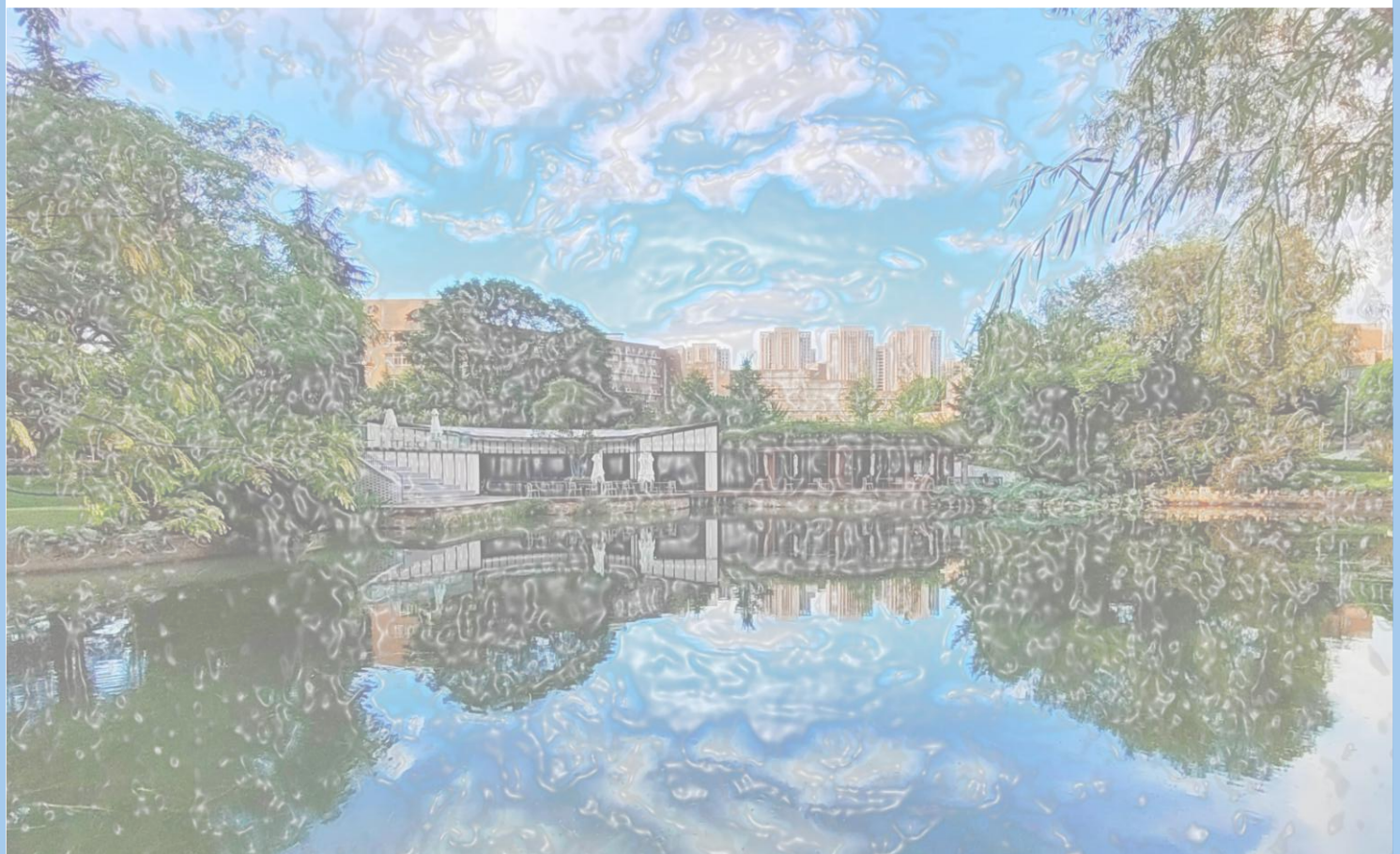
中国科学技术大学

University of Science and Technology of China

色散方程及相关学术研讨会

2026.03.27-2026.03.29



会议信息

一、会议时间

2026 年 3 月 28 日，上午会场报到。

2026 年 3 月 28 日至 3 月 29 日，会议学术报告。

2026 年 3 月 29 日，离会。

二、会议地点

中国科学技术大学第二教学楼 2211 教室

三、会议报告人（按姓氏拼音排序）

范晨捷	中国科学院数学与系统科学研究院
黄山林	中山大学
刘保平	北京大学
马思远	中国科学院数学与系统科学研究院
沈瑞鹏	天津大学
王玉昭	大连理工大学
岳海天	上海科技大学
张　城	清华大学
张军勇	北京理工大学
朱世辉	四川师范大学

