

分析及应用研讨会

时间：5月24日——5月26日

地点：光华楼东主楼 1801

日程表

	5月24日	5月25日	5月26日
09:00-10:00	注册	王兴	自由讨论
10:00-10:30		茶歇	
10:30-11:30		徐霄乾	
11:30-14:30		午休	离会
14:30-15:30		孔诗磊	
15:30-16:00		茶歇	
16:00-17:00		孙京洲	
18:00		晚餐	

组织者：贺丹青 复旦大学
席亚昆 浙江大学

报告信息

	5月25日	主持人
09:00-10:00	王兴 (湖南大学) Sharp local L_p estimates for the Hermite eigenfunctions	贺丹青
10:00-10:30	茶歇	
10:30-11:30	徐霄乾 (昆山杜克大学) Mixing flow and advection-diffusion-reaction equations	徐行
11:30-14:30	午休	
14:30-15:30	孔诗磊 (四川大学) Boundary trace of birth-death type random walks on hyperbolic graphs	席亚昆
15:30-16:00	茶歇	
16:00-17:00	孙京洲 (汕头大学) An infinite dimensional balanced embedding problem	贺丹青
18:00	晚餐	

孔诗磊 (四川大学)

题目: Boundary trace of birth-death type random walks on hyperbolic graphs

摘要: A metric space viewed at different locations and scales has a natural Gromov-hyperbolic graph structure. Inspired by this viewpoint, we study a class of reversible random walks of birth-death type on hyperbolic graphs, and analyze the Naim-Doob formula for the Dirichlet energy of their boundary trace processes. Our main result includes doubling properties of the harmonic measure and sharp estimates of the Naim kernel on the topological boundaries.

孙京洲 (汕头大学)

题目: An infinite dimensional balanced embedding problem

摘要: We investigate the problem of balanced embedding of a non-compact complex manifold into an infinite-dimensional projective space. We prove the existence and uniqueness of such an embedding in a model case. This is based on joint work with Song Sun.

王兴 (湖南大学)

题目: Sharp local L_p estimates for the Hermite eigenfunctions

摘要: We investigate the concentration of eigenfunctions for the Hermite operator $H = -\Delta + |x|^2$ in \mathbb{R}^n by establishing local L_p bounds over the compact sets with arbitrary dilations and translations. These new results extend the local estimates by Thangavelu and improve those derived from Koch-Tataru, and explain the special phenomenon that the global L_p bounds decrease in p when $2 \leq p \leq 2n+6n+1$. The key L_2 -estimates show that the local probabilities decrease away from the boundary $\{|x|=\lambda\}$, and then they satisfy Bohr's correspondence principle in any dimension.

徐霄乾 (昆山杜克大学)

题目: Mixing flow and advection-diffusion-reaction equations

摘要: In the study of incompressible fluid, one fundamental phenomenon that arises in a wide variety of applications is dissipation enhancement by so-called mixing flow. In this talk, I will give a brief introduction to the idea of mixing flow and the role it plays in the field of advection-diffusion-reaction equation, such as the famous Keller-Segel equation for chemotaxis. I will also discuss about the examples of such flows in this talk.