

Strong convergence of a splitting method for the stochastic complex Ginzburg-Landau equation

Mariya Ptashnyk

In this talk we will discuss the analysis and numerical approximation for the stochastic complex Ginzburg-Landau equation with additive noise. We use an energy approach to prove existence and uniqueness results and to derive moment bounds. For numerical approximation we consider a spectral discretization in space and a Lie-Trotter splitting method in time and prove moment bounds and strong convergence and convergence in probability for the numerical scheme. The talk will be concluded with some numerical experiments that illustrate the effectiveness of the proposed method.