四、会议主持人（按姓氏拼音排序）

陈昌昊	安徽大学
高洪俊	东南大学
苗长兴	北京应用物理与计算数学研究所
孙永忠	南京大学
王灯山	北京师范大学

会议信息

四、会议主持人（按姓氏拼音排序）

徐润章　　哈尔滨工程大学

尧小华　　华中师范大学

闫振亚　　中原工学院/中科院数学院

章志飞　　北京大学

赵立丰　　中国科学技术大学

五、学术组委会（按姓氏拼音排序）

陈世炳　　中国科学技术大学

麻希南　　中国科学技术大学

苗长兴　　北京应用物理与计算数学研究所

章志飞　　北京大学

会议组织成员（按姓氏拼音排序）：

陈琼蕾　　北京应用物理与计算数学研究所

沈舜麟　　中国科学技术大学

赵立丰　　中国科学技术大学

郑继强　　北京应用物理与计算数学研究所

六、会务秘书

郭林敏　0551-63600572　　guolinmin@ustc.edu.cn

会议日程安排

3 月 27 日（周五）入住酒店			
3 月 28 日（周六）		地点：二教 2211 教室	
时间	报告人	报告题目	主持人
08:00-09:00	会议签到		
09:00-09:15	开幕式及合影		
09:15-10:00	刘保平	On sharp Strichartz estimate for hyperbolic Schrödinger equation in periodic setting	苗长兴
10:00-10:30	休息		
10:30-11:15	马思远	Black hole stability conjecture	孙永忠
11:15-12:00	岳海天	Invariant Gibbs measure for 3D cubic NLW	章志飞
12:00-13:30	午餐地点：教工餐厅		
14:00-14:45	朱世辉	Orbital Stability of Standing Waves for the D-S System with a Defocusing Perturbation	高洪俊
14:45-15:30	范晨捷	Strichartz estimate for hyperbolic Schrödinger on the wave guide	王灯山
15:30-16:00	休息		
16:00-16:45	王玉昭	Invariant Gibbs dynamics for the nonlinear Schrödinger equation on the disc	尧小华
16:45-17:30	张军勇	Dispersive and Strichartz estimates for the Dirac equation	徐润章
18:00-20:00	晚餐地点：教工餐厅		

会议日程安排

3 月 29 日（周日）　　地点：二教 2211 教室			
时间	**报告人**	**报告题目**	**主持人**
09:15-10:00	沈瑞鹏	波动方程孤子猜想	闫振亚
10:00-10:30	休息		
10:30-11:15	黄山林	Dispersive and the L^p boundedness of wave operators for the Laplace operator with finite rank perturbations	陈昌昊
11:15-12:00	张　城	Maximal growth of the Stein-Wainger oscillatory integral	赵立丰
12:00-13:30	**午餐地点：教工餐厅**		
3 月 29 日（周日）　下午离会			

校 园 地 图


黄山路大门
专家楼
中区地下通道
地下通道
东区地下通道
东区中门
第二教学楼
东区东门
教工食堂（三层）
东区小西门
东区小南门
东区南门


星座餐厅
蜗壳时光茶餐厅
东区学生食堂
东区教工餐厅
美食广场
东区

报 告 信 息

题　目： On sharp Strichartz estimate for hyperbolic Schrödinger equation in periodic setting

报告人： 刘保平，北京大学

时　间： 3 月 28 日，09:15-10:00

摘　要： For the hyperbolic Schrödinger equation on the torus, Bourgain and Dememter proved Strichartz estimate up to an ϵ-loss. In this talk, I will show how this loss can be removed in some cases, yielding the sharp estimates in the full range. We further apply these results to obtain sharp local well-posedness for the corresponding semilinear equations.

题　目： Black hole stability conjecture

报告人： 马思远，中国科学院数学与系统科学研究院

时　间： 3 月 28 日，10:30-11:15

摘　要： The black hole stability conjecture is one of the main open problems in mathematical general relativity. While this conjecture for small angular momentum has been recently solved, its analog in the case of large angular momentum remains open. I will review our recent progress, joint with Jeremie Szeftel (Sorbonne Universite), on this conjecture for all angular momentum.

报 告 信 息

题　目： Invariant Gibbs measure for 3D cubic NLW

报告人： 岳海天，上海科技大学

时　间： 3 月 28 日，11:15-12:00

摘　要： In this talk, we'll present our results about invariant Gibbs measures for the periodic cubic nonlinear wave equation (NLW) in 3D. The interest in this result stems from connections to several areas of mathematical research. At its core, the result concerns a refined understanding of how randomness gets transported by the flow of a nonlinear equation, which involves probability theory and partial differential equations. This is joint work with Bjoern Bringmann (Princeton), Yu Deng (UChicago) and Andrea Nahmod (UMass Amherst).

