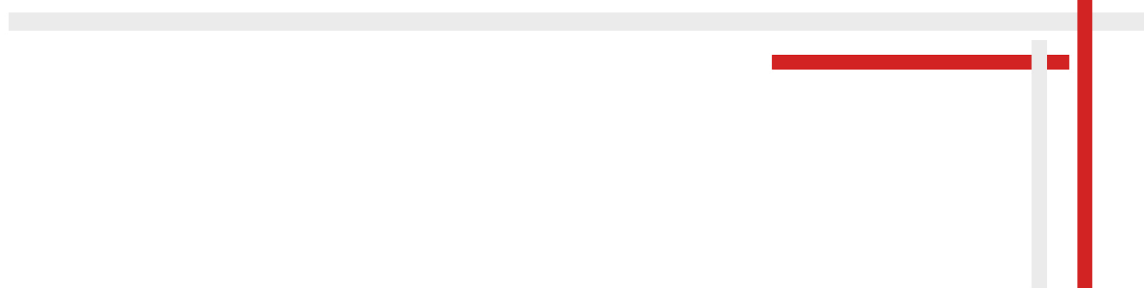




# 随机分析、统计物理 及相关问题研讨会



中国科学院数学与系统科学研究院

2024年12月6日至8日

## ➤ 邀请报告人

- 陈 昕 上海交通大学
- T. Funaki 北京雁栖湖应用数学研究院
- 何 辉 北京师范大学
- 华波波 复旦大学
- 黄逸超 北京理工大学
- 姜建平 清华大学丘成桐数学科学中心
- 雷 容 日本东北大学
- 李晓斌 西南交通大学
- 李欣意 北京大学北京国际数学研究中心
- 刘 伟 武汉大学
- 吕克宁 四川大学
- 吕 琦 四川大学
- 彭旭辉 湖南师范大学
- 孙 鑫 北京大学北京国际数学研究中心
- 田 野 中国科学院数学与系统科学研究院
- 王 健 福建师范大学
- 吴 昊 清华大学丘成桐数学科学中心
- 巫 静 中山大学
- 吴黎明 法国克莱蒙奥弗涅大学，哈尔滨工业大学
- 吴 恋 中南大学
- 尹 智 中南大学
- 张土生 中国科学技术大学
- 张希承 北京理工大学
- 周海军 中国科学院理论物理研究所

## ➤ 邀请嘉宾

陈 勇	江西师范大学
程丽娟	杭州师范大学
成灵妍	南京理工大学
董 昭	中国科学院数学与系统科学研究院
杜 恺	复旦大学
巩馥洲	中国科学院数学与系统科学研究院
顾陈琳	清华大学丘成桐数学科学中心
郭精军	兰州财经大学
韩邦先	山东大学
何 凯	中国科学院数学与系统科学研究院
胡二彦	天津大学
黄飞敏	中国科学院数学与系统科学研究院
黄 兴	天津大学
蒋继发	上海师范大学
黎怀谦	天津大学
李汇军	南京航空航天大学
李 楠	中国科学院数学与系统科学研究院
李宋子	中国人民大学
李 欣	科学出版社
李增沪	北京师范大学
刘党政	中国科学技术大学
刘国平	华中科技大学
骆顺龙	中国科学院数学与系统科学研究院
欧 辉	湖南师范大学
让光林	武汉大学
施 展	中国科学院数学与系统科学研究院
宋永生	中国科学院数学与系统科学研究院

