

1067-35-83

Petronela Radu* (pradu@math.unl.edu), Lincoln, NE 68588. *Local existence of strong solutions for semilinear wave equation with source and damping type interactions.*

This talk will focus on a recent result on local existence of strong solutions for semilinear wave equations with power-like interior damping and source terms. A long standing restriction imposed on the range of exponents allowed for the two nonlinearities is removed through a natural argument that uses the physics of the problem. The methods apply to the Cauchy problem as well as for initial boundary problems with homogeneous Dirichlet boundary conditions. (Received July 20, 2010)