Meeting: 998, Houston, Texas, SS 4A, Special Session on Nonlinear Analysis

998-47-267 **Dan D. Pascali*** (dp39@nyu.edu), Courant Institute, New York University, 251 Mercer Street, New York, NY 10012-1185. *Constructive solvability for semilinear wave equations.*

For the semilinear operator equatioin Lu + Su = f, the measure of the perturbation S is determined by topological properties of the linear part L. We study the approximation-solvability of this equation when L has an infinite-dimensional kernel and S satisfies an A-proper condition with respect to L. These hypotheses have as model the semilinear wave equation with periodic boundary value conditions. Particular cases, like free vibrations, are emphasized. (Received March 01, 2004)