1137-35-53 **Roberto Triggiani*** (rtrggani@memphis.edu), Department of Mathematical Sciences, University of Memphis, Memphis, TN 38152. *Analyticity, Spectral Analysis, and Uniform Stability of a Heat-viscoelastic Plate Interaction Models.* Preliminary report.

Analyticity, Spectral Analysis, and Uniform Stability of a Heat-viscoelastic Plate Interaction Model We consider a heat equation defined on an interior bounded domain coupled with a visco-elastic plate defined on a surrounding external domain. Coupling occurs at the interface between the two domains, through high order coupling conditions between the two dynamics. The complicated boundary conditions of the plate are physical. We establish that the coupled system generates a strongly continuous contraction semi-group on the natural space of finite energy, which moreover is analytic and uniformly stable. A sharp spectral analysis is also provided. In particular, the the resolvent operator of generator fails to be compact. (Received January 21, 2018)