

1104-35-227

YUNCHENG YOU* (you@mail.usf.edu), 4202 East Fowler Avenue, CMC 114, Tampa, FL 33620. *Random dynamics and averaging for nonautonomous stochastic wave equations.*

The asymptotic behavior of solutions to a non-autonomous stochastic wave equation with nonlinear damping and multiplicative white noise on an unbounded domain is presented in this talk. By showing the pullback asymptotic compactness of the generated dynamical system in certain parameter region, the existence of a random attractor is proved. Moreover, for the stochastic wave equation with rapidly oscillating external force it is proved that the Hausdorff distance between the random attractor \mathcal{A}_ϵ of the original equation and the random attractor \mathcal{A}_0 of the averaged equation converges to zero. (Received September 02, 2014)