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Igor Kukavica, Amjad Tuffaha* (tuffaha@usc.edu) and **Mohammed Nabil Ziane.** *Strong Solutions to a System of Nonlinear Fluid-Structure Interactions.* Preliminary report.

We consider the existence of local-in-time strong solutions to a system of two partial differential equations arising in Fluid-Structure interactions and consisting of an incompressible Navier-Stokes equation as well as an elastic equation with velocity and stress matching boundary conditions at the interface in between the two domains where each of the two equations is defined. We discuss existence results for different types of initial data and differences between domains with flat boundaries versus non-flat boundaries. (Received August 24, 2009)