

杭州几何分析与几何拓扑学术研讨会 暨2021年度浙大数学中心学术年会

时 间: 2022年1月13日—14日
地 点: 数学中心407
腾讯会议: 691-1551-4666

1月13日 上午

时 间: 09:00—09:50

报告人: 朱盛茂 (浙江外国语学院)

题 目: New results for colored HOMFLYPT invariants

摘 要: Colored HOMFLYPT invariant is an important link invariant in quantum topology. In this talk, I will introduce the definition of colored HOMFLYPT invariant and present some related new results.

时 间: 09:50—10:40

报告人: 许智源 (杭州师范大学)

题 目: On the generalized Chern conjecture for CMC hypersurfaces in a sphere

摘 要: In this talk, we will first introduce the background and important progress on the Chern conjecture for minimal hypersurfaces in a sphere. Then we focus on the generalized Chern conjecture and discuss some pinching theorems for scalar curvature of CMC hypersurfaces in a sphere. This talk is based on the joint work with Prof. H. W. Xu and Dr. L. Lei.

时 间: 11:00—11:50

报告人: 智艳辉 (浙江大学)

题 目: Natural statistical structures on tangent bundles

摘 要: A statistical manifold is a Riemannian manifold (M, g) equipped with a totally symmetric $(0, 3)$ -tensor. We study natural statistical structures on the tangent bundle of a statistical manifold. The first application is a new proof of Alekseevsky-Cortés' geometric construction of r -maps that associates a special real manifold to a special Kähler manifold. The second application is to show that the tangent bundle of a Frobenius statistical manifold has a natural Frobenius statistical structure.

1月13日 下午

时 间: 14:00—14:50

报告人: 雷力 (重庆师范大学)

题 目: Ancient solution of mean curvature flow in space forms

摘要: In this talk, we will discuss rigidity problem of ancient solutions of the mean curvature flow with arbitrary codimension in space forms. A solution to the mean curvature flow is called ancient if it is defined on a time interval $(-\infty, T)$. We first prove that under a pointwise curvature pinching condition the ancient solution in a sphere is either a shrinking spherical cap or a totally geodesic sphere. Then we show that under certain pointwise curvature pinching condition the ancient solution in a hyperbolic space is a family of shrinking spheres. We also obtain a rigidity theorem for ancient solutions in a nonnegatively curved space form under an integral curvature pinching condition. This is joint work with Prof. H. W. Xu and Prof. E. T. Zhao.

时间: 14:50–15:40

报告人: 纪正超 (浙江大学)

题目: Some inequalities for eigenvalues of several geometric operators

摘要: In this talk, we will first review the history of the famous Pólya Conjecture, then we will state our improvements for the related problems. Specifically, we will introduce the progress of the Dirichlet eigenvalue problem, the clamped plate problem and the fractional Dirichlet problem. