EXPONENTIAL MIXING FOR RETARDED STOCHASTIC DIFFERENTIAL EQUATIONS

Chenggui YUAN *Swansea University, UK*, E-mail: C.Yuan@swansea.ac.uk

Abstract: n this paper, we discuss exponential mixing property for Markovian semigroups generated by segment processes associated with several class of retarded Stochastic Differential Equations (SDEs) which cover SDEs with constant/variable/distributed time-lags. In particular, we investigate the exponential mixing property for (a) non-autonomous retarded SDEs by the Arzelà–Ascoli tightness characterization of the space $\mathcal{C}$ equipped with the uniform topology (b) neutral SDEs with continuous sample paths by a generalized Razumikhin-type argument and a stability-in-distribution approach and (c) jump-diffusion retarded SDEs by the Kurtz criterion of tightness for the space $\mathcal{D}$ endowed with the Skorohod topology.