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# THE ASYMPTOTIC BEHAVIOR OF WEAK SOLUTION OF CAUCHY PROBLEM FOR A CLASS SOBOLEV TYPE SEMILINEAR EQUATION

## Abstract

*Cauchy problem for a class Sobolev type semi linear equation is considered. The existence and uniqueness of weak solution are proved and the behavior of weak solutions as  $t \rightarrow +\infty$  are investigated. The considered class of equations in particular includes the semi linear wave equations with dissipation.*