

2019 年东南大学青年几何分析会议

日程安排

5 月 24 日-5 月 27 日，南京，东南大学四牌楼校区

东南大学丘成桐中心主办

东南大学数学学院协办

1. 会议日程安排

5 月 24 日下午(Afternoon, 24 May)		
入住榴园宾馆 (Check-in, LiuYuan Hotel)		
5 月 25 日 (逸夫建筑馆 1502)		
Room 1502, Yifu Building, 25 May		
时间 (Time)	报告人 (Speaker)	主持人 (Chair)
8: 30-8: 40 8:30am-8:40am	中心领导致辞 Opening	刘继军 Jijun Liu
8: 40-9: 20 8:40am-9:20am	王兵 Bing Wang	葛建全 Jianquan Ge
9: 20-9: 30 茶歇 (9:20am-9:30am, Break I)		
9: 30-10: 10	吴云辉	

9:30am-10:10am	Yunhui Wu	
10: 10-10: 30 茶歇 (10:10am-10:30am, Break IIa)		
10: 30-11: 10 10:30am-11:10am	朱苗苗 Miaomiao Zhu	赵恩涛 Entao Zhao
11: 10-11: 20 茶歇 (11:10am-11:20am, Break I)		
11: 20-12: 00 11:20am-12:00am	吴鹏 Peng Wu	
12: 00-2: 00 午餐，榴园宾馆 (12:00am-2:00pm, Lunch III, LiuYuan Hotel)		
2: 00-2: 40 2:00pm-2:40pm	李平 Ping Li	来米加 Mijia Lai
2: 40-2: 50 茶歇 (2:40pm-2:50pm, Break I)		
2: 50-3: 30 2:50pm-3:30pm	王鹏 Peng Wang	
3: 30-3: 50 茶歇 (3:30pm-3:50pm, Break IIa)		
3: 50-4: 30 3:50pm-4:30pm	刘世平 Shiping Liu	程亮
4: 30-4: 40 茶歇		

(4:30pm-4:40pm, Break I)		Liang Cheng
4: 40-5: 20 4:40pm-5:20pm	陈学长 Xuezhang Chen	
6: 00-9: 00 晚宴 (榴园宾馆) (6:00pm-9:00pm, Banquet IIb, LiuYuan Hotel)		
5月26日 (逸夫建筑馆 1502) Room 1502, Yifu Building, 26 May		
时间 (Time)	报告人 (Speaker)	主持人 (Chair)
8: 40-9: 20 8:40am-9:20am	徐浩 Hao Xu	潮小李 Xiaoli Chao
9: 20-9: 30 茶歇 (9:20am-9:30am, Break I)		
9: 30-10: 10 9:30am-10:10am	丁琪 Qi Ding	
10: 10-10: 30 茶歇 (10:10am-10:30am, Break IIa)		
10: 30-11: 10 10:30am-11:10am	王芳 Fang Wang	顾娟如 Juanru Gu
11: 10-11: 20 茶歇 (11:10am-11:20am, Break I)		
11: 20-12: 00 11:20am-12:00am	姚成建 Chengjian Yao	

12: 00-2: 00 午餐 (榴园宾馆) (12:00am-2:00pm, Lunch III, LiuYuan Hotel)		
2: 00-2: 40 2:00pm-2:40pm	陈世炳 Shibing Chen	王作勤 Zuoqin Wang
2: 40-2: 50 茶歇 (2:40pm-2:50pm, Break I)		
2: 50-3: 30 2:50pm-3:30pm	马跃 Yue Ma	
3: 30-3: 50 茶歇 (3:30pm-3:50pm, Break IIa)		
3: 50-4: 30 3:50pm-4:30pm	石亚龙 Yalong Shi	赵亮 Liang Zhao
4: 30-6: 00 4:30pm-6:00pm	自由讨论 Discussion	
6:00-9:00 晚餐 (榴园宾馆) (6:00pm-9:00pm, Dinner IIb)		
<u>5月27日上午(Moring, 27 May)</u> 会议结束(Leave)		

2. 报告题目与摘要

报告人	<u>王兵, 中国科学技术大学</u>
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Speaker	<u>Bing Wang, USTC*</u>
题目 Title	Heat kernel on Ricci shrinkers
摘要 Abstract	<p>We systematically study the heat kernel of the Ricci flows induced by Ricci shrinkers. We develop several sharp estimates. Many classical results, including the optimal Logarithmic Sobolev constant estimate, the Sobolev constant estimate, the no-local-collapsing theorem, the pseudo-locality theorem and the strong maximum principle for curvature tensors, are essentially improved for Ricci flows induced by Ricci shrinkers. Our results provide many necessary tools to analyze short time singularities of the Ricci flows of general dimension. This is joint work with Yu Li.</p>

