
XIAOMING SONG, Drexel University

Spatial averages for the Parabolic Anderson model driven by rough noise

In this paper, we study spatial averages for the parabolic Anderson model in the Skorohod sense driven by rough Gaussian noise, which is colored in space and time. We include the case of a fractional noise with Hurst parameters H_0 in time and H_1 in space, satisfying $H_0 \in (1/2, 1)$, $H_1 \in (0, 1/2)$ and $H_0 + H_1 > 3/4$. Our main result is a functional central limit theorem for the spatial averages. As an important ingredient of our analysis, we present a Feynman-Kac formula that is new for these values of the Hurst parameters.