

# On Stochastic Heat Equations

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## Abstract

We consider the following parabolic SPDEs:

$$\frac{\partial}{\partial t} u(t, x; \lambda) = \Delta u(t, x; \lambda) + b(u(t, x; \lambda)) + \lambda \sigma(u(t, x; \lambda)) \frac{\partial^2}{\partial t \partial x} \xi(t, x),$$

subject to nonrandom initial data  $u_0(x)$  where  $\xi(t, x)$  is a Gaussian noise. One motivation for studying this model is a physical phenomena: intermittency, so we will introduce it first. In this talk, we will discuss limiting behaviors of the solutions  $u(t, x; \lambda)$  in variant  $b(x)$  and how  $\lambda$  effects their limiting behaviors.