1125-35-1206 Irena Lasiecka, Michael Pokojovy and Xiang Wan* (xw5he@virginia.edu). Global Wellposedness and Uniform Stability of a Quasilinear Thermo-elastic PDE system.

We consider a nonlinear thermoelastic system defined on a bounded domain $\Omega \subset \mathbb{R}^n$, n = 2 or 3 with the boundary conditions imposed on $\Gamma = \partial \Omega$ corresponding to the simply supported plate. The main goal of this talk is to discuss the wellposedness and long term behavior of suitable solutions of the system.

I will first introduce the background of this model, and then briefly talk about the work on the case of a Euler-Bernoulli plate. Our main challenge is to consider the case of Kirchoff plate, of which the system is of hyperbolic-parabolic type. From a mathematical point of view, the most important message is that the *analyticity* and *maximal regularity* of the associated linear system are *gone*. We will show how to choose suitable topologies to overcome this difficulty.

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