长三角概率统计讨论班

时间：2019 年 4 月 22 日 (周六)

地点：复旦大学邯郸校区光华楼东主楼（具体教室待定）

上午　主持人：　应坚刚　　复旦大学

10:00-10:45　　张登　　上海交通大学

题目：Multi solitary waves to stochastic nonlinear Schroedinger equations

11:00-11:45　　薛晓峰　　北京交通大学

题目: Hydrodynamics of a class of N-urn linear systems

下午　主持人：苏中根　　浙江大学

14:00-14:45　　周友洲　　西交利物浦大学

题目：Transition Density of an Infinite-dimensional diffusion with the Jack Parameter

15:00-15:45　　郑玉书　　复旦大学

题目：Inverting Ray-Knight identity

欢迎大家参加!

联系人：李利平 liliping@fudan.edu.cn

Multi solitary waves to stochastic nonlinear Schroedinger equations

张登

In this talk we will present the recent work on the multi solitary waves to stochastic nonlinear Schroedinger equations driven by linear multiplicative noise, in both the mass-critical and subcritical cases. Unlike in the deterministic case, the existence of stochastic multi-solitons cannot be obtained from that of stochastic multi-bubble blow-up solutions, due to the absence of pseudo-conformal invariance. We present a constructive proof by utilizing the rescaling approach and the modulation method. The constructed multi-solitons behave asymptotically as a sum of finitely many solitary waves, and the convergence rate of the remainders can be of either exponential or polynomial type, which reflects the effects of noise on the asymptotical behavior of solutions.

Hydrodynamics of a class of N-urn linear systems

薛晓峰

In this paper we are concerned with hydrodynamics of a class of N-urn linear systems, which include voter models, pair-symmetric exclusion processes and binary contact path processes on N urns as special cases. We show that the hydrodynamic limit of our process is driven by a $\left(C[0,1)\right)^\prime$-valued linear ordinary differential equation and the fluctuation of our process, i.e, central limit theorem from the hydrodynamic limit, is driven by a $\left(C[0, 1)\right)^\prime$-valued Ornstein-Uhlenbeck process. To derive above main results, we need several replacement lemmas.

An extension in linear systems of Chapman-Kolmogorov equation plays key role in proofs of these replacement lemmas.

Transition Density of an Infinite-dimensional diffusion with the Jack Parameter

周友洲

From the Poisson-Dirichlet diffusions to the Z-measure diffusions, they all have explicit transition densities. In this paper, we will show that the transition densities of the Z-measure diffusions can also be expressed as a mixture of a

sequence of probability measures on the Thoma simplex. The coefficients are still the transition probabilities of the Kingman coalescent stopped at state 1. This fact will be uncovered by a dual process method in a special case where the Z-measure diffusions is established through up-down chain in the Young graph.

Inverting Ray-Knight identity

郑玉书

In this talk, we consider the conditional law of a Markov jump process or a Markov loop soup given its local time field. We show that it can be represented as a self-interacting process with path-dependent jump rates. We further present the scaling limits of the above processes. Joint work with Xiaodan Li.