

1035-35-361

**Lorena Bociu\*** (l**vb9b@virginia.edu**). *Uniqueness of weak solutions of semilinear wave equations with interior-boundary supercritical sources and damping.*

Finite energy solutions of wave equations with supercritical sources placed in the interior and on the boundary of a bounded domain in  $\mathbb{R}^3$  are considered. It is known that local existence of solutions depends on the presence of a superlinear damping. The damping not only extends the life span of solutions, but is also fundamental in offsetting the lack of locally Lipschitz property (violated in supercritical cases). While existence theory has been in place for some time, the uniqueness of finite energy solutions has been an open problem. The main result presented in this talk is uniqueness and Hadamard well-posedness of finite energy solutions. The class of solutions where uniqueness is established contains all the classes for which existence (local in time) is known. As a consequence, the result presented completes the picture of well-posedness of solutions, complementing earlier results on existence due to several authors, including E. Fereisel, J. Serrin, E. Vitillaro, G. Todorova. (Received September 04, 2007)