## ON THE DAMPED SEMILINEAR WAVE EQUATION WITH CRITICAL EXPONENT

## MAURIZIO GRASSELLI AND VITTORINO PATA

Dipartimento di Matematica "F.Brioschi" Politecnico di Milano Via E.Bonardi 9, 20133 - Milano, Italy

**Abstract.** We provide an optimal regularity result for the universal attractor of the weakly damped semilinear wave equation, when the nonlinearity satisfies the critical growth condition. This allows us to prove an upper semicontinuity result as well as the existence of an exponential attractor.

<sup>1991</sup> Mathematics Subject Classification. Primary: 35B41, 35L05; Secondary: 35L25, 35Q40.

 $Key\ words\ and\ phrases.$  Damped wave equation, universal attractors, upper semicontinuity, exponential attractors.