报告人 Speaker	<u>吴云辉, 清华大学</u> <u>Yunhui Wu, Tsinghua University</u>
题目 Title	The small eigenvalues of closed Riemann surfaces for large genus
	In this talk we study the asymptotic behavior of small eigenvalues of Riemann surfaces for large genus. We

<p>摘要</p> <p>Abstract</p>	<p>show that for any positive integer k, as the genus g goes to infinity, the smallest k-th eigenvalue of Riemann surfaces in any thick part of moduli space of Riemann surfaces of genus g is uniformly comparable to $1/g^2$ in g.</p> <p>In the proof of the upper bound, for any constant $\varepsilon > 0$, we will construct a closed Riemann surfaces of genus g in any ε-thick part of moduli space such that it admits a pants decomposition whose boundary curves all have length equal to ε, and the number of separating systole curves in this surface is uniformly comparable to g. This is a joint work with Yuhao Xue.</p>
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<p>报告人</p> <p>Speaker</p>	<p><u>朱苗苗, 上海交通大学</u></p> <p><u>Miaomiao Zhu, Shanghai Jiaotong</u></p> <p><u>University</u></p>
<p>题目</p> <p>Title</p>	<p>TBA</p>
<p>摘要</p> <p>Abstract</p>	<p>TBA</p>

报告人 Speaker	<u>吴鹏, 复旦大学</u> <u>Peng Wu, Fudan University</u>
题目 Title	Einstein four-manifolds of positive determinant self-dual Weyl curvature
摘要 Abstract	The question that when a four-manifold with a complex structure admits a compatible Einstein metric of positive scalar curvature has been answered by Tian, LeBrun, respectively. Tian classified Kahler-Einstein four-manifolds with positive scalar curvature, LeBrun classified Hermitian Einstein four-manifolds with positive scalar curvature. In this talk we consider the inverse problem, that is, when a four-manifold with an Einstein metric of positive scalar curvature admits a compatible complex structure. We will show that if the determinant of the self-dual Weyl curvature is positive then the manifold admits a compatible complex structure.

报告人 Speaker	<u>李平, 同济大学</u> <u>Ping Li, Tongji University</u>
题目 Title	The rigidity on the second fundamental form of projective manifolds

<p>摘要 Abstract</p>	<p>We review some known gap phenomena related to the second fundamental form of the minimal submanifolds and complex submanifolds in the unit spheres and complex projective spaces respectively, and then present our recent progress on them.</p>
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<p>报告人 Speaker</p>	<p><u>王鹏, 福建师范大学</u> <u>Peng Wang, Fujian Normal University</u></p>
<p>题目 Title</p>	<p>On Moebius homogeneous Willmore surfaces in S^n</p>
<p>摘要 Abstract</p>	<p>In this talk we will first show that for every Moebius homogeneous Willmore 2-sphere in S^n is conformally congruent to a (isometric)homogeneous minimal 2-sphere in S^n. Then we will show some examples of homogeneous Willmore/minimal tori in S^n and discuss the Willmore energy of them. Some of the above results are based on a joint work with X. Ma and F. Pedit.</p>

<p>报告人 Speaker</p>	<p><u>刘世平, 中国科学技术大学</u> <u>Shiping Liu, USTC</u></p>
<p>题目</p>	<p>Discrete Ricci curvature of Yann Ollivier</p>

Title	
摘要 Abstract	<p>We discuss some recent results on the coarse Ricci curvature on graphs due to Yann Ollivier, which was modified later by Lin, Lu and Yau. We will talk about related measure concentration phenomena, gradient estimate of solutions of heat equations and diameter estimates.</p>

报告人 Speaker	<u>陈学长，南京大学</u> <u>Xuezhang Chen, Nanjing University</u>
题目 Title	A conjecture on an isoperimetric inequality over scalar flat conformal classes after Jin-Xiong
摘要 Abstract	<p>Based on some refined estimates and new test functions, we prove the mentioned conjecture under two cases: (a) The boundary has a non-umbilic point and dimensions $n \geq 9$ (cf. $n \geq 12$ in Jin-Xiong's); (b) the boundary is umbilic, the Weyl tensor is nonzero at a boundary point and $n \geq 7$ (cf. $n \geq 10$ in Jin-Xiong's). This is joint with Yuping Ruan.</p>

