1146-35-152 **Walton Green**, **Shitao Liu*** (liul@clemson.edu) and **Mishko Mitkovski**. *Control and inverse problem for the viscoelastic wave equation.*

In this presentation we first prove the exact boundary controllability of the viscoelastic wave equation in an arbitrary space dimension. Our proof is based on a modification of the well-known moment method via harmonic analysis and works for general dimensions as it does not require Ingham type inequalities. Then through applying the exact controllability, we also consider a source reconstruction inverse problem for the viscoelastic wave equation from a single boundary measurement. (Received January 18, 2019)