概率论系列报告 Probability Seminar

报告题目(Title): GLOBAL EXISTENCE AND NON-

UNIQUENESS FOR 3D NAVIER-STOKES EQUATIONS

WITH SPACE-TIME WHITE NOISE

报告人(Speaker): 朱湘禅 (Chinese Academy of Sciences)

时间(Time): 2022/02/28 14:00-15:00

地点(Venue): TBA

摘要(Abstract):

Abstract: We establish global-in-time existence and non-uniqueness of probabilistically strong solutions to the three-dimensional Navier–Stokes system driven by space-time white noise. In this setting, solutions are expected to have space regularity at most -1/2 – κ for any $\kappa > 0$. Consequently, the convective term is ill-defined analytically and probabilistic renormalization is required. Up to now, only local well-posedness has been known. With the help of paracontrolled calculus we decompose the system in a way which makes it amenable to convex integration. By a careful analysis of the regularity of each term, we develop an iterative procedure which yields global non-unique probabilistically strong paracontrolled solutions. Our result applies to any divergence free initial condition

in L2 \cup B $-1+\kappa^{\infty},\infty$, $\kappa > 0$, and implies also non-uniqueness in law.

欢迎参加

Everyone is welcome.