

Stabilization of some fluid-structure models

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We shall address the problem of stabilizing systems coupling the incompressible Navier-Stokes equations with damped elastic models. We are mainly interested in the case when the control acts only in the structure equations. We shall consider two dimensional domains with a damped Euler-Bernoulli beam located at the boundary of the fluid domain and three dimensional domains with a damped plate located at the boundary of the fluid domain. The case when the structure is governed by the linear elasticity equations with damping will also be considered. These results extend previous results already published in *SIAM J. Control and Optim.* (Feedback stabilization of a fluid-structure model. *SIAM J. Control Optim.* 48 (2010), no. 8, 5398–5443).