

Abstract

In this talk, we present the convergence rate of a lattice approximation scheme for a reflected stochastic partial differential equation (SPDE) driven by Gaussian space-time white noise, which can be viewed as an infinite-dimensional Skorohod problem. We establish the $L^p(\Omega)$ -convergence rate for the lattice approximation in the uniform topology under Lipschitz assumptions. The proof is based on a penalization method and a detailed analysis of deterministic parabolic obstacle problems. Our result shows that the convergence rate is logarithmic, reflecting the additional difficulty caused by the reflection term. To the best of our knowledge, this is the first explicit convergence rate for lattice approximations of reflected SPDEs.