王 东	中国科学院大学
王洁明	北京理工大学
王清华	上海财经大学
王湘君	华中科技大学
王 益	中国科学院数学与系统科学研究院
王宇钊	山西大学
王振富	北京大学北京国际数学研究中心
夏雨霏	哈尔滨工程大学
向开南	湘潭大学
肖 惠	中国科学院数学与系统科学研究院
谢 宾	日本信州大学
徐笑颜	江西师范大学
许媛媛	中国科学院数学与系统科学研究院
严加安	中国科学院数学与系统科学研究院
杨子恒	伦敦大学学院
姚昌龙	中国科学院数学与系统科学研究院
姚 东	江苏师范大学
姚莉丽	科学出版社
曾 强	中国科学院数学与系统科学研究院
翟建梁	中国科学技术大学
张朝恩	哈尔滨工业大学
张 登	上海交通大学
张金平	华北电力大学
张世金	北京航空航天大学
赵国焕	中国科学院数学与系统科学研究院
周国立	重庆大学
朱蓉禅	北京理工大学
朱天琪	中国科学院数学与系统科学研究院
朱湘禅	中国科学院数学与系统科学研究院

## ➤ 组委会

主办人：李向东，刘源，石权

秘 书：华蕾

## ➤ 基金支持

- 国家重点研发项目：随机分析的基础理论研究
- 中国科学院数学与系统科学研究院卓越团队项目
- 中国科学院数学与系统科学研究院随机分析研究中心

## ➤ 会议地点

中国科学院数学与系统科学研究院南楼

12月6至7日，219室； 12月8日，205室。



## ➤ 报告日程

时间\会期	12月6日南楼219	12月7日南楼219	12月8日南楼205
08:30 - 09:15	T. Funaki	吴黎明	王 健
09:15 - 10:00	周海军	吴 昊	陈 昕
10:00 - 10:30	茶歇		
10:30 - 11:15	田 野	张土生	刘 伟
11:15 - 12:00	吕克宁	巫 静	孙 鑫
12:15 - 13:30	午餐		
14:30 - 15:15	张希承	何 辉	吕 琦
15:15 - 16:00	华波波	尹 智	雷 容
16:00 - 16:30	茶歇		
16:30 - 17:15	吴 恋	彭旭辉	黄逸超
17:15 - 18:00	李欣意	李晓斌	姜建平
18:15 - 19:30	晚餐		

12月6日 219室	08:15 - 08:30	开幕致辞		
	08:30 - 09:15	Funaki	Linear fluctuation of interfaces in an interacting particle system	李向东 主持
	09:15 - 10:00	周海军	运动约束自旋模型的统计物理学：随机过程导致的全局拓扑约束	
	10:00 - 10:30	照相留念		
	10:30 - 11:15	田野	Markov chains in elliptic curves	董昭 主持
	11:15 - 12:00	吕克宁	Turbulence, Lyapunov exponents, and SRB measures in infinite-dimensional dynamical systems	
	12:15 - 13:30	午餐		
	14:30 - 15:15	张希承	Heat kernel estimates for nonlocal kinetic operators	谢宾 主持
	15:15 - 16:00	华波波	Eigenvalue estimates for discrete Steklov problems	
	16:00 - 16:30	茶歇		
	16:30 - 17:15	吴恋	Stochastic Burgers equations in variable Lebesgue spaces	向开南 主持
	17:15 - 18:00	李欣意	Favorite sites for simple random walk in two and more dimensions	
	18:15 - 19:30	晚餐(物科四层)		
12月7日 219室	08:30 - 09:15	吴黎明	Hypo-coercivity of random vibration of string	施展 主持
	09:15 - 10:00	吴昊	Connection probabilities for loop $O(n)$ models and BPZ equations	
	10:00 - 10:30	茶歇		
	10:30 - 11:15	张土生	Well-posedness of stochastic chemotaxis system	李增沪 主持
	11:15 - 12:00	巫静	Some recent progress on stochastic variational inequalities with distribution dependent coefficients	
	12:15 - 13:30	午餐		
	14:30 - 15:15	何辉	Brownian CRTs conditioned to be large	宋永生 主持
	15:15 - 16:00	尹智	布朗测度及其在随机矩阵中的应用	
	16:00 - 16:30	茶歇		
	16:30 - 17:15	彭旭辉	Ergodicity for 2D Navier-Stokes equations with a degenerate pure jump noise	张登 主持
	17:15 - 18:00	李晓斌	Random partition meets reflection symmetry: the power of thermodynamic limit	
18:15 - 19:30	晚餐(物科四层)			
12月8日 205室	08:30 - 09:15	王健	Heat kernels and Green functions for fractional Schrödinger operators with confining potentials	蒋继发 主持
	09:15 - 10:00	陈昕	Stochastic homogenization for non-symmetric jump processes	
	10:00 - 10:30	茶歇		
	10:30 - 11:15	刘伟	Smoluchowski–Kramers approximation for distribution dependent stochastic differential equations	吕琦 主持
	11:15 - 12:00	孙鑫	Annulus crossing formulae for critical planar percolation	
	12:15 - 13:30	午餐		
	14:30 - 15:15	吕琦	Optimal control of stochastic evolution equations: some recent progresses	王东 主持
	15:15 - 16:00	雷容	Langevin deformation for Rényi entropy on Wasserstein space over Riemannian manifolds	
	16:00 - 16:30	茶歇		
	16:30 - 17:15	黄逸超	Reinforced loop soup revisited	陈昕昕 主持
	17:15 - 18:00	姜建平	Particle masses in the near-critical Ising model	
	18:15 - 19:30	晚餐(物科三层)		

