THE PULLBACK ATTRACTORS FOR THE HIGHER-ORDER KIRCHHOFF-TYPE EQUATION WITH NONLINEAR STRONGLY DAMPED TERM AND DELAYS[*]

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ABSTRACT

We investigate the pullback attractors for the Higher-order Kirchhoff-type equation with nonlinear strongly damping and delays:

$$\frac{\partial^2 u}{\partial t^2} + \sigma(\left\| \nabla^m u^2 \right\|)(-\Delta)^m \frac{\partial u}{\partial t} + \phi(\left\| \nabla^m u \right\|^2)(-\Delta)^m u = f(x) + h(t, u_t).$$ For strong nonlinear damping σ and ϕ, we make assumptions (A_1)-(A_2). For delay forcing term h, we make assumptions (G_1)-(G_2). Under of the proper assume, the main results are existence and uniqueness of the solution are proved by Galerkin method, and deal with the pullback attractors.

Keywords: strongly nonlinear damped, Higher-order Kirchhoff equation, the pullback attractors, delays.

2010 Mathematics Classification: 35B41, 35G31