

A ONE-DIMENSIONAL WAVE EQUATION WITH NONLINEAR DAMPING

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This talk is devoted to the longtime behavior of a one-dimensional weakly damped wave equation, with a damping coefficient depending on the displacement. Such problem describes, for instance, the motion of a vibrating string with fixed endpoints in a viscous stratified medium. The equation also includes a nonlinear contribution corresponding to a (nonlinear) elastic force. We prove the existence of a regular connected global attractor of finite fractal dimension for the associated dynamical system, as well as the existence of an exponential attractor.

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