

2:45-3:20 Verena Schwarz (University of Klagenfurt, Austria)

Approximation of the Lévy-driven stochastic heat equation on the sphere

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In this talk, we study the numerical approximation of the stochastic heat equation on the sphere driven by an additive Levy process. For this, we first prove new regularity results for the solution of the stochastic heat equation under different regularity assumptions on the initial value and driving Lévy process. In these settings, we perform a spectral approximation based on the truncation of the series expansion with respect to the real-valued spherical harmonic functions. Further, we apply a forward resp. backward Euler-Maruyama scheme for the temporal approximation. We prove strong and weak convergence rates for the introduced approximation scheme and present numerical simulations that confirm our theoretical results.