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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.

This is a joint work with Irena Lasiecka, University of Memphis, and Michael Pokojovy, University of Konstanz, Germany. (Received September 15, 2016)