokes equations on bounded/interior Lipschitz domains and I will give an overview of some of the results that are known so far.