## ➤ 报告题目与摘要

陈 昕 (上海交通大学)

**Title: Stochastic homogenization for non-symmetric jump processes**

**Abstract:** We will study the stochastic homogenization for non-symmetric processes whose infinitesimal operators having the form  $L = L_0 + b(t, \cdot) \cdot \nabla$ , where

$$L_0 f(x) := \int_{\mathbb{R}^d} (f(x+z) - f(x)) \nu(z) dz, \quad x \in \mathbb{R}^d$$

for different Lévy measures  $\nu(z)dz$  and  $\operatorname{div} b(t, x) = 0$  for every  $t \in \mathbb{R}_+$  and  $x \in \mathbb{R}^d$ .

Tadahisa Funaki (北京雁栖湖应用数学研究院)

**Title: Linear fluctuation of interfaces in an interacting particle system**

**Abstract:** We study a scaling limit of the space-time mass fluctuation field of Glauber-Kawasaki dynamics around its hydrodynamic mean curvature interface limit. The Kawasaki part is accelerated by  $N^2$  with respect to the spatial scaling  $N$ , while for the Glauber part it is  $K = K(N)$ . In the situation where the interface is flat and immobile at the level of the hydrodynamic limit, we derive a Gaussian fluctuation of the interface in dimension one and two, taking  $K(N) = O(\sqrt{\log(N)})$ . The method is based on the estimate on the relative entropy and the main role is played by the so-called Boltzmann-Gibbs principle. The talk is based on joint work with Claudio Landim (IMPA) and Sunder Sethuraman (Arizona).

何 辉 (北京师范大学)

**Title: Brownian CRTs conditioned to be large**

**Abstract:** We consider a Feller diffusion  $(Z_s, s \geq 0)$  (with diffusion coefficient  $\sqrt{2}$  and drift  $\theta = 0$ ) that we condition on  $\{Z_t = a_t\}$ , where  $a_t$  is a deterministic function, and we study the limit in distribution of the conditioned process and of its genealogical tree as  $t \rightarrow +\infty$ . When  $a_t$  does not increase too rapidly, we obtain the standard size-biased process (and the associated genealogical tree given by the Kesten's tree). When  $a_t$  behaves as  $\alpha t^2$ , we obtain a new process whose distribution is described by a Girsanov transformation and equivalently by a SDE with a Poissonian immigration (depending on  $\alpha$ ). Its associated genealogical tree is described by an infinite discrete skeleton (which does not satisfy the branching property) decorated with Brownian continuum random trees given by a Poisson point measure. At last if the time is permitted, we shall show how to recover above results from a Gibbs' viewpoint. This talk is based on joint works with Romain Abraham, Jean-François Delmas and Meltem Ünel.



