

# GLOBAL SOLUTIONS AND FINITE TIME BLOW UP FOR DAMPED SEMILINEAR WAVE EQUATIONS

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ABSTRACT. A class of damped wave equations with superlinear source term is considered. It is shown that every global solution is uniformly bounded in the natural phase space. Global existence of solutions with initial data in the potential well is obtained. Finally, not only finite time blow up for solutions starting in the unstable set is proved, but also high energy initial data for which the solution blows up are constructed.

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