**Fastovska, T. B.**

**Attractor for a composite system of nonlinear wave and thermoelastic plate equations.**
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Visn. Khark. Univ., Ser. Mat. Prykl. Mat. Mekh. 1133, No. 70, 4-35 (2014).

Summary: We prove the existence of a compact finite dimensional global attractor for a coupled PDE system comprising a nonlinearly damped semilinear wave equation and a thermoelastic Mindlin-Timoshenko plate system with nonlinear viscous damping. We show the upper semi-continuity of the attractor with respect to the parameters related to the coupling terms and the shear modulus of the plate.

**MSC:**

35B41 Attractors
35B25 Singular perturbations in context of PDEs
35B40 Asymptotic behavior of solutions to PDEs
35L70 Second-order nonlinear hyperbolic equations
74K20 Plates

**Keywords:**

acoustic model; attractor; upper semi-continuity; nonlinearly damped semilinear wave equation; Mindlin-Timoshenko plate system; shear modulus