

Convection-Diffusion Equations with Random Initial Data

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The talk will be devoted to the study of the following nonlinear initial value problem

$$\begin{cases} \partial_t u + (-\Delta)^s u = \partial_x f(u) \\ u(0) \stackrel{d}{=} u_0, \end{cases}$$

where the initial condition u_0 is given as a homogenous isotropic random field on \mathbb{R}^n .

A notion of statistical solutions of this problem will be discussed together with some of their properties.