题　目： Orbital Stability of Standing Waves for the D-S System with a Defocusing Perturbation

报告人： 朱世辉，四川师范大学

时　间： 3 月 28 日，14:00-14:45

摘　要： This talk studies the sharp criteria of blow-up and global existence of solutions to the Davey-Stewartson system with a defocusing perturbation, and then the open problem proposed by Gan and Zhang (Commun. Math. Phys., 283(1), 93-125, 2008) is solved. The lower bound rate of blow-up solutions for the Davey-Stewartson system is obtained by overcoming the loss of scaling invariance. Finally, a sharp criteria of the existence of stable standing waves is obtained by constructing cross-constraint flows and variational problems. This work joint with Guoyi Fu.

报 告 信 息

题　目： Strichartz estimate for hyperbolic Schrödinger on the wave guide

报告人： 范晨捷，中国科学院数学与系统科学研究院

时　间： 3 月 28 日，14:45-15:30

摘　要： Sharp Strichartz estimates for 2D （hyperbolic） Schrödinger in the whole space follows from dispersive estimates and by now standard　TT^{*} argument. It is not easy to generalize such a proof to the torus or wave guide case. We will present another proof of such estimates in the whole space case, which will actually yield end point L^4 Strichartz estimates for hyperbolic Schrödinger on wave guide with no derivative loss. This is joint work with Deng, Zhao (BIT).

题　目： Invariant Gibbs dynamics for the nonlinear Schrödinger equation on the disc

报告人： 王玉昭，大连理工大学

时　间： 3 月 28 日，16:00-16:45

摘　要： We consider the two-dimensional defocusing nonlinear Schrödinger equation on the unit disc with random initial data distributed according to the Gibbs measure. Under a radial symmetry assumption, we introduce a random resonance operator framework that allows us to construct strong local-in-time solutions at the regularity of the Gibbs measure. Combining this with Bourgain's invariant measure argument, we prove almost sure global well-posedness and invariance of the Gibbs measure for the resulting flow. This completes the program initiated by Tzvetkov on constructing invariant Gibbs dynamics for NLS on the disc.

报 告 信 息

题　目： Dispersive and Strichartz estimates for the Dirac equation

报告人： 张军勇，北京理工大学

时　间： 3 月 28 日，16:45-17:30

摘　要： I will discuss the Dirac equation on a cosmic string background, which models a one--dimensional topological defect in the spacetime. Precisely, I will discuss dispersive estimates for the flow, with/without weights and then discuss Strichartz estimates for the Dirac flow in a sharp restricted set of indices, which are different from the classical Euclidean ones. This is based on the joint work with Piero D'Ancona (Sapienza) and Zhiqing Yin (BIT).

题　目： 波动方程孤子猜想

报告人： 沈瑞鹏，天津大学

时　间： 3 月 29 日，9:15-10:00

摘　要： 孤子猜想是色散方程领域的核心研究课题之一。近十几年来，随着能量通道等新方法的引入，对于波动方程的孤子猜想，特别是其径向情形的研究，取得了一系列突破性进展。本报告将简要地介绍研究波动方程孤子分解现象的一个新思路，也即外部散射方法，并介绍这种方法在三维能量临界波动方程领域的几个应用。

报 告 信 息

题　目： Dispersive and the L^p boundedness of wave operators for the Laplace operator with finite rank perturbations

报告人： 黄山林，中山大学

时　间： 3 月 29 日，10:30-11:15

摘　要： In this talk, we establish dispersive estimates and study the L^p boundedness of wave operators for the Laplace operator perturbed by finite rank potentials. Dispersive estimates are obtained in all dimensions. For the wave operators, we show that in dimensions three and higher, they are bounded on every L^p space, including the endpoint cases p = 1 and p = \infty, which were previously untreated. In dimensions one and two, L^p boundedness is proved for the first time. Moreover, we uncover a sharp dichotomy at p = 1: if all perturbation functions have zero integral, the wave operators are bounded for all 1 \le p \le \infty; otherwise, they remain bounded for 1 < p < \infty and satisfy weak type (1,1) estimates, but fail to be bounded on L^1.

报 告 信 息

题　目：Maximal growth of the Stein-Wainger oscillatory integral

报告人：张城，清华大学

时　间：3 月 29 日，11:15-12:00

摘　要：We establish a precise hierarchy for the maximal growth of the Stein-Wainger oscillatory integral as the regularity of the phase varies over Denjoy-Carleman classes, such as the Gevrey classes and their generalizations.In particular, we resolve a problem posed by Wang--Zhang（Adv. Math. 2021）, motivated by eigenfunction restriction estimates on curves, and also provide a new proof of a theorem of Nagel--Wainger(TAMS1976) on the Hilbert transform along curves.