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**Nonlinear Dynamic Stability of the Viscoelastic Plate Considering Higher Order Modes** YUANXIANG SUN, CHENG WANG, State Key Laboratory of Explosion Science and Technology, Beijing Institute of Technology —  
-The dynamic stability of viscoelastic plates is investigated in this paper by using chaotic and fractal theory. The nonlinear integro-differential dynamic equation is changed into an autonomic 4-dimensional dynamical system. The numerical time integrations of equations are obtained by using the fourth order Runge-Kutta method. And the Lyapunov exponent spectrum, the fractal dimension of strange attractors and the time evolution of deflection are obtained. The influence of viscoelastic parameter on dynamic buckling of viscoelastic plates is discussed. The effect of higher order modes on dynamic stability of viscoelastic plate is obtained, the necessity of considering higher order modes is discussed.

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