华波波 (复旦大学)

**Title: Eigenvalue estimates for discrete Steklov problems**

**Abstract:** Steklov eigenvalues on a domain are eigenvalues of the Dirichlet-to-Neumann operator on the boundary, which is a natural nonlocal operator. We introduce the discrete counterpart of Dirichlet-to-Neumann operator, which is defined on the boundary of a subgraph in an ambient graph. Following works of Escobar and Jammes, the Steklov eigenvalue estimate via the isoperimetric constant, so-called Cheeger type estimate, was proved by Huang-Hua-Wang and Hassannezhad-Miclo independently. However, the estimate involves several Cheeger constants, including even the Cheeger constant for the Laplacian, and the upper and lower bounds don't match. In this talk, we introduce an isocapacitary constant in the spirit of Maz'ya, which gives the precise upper and lower bounds of Steklov eigenvalues, which match up to some constants. This is joint work with Florentin Muench and Tao Wang.

黄逸超 (北京理工大学)

**Title: Reinforced loop soup revisited**

**Abstract:** The vertex reinforced counterpart of the Markovian loop soup developed by Le Jan is introduced. I will review some basic notions about reinforced processes and SUSY hyperbolic sigma models, then explain a concrete construction of the so-called reinforced loop soup field via a random process with reinforcement mechanism. As a corollary we obtain the SUSY version of isomorphism theorems for the loop soup field. This is an ongoing joint work with Yinshan Chang (Sichuan University), Dang-Zheng Liu (University of Science and Technology of China), and Xiaolin Zeng (Université de Strasbourg).

姜建平 (清华大学丘成桐数学科学中心)

**Title: Particle masses in the near-critical Ising model**

**Abstract:** Consider the scaling limit of the magnetization field in the near-critical planar Ising model. We are interested in particle masses in the associated relativistic quantum field theory. We will report our recent progress on the conjecture that the mass spectrum measure has an atom with strictly positive weight at the mass  $m_1$ . Based on ongoing work with Frederik Klausen.

雷 容 (日本东北大学)

**Title: Langevin deformation for Rényi entropy on Wasserstein space over Riemannian manifolds**

**Abstract:** In this talk, we introduce the Langevin deformation for the Rényi entropy on the  $L^2$ -Wasserstein space over a Riemannian manifold, which interpolates between the porous medium equation and the Benamou-Brenier geodesic flow on the  $L^2$ -Wasserstein space and can be regarded as the compressible Euler equations for isentropic gas with damping. Then we prove the  $W$ -entropy-information formulae and the rigidity theorems for the Langevin deformation of flows for the Rényi entropy on the Wasserstein space over complete Riemannian manifolds with non-negative Ricci curvature or  $CD(0,m)$ -condition. Moreover, we prove the monotonicity of the Hamiltonian and the convexity of the Lagrangian along the Langevin deformation of flows. Finally, we prove the convergence of the Langevin deformation for the Rényi entropy as  $c \rightarrow 0$  and  $c \rightarrow \infty$  respectively. This is a joint work with Xiang-Dong Li and Songzi Li.

李晓斌 (西南交通大学)

**Title: Random partition meets reflection symmetry: the power of thermodynamic limit**

**Abstract:** In this talk, I will focus on 5d  $N = 1$   $Sp(N)$  gauge theory with  $N_f (\leq 2N + 3)$  flavors based on 5-brane web with O5-plane. Based on 5-brane web with O5-plane corresponding to non-toric geometry, we compute the Nekrasov partition function based on the topological vertex formalism with O5-plane. Rewriting it in terms of profile functions, we obtain the saddle point equation for the profile function after taking thermodynamic limit. By introducing the resolvent, we derive the Seiberg-Witten geometry and its boundary conditions as well as its relation to the prepotential in terms of the cycle integrals. They coincide with those directly obtained from the dual graph of the 5-brane web with O5-plane. This agreement gives further evidence for mirror symmetry which relates Nekrasov partition function with Seiberg-Witten curve in the case with orientifold plane. This talk is based on joint work with Futoshi Yagi.

