1004-35-273   **George Avalos*** (`gavalos@math.unl.edu`), Department of Mathematics, Avery Hall, Lincoln, NE 68588-0130. *Null Controllability of the von Kármán Thermoelastic Plates Under the Clamped or Free Mechanical Boundary Conditions.*

In this talk, we discuss the local exact null controllability of the thermoelastic plate model, in the absence of rotational inertia, and under the influence of the (non-Lipschitz) von Kármán nonlinearity. The plate component may be taken to satisfy either the clamped or higher order (and physically relevant) free boundary conditions. In the accompanying analysis, critical use is made of sharp observability estimates which have been recently obtained for the linearization of the thermoelastic plate. Moreover, another key ingredient in our work to steer the given nonlinear dynamics is a recent result concerning the sharp regularity of the von Karman nonlinearity. (Received January 26, 2005)