

# A VARIATIONAL APPROACH TO FLUID-STRUCTURE INTERACTIONS

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ABSTRACT. We introduce a two time-scale scheme which allows to extend the method of minimizing movements to hyperbolic problems. This method is used to show the existence of weak solutions to a fluid-structure interaction problem between a nonlinear, visco-elastic,  $n$ -dimensional bulk solid governed by a hyperbolic evolution and an incompressible fluid governed by the ( $n$ -dimensional) Navier-Stokes equations for  $n \geq 2$ .

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