李欣意 (北京大学北京国际数学研究中心)

**Title: Favorite sites for simple random walk in two and more dimensions**

**Abstract:** In this talk, we consider the evolution of favorite sites on the trace of a discrete-time simple random walk on  $Z^d$ . For  $d = 2$ , we show that limsup of the number of favorite sites is almost surely three. For  $d \geq 3$ , we derive sharp asymptotics of the number of favorite sites. This answers an open question of Erdős and Révész (1987). Joint work with Chenxu HAO (Peking University), Izumi OKADA (Chiba University) and Yushu ZHENG (CAS-AMSS).

刘伟 (武汉大学)

**Title: Smoluchowski–Kramers approximation for distribution dependent stochastic differential equations**

**Abstract:** In this talk, we will show the Smoluchowski–Kramers approximation for distribution dependent stochastic differential equations driven by fractional Brownian motion and Brownian motion respectively. The convergence rates for the total variation and  $L^p$  distance are obtained. This talk is based on the joint works with Shiyu Liu, Bin Pei and Qian Yu.

吕克宁 (四川大学)

**Title: Turbulence, Lyapunov exponents, and SRB measures in infinite-dimensional dynamical systems**

**Abstract:** In this talk, I will present several results related to Lyapunov exponents, SRB measures, entropy, and horseshoes in the context of infinite-dimensional dynamical systems. I will also discuss recent work on the ergodicity and statistical dynamics of the 2D Navier-Stokes equation, driven by both time-dependent deterministic and stochastic forces. Additionally, I will explore the connection between SRB measures and turbulence.

吕琦 (四川大学)

**Title: Optimal Control of Stochastic Evolution Equations: Some Recent Progresses**

**Abstract:** In this talk, I will present some recent progresses on optimal control problems of stochastic evolution equations, including Pontryagin type maximum principle, dynamic programming and linear quadratic optimal control problems.

彭旭辉 (湖南师范大学)

**Title: Ergodicity for 2D Navier-Stokes equations with a degenerate pure jump noise**

**Abstract:** We establish the ergodicity for stochastic 2D Navier-Stokes equations driven by a highly degenerate pure jump Lévy noise. The noise could appear in as few as four directions. This extends the corresponding classical results in Hairer and Mattingly [Ann. of Math., 164(3):993--1032, 2006] to the case of the pure jump Lévy noise. To obtain the uniqueness of invariant measure, we use Malliavin calculus to establish the equi-continuity of the semigroup, the so-called e-property, and prove some irreducibility of the solution process. This talk is based on a joint work with Jianliang Zhai and Tusheng Zhang.

孙 鑫 (北京大学北京国际数学研究中心)

**Title: Annulus crossing formulae for critical planar percolation**

**Abstract:** This is a joint work with Shengjing Xu and Zijie Zhuang. We derive exact formulae for three basic annulus crossing events for the critical planar Bernoulli percolation in the continuum limit. The first is for the probability that there is an open path connecting the two boundaries of an annulus of inner radius  $r$  and outer radius  $R$ . The second is for the probability that there are both open and closed paths connecting the two annulus boundaries. These two results were predicted by Cardy based on non-rigorous Coulomb gas arguments. Our third result gives the probability that there are two disjoint open paths connecting the two boundaries. Its leading asymptotic as  $r/R \rightarrow 0$  is captured by the so-called backbone exponent, a transcendental number recently determined by Nolin, Qian and two of us. This exponent is the unique non-trivial real root to the an elementary equation. Besides the real roots, this equation has countably many complex roots. Our third result shows that these roots appear exactly as exponents of the subleading terms in the crossing formula. This suggests that the backbone exponent is part of a conformal field theory (CFT) whose bulk spectrum contains this set of roots. Expanding the same crossing probability as  $r/R \rightarrow 1$ , we obtain a series with logarithmic corrections at every order, suggesting that the backbone exponent is related to a logarithmic boundary CFT. Our proofs are based on the coupling between SLE curves and Liouville quantum gravity (LQG). The key is to encode the annulus crossing probabilities by the random moduli of certain LQG surfaces with annular topology, whose law can be extracted from the dependence of the LQG annuli partition function on their boundary lengths.

