

1107-60-86

Eulalia Nualart* (eulalia@nualart.es), Universitat Pompeu Fabra, Barcelona, Spain. *Noise excitability of the stochastic heat equation.*

We consider the following stochastic heat equation on an interval with Dirichlet boundary conditions driven by a space-time white noise:

$$\partial_t u_t(x) = \frac{1}{2} \partial_{xx} u_t(x) + \lambda \sigma(u_t(x)) \dot{W}(t, x).$$

We show that in the long run, the second moment of the solution grows exponentially fast if λ is large enough. But if λ is small, then the second moment eventually decays exponentially. If we replace the Dirichlet boundary condition by the Neumann one, then the second moment grows exponentially fast no matter what λ is. We also provide various extensions. This talk is based on a joint work with M. Foondun. (Received January 02, 2015)