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"Well-posedness for the interface problem between a viscous fluid and an elastic solid."

ABSTRACT:

We consider the problem of an elastic solid moving inside a viscous fluid. This is a two-phases problem, where each phase satisfies its natural equation of evolution, and where the interaction between the two phases comes from the natural continuity of velocity field and normal stress across the unknown moving interface.

The apparent incompatibility between the regularity of both phases has lead previous authors to consider the case where the solid satisfies a simplified law (rigid, finite dimensional, hyperviscous...). I shall expose in this talk the new methods that were required in order to allow the treatment of classical elasticity laws in this moving interface problem.