田 野 (中国科学院数学与系统科学研究院)

**Title: Markov chains in elliptic curves**

**Abstract:** Elliptic curves over rationals are projective smooth curves of genus one with a rational point. In this talk, we discuss how Markov chain helps to understand rational points on elliptic curves.

王 健 (福建师范大学)

**Title: Heat kernels and Green functions for fractional Schrödinger operators with confining potentials**

**Abstract:** We give two-sided, global (in all variables) estimates of the heat kernel and the Green function of the fractional Schrödinger operator with a non-negative and locally bounded potential  $V$  such that  $V(x) \rightarrow \infty$  as  $|x| \rightarrow \infty$ . We assume that  $V$  is comparable to a radial profile with the doubling property. Our bounds are sharp with respect to spatial variables and qualitatively sharp with respect to time. The methods we use combine probabilistic and analytic arguments. They are based on the strong Markov property and the Feynman--Kac formula. This is based on a joint work with Xin Chen and Kamil Kaleta.

吴 昊 (清华大学丘成桐数学科学中心)

**Title: Connection probabilities for loop  $O(n)$  models and BPZ equations**

**Abstract:** Critical loop  $O(n)$  models are conjectured to be conformally invariant in the scaling limit. In this talk, we focus on connection probabilities for loop  $O(n)$  models in polygons. Such probabilities can be predicted using two families of solutions to BPZ equations. We will give the explicit conjectures on such connection probabilities and explain its relation to conformal field theory.

巫 静 (中山大学)

**Title: Some recent progress on stochastic variational inequalities with distribution dependent coefficients**

**Abstract:** In this talk we are going to discuss some problems of distribution dependent stochastic variational inequalities, including the well-posedness, propagation of chaos, approximations, and averaging principle.

吴黎明 (法国克莱蒙奥弗涅大学, 哈尔滨工业大学)

**Title: Hypocoercivity of random vibration of string**

**Abstract:** Consider the stochastic wave equation

$$\partial_t^2 u(t, x) = \Delta u(t, x) - cu(t, x) + P'(u) + \partial_t B(t, x),$$

where  $B(t, x)$  is a white Brownian motion,  $x \in (0, \pi)$ ,  $\Delta$  is the Laplacian with the Dirichlet boundary condition,  $c > 0$  is the damping coefficient, and the potential  $P$  is convex at infinity. It can be regarded as an infinite-dimensional Hamilton system. We generalize the hypocoercivity of finite-dimensional Hamilton systems by C. Villani to this infinite dimensional model, by means of a well-chosen Lagrange multiplier and the Broscamp-Lieb inequality. This reinforces some previous recent results obtained by Grothaus and his collaborators.

This talk is based on a joint work with RANG Guanglin from Wuhan University.

吴 恋 (中南大学)

**Title: Stochastic Burgers equations in variable Lebesgue spaces**

**Abstract:** This paper initiates the study of stochastic differential equations in the context of variable Lebesgue spaces. More precisely, we establish the existence and uniqueness of solutions of stochastic Burgers equations in variable Lebesgue spaces. To that end, we are forced to firstly develop a stochastic integration theory with respect to Brownian motions in this framework. The main ingredients of the stochastic integrability are a conditional expectation version of the Lenglart-Lépingle-Pratelli's inequality and Burkholder-Davis-Gundy's inequalities for continuous martingales in variable Lebesgue spaces. As by-products, we obtain similar results for stochastic differential equations of Itô type and stochastic wave equations.