报告人 Speaker	<u>徐浩，浙江大学</u> <u>Hao Xu, Zhejiang University</u>
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题目 Title	Asymptotic expansion of Bergman kernel and deformation quantization
摘要 Abstract	<p>The coefficients of asymptotic expansion of Bergman kernel on Kahler manifolds give important geometric information. We show that they could be expressed in a compact form as a summation over strongly connected graphs. The relationship to deformation quantization and heat kernel will be discussed.</p>

报告人 Speaker	<p style="text-align: center;"><u>丁琪, 复旦大学</u> <u>Qi Ding, Fudan University</u></p>
题目 Title	Area-minimizing hypersurfaces in manifolds
摘要 Abstract	<p>In this talk, we will discuss the existence and non-existence of area-minimizing hypersurfaces in manifolds of nonnegative curvature, and introduce the Sobolev and Neumann-Poincare inequalities on area-minimizing hypersurfaces in manifolds with Ricci curvature bounded below. As special cases, minimal graphs in product manifolds, we will further discuss Liouville type theorems and gradient estimates for the solutions of the minimal</p>

	hypersurface equation on complete manifolds of nonnegative Ricci curvature.
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报告人 Speaker	<u>王芳, 上海交通大学</u> <u>Fang Wang, Shanghai Jiaotong University</u>
题目 Title	Eigenvalue comparison theorems for Poincare-Einstein manifolds
摘要 Abstract	In this talk, I will give several eigenvalue comparison theorems associated to Poincare-Einstein manifolds, as well as the characterization of equalities, which leads to some rigidity theorems.

报告人 Speaker	<u>姚成建, 上海科技大学</u> <u>Chengjian Yao, Shanghai Tech University</u>
题目 Title	On the condition to extend hypersymplectic flow
	A symplectic Calabi-Yau 4-manifold is a symplectic 4-manifold with vanishing first Chern class. It is an open problem in symplectic topology that whether a simply-connected compact symplectic Calabi-Yau must be symplectomorphic to K3 surface with one of its Kahler structures. For the important

<p>摘要 Abstract</p>	<p>hypersymplectic submanifold case, which admits a two-sphere worth of symplectic structures, a geometric flow called hypersymplectic flow is introduced to deform the hypersymplectic structure to hyperkahler structure. Concerning the long time existence of this flow, we proposed one relatively weak condition about the torsion guaranteeing the extension of the flow at a finite time. We also find one pinching condition about the initial hypersymplectic structure under which the long time existence of the flow is automatic.</p>
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<p>报告人 Speaker</p>	<p><u>陈世炳，中国科学技术大学</u> <u>Shibing Chen, USTC</u></p>
<p>题目 Title</p>	<p>Convex solution to the power of mean curvature flow</p>
<p>摘要 Abstract</p>	<p>I will discuss some results about the convex solution to the power of mean curvature flow. The proof of these results is based on Prof Xu-Jia Wang's method for studying the anicient solution of mean curvature flow, in particular it involves delicate convex analysis.</p>

报告人 Speaker	<u>马跃, 西安交通大学</u> <u>Yue Ma, Xi'an Jiaotong University</u>
题目 Title	Euclidean-hyperboloidal foliation 方法及其应用 The Euclidean-hyperboloidal foliation method and its application
摘要 Abstract	在本报告中报告人将介绍 Euclidean-hyperboloidal foliation 方法. 这是 hyperboloidal foliation 方法的一个推广, 它的目的是克服后者中的一个主要不足: 即只能接受渐进平坦 Cauchy 面上的紧支集初值. 随后我们将介绍该方法在 Einstein-positive mass Scalar 模型系统的应用.

报告人 Speaker	<u>石亚龙, 南京大学</u> <u>Yalong Shi, Nanjing University</u>
题目 Title	J-flow and cscK metrics on minimal models
摘要 Abstract	We use the recent theorem of Chen-Cheng to prove the existence of a family of constant scalar curvature Kahler metrics on any Kahler manifold with semi-ample canonical bundle. A conjecture about the limiting behavior of these metrics will also be

	discussed. This is joint work with Wangjian Jian and Jian Song.
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***: USTC = University of Science and Technology of China**