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Steven Derochers* (sjderoch@ncsu.edu). *On the Semigroup Generator for the Total Linearization of a Hydro-Elasticity Model*. Preliminary report.

In this talk, we consider a fluid structure system involving coupled fluid flow. In the examination of the well-posedness of this system, we utilize a nonstandard means to eliminate the pressure term. This process involves specific extensions into the solid domain. Unlike the standard model, the well-posedness of this system depends on the fluid's viscosity and new terms on the interface which involve, among other things, the curvature of the boundary. Furthermore we implement a finite element scheme for approximating solutions of a prototype system to numerically investigate the dependence of the discretized model on the “new” terms not present in the standard system. (Received September 06, 2016)