On the nonlinear delayed stochastic evolution equations driven by Brownian motion

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September 23, 2020

Abstract

In this paper, we present a new concept of measure-ergodic process to define the space of measure pseudo almost periodic process in the p-th mean sense. We show some results regarding the completness the composition theorems and the invariance of the space consisting in measure pseudo almost periodic process. Motivated by above mentioned results, the Banach fixed point theorem and the stochastic analysis techniques, we prove the existence, uniqueness and the global exponential stability of doubly measure pseudo almost periodic mild solution for a class of nonlinear delayed stochastic evolution equations driven by Brownian motion in a separable real Hilbert space. We provide an example to illustrate the effectiveness of our results.

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