

## Identification of an Obstacle in a Fluid via Boundary Measurements

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In this talk we consider an inverse problem for the Stokes equations, modelling an incompressible viscous fluid contained in a cavity inside which immersed in the fluid, there is an unknown solid body. We are interested in the determination of its shape and location by means of measurements of the flux and the velocity of the fluid on some part of the exterior boundary. We obtain an identifiability result for this inverse problem and show a directional continuity for the external measures with respect to deformations of the solid body. Some numerical results are also obtained when the rigid body is for instance a ball.