尹 智 (中南大学)

**Title: 布朗测度及其在随机矩阵中的应用**

**Abstract:** 布朗测度刻画了非交换概率空间中随机变量的分布(矩), 并且同高维随机矩阵的极限分布有着紧密的联系。报告将简要介绍我们在自由独立随机变量加和的布朗测度的新进展以及在随机矩阵理论中的应用。

张土生 (中国科学技术大学)

**Title: Well-posedness of stochastic chemotaxis system**

**Abstract:** In this paper, we establish the existence and uniqueness of solutions of elliptic-parabolic stochastic Keller-Segel systems. The solution is obtained through a carefully designed localization procedure together with some a priori estimates. Both noise of linear growth and nonlinear noise are considered. The  $L^p$  Itô formula plays an important role.

张希承 (北京理工大学)

**Title: Heat kernel estimates for nonlocal kinetic operators**

**Abstract:** In this paper, we employ probabilistic techniques to derive sharp, explicit two-sided estimates for the heat kernel of the nonlocal kinetic operator

$$\Delta_v^{\alpha/2} + v \cdot \nabla_x, \quad \alpha \in (0,2), (x, v) \in \mathbb{R}^d \times \mathbb{R}^d,$$

where  $\Delta_v^{\alpha/2}$  represents the fractional Laplacian acting on the velocity variable  $v$ . Additionally, we establish logarithmic gradient estimates with respect to both the spatial variable  $x$  and the velocity variable  $v$ .

In fact, the estimates are developed for more general non-symmetric stable-like operators, demonstrating explicit dependence on the lower and upper bounds of the kernel functions. These results, in particular, provide a solution to a fundamental problem in the study of *nonlocal* kinetic operators. (This is a joint work with Haojie Hou).

周海军 (中国科学院理论物理研究所)

**Title: 运动约束自旋模型的统计物理学：随机过程导致的全局拓扑约束**

**Abstract:** 运动约束自旋系统 (Kinetically constrained spin systems) 是定义在晶格或网络上的自旋模型。最主要的特征是每个格点的自旋状态是否可翻转依赖于周围格点的自旋状态组合，状态演化是有局部结构的随机过程。这类系统被广泛用于理解结构玻璃系统的动力学行为，但它们是否存在热力学意义的相变是一直没有定论的问题。我将证明运动约束自旋系统的每一个运动学意义下的各态历经相空间都对应于一个广义的K-核攻击 (K-core attack) 自旋玻璃组合优化问题。这就意味着运动约束自旋系统的热力学相变可以通过研究K-核攻击问题的自旋玻璃相变而精确回答。我将介绍一些在随机网络上的理论结果，也将讨论在二维六角晶格系统上的计算机模拟结果。分布式局部运动学约束导致全局拓扑热力学约束的涌现，这一现象可能有更普遍的意义。

## ➤ 附注册参会的研究生与博士后

蔡仁杰	中国科学院数学与系统科学研究院
曹琪勇	东南大学
陈昌睿	中国科学院数学与系统科学研究院
陈嘉文	中国工程物理研究院
陈子瞻	中国科学院数学与系统科学研究院
程宇	中国科学院数学与系统科学研究院
丁昊	中国科学院数学与系统科学研究院
侯磊	中国科学院数学与系统科学研究院
贾阳	哈尔滨工程大学
郎思轲	清华大学
李昊芫	东南大学
李路易	中国科学院数学与系统科学研究院
李冻铠	武汉大学
李夏洋	中国科学院数学与系统科学研究院
刘益达	中国科学院数学与系统科学研究院
曲世铎	东南大学
王琳	中国科学院数学与系统科学研究院
肖森琳	中国科学院数学与系统科学研究院
叶景源	中国科学院数学与系统科学研究院
张恩睿	中国科学院数学与系统科学研究院
张琦	北京雁栖湖应用数学研究院
周强	中国科学院数学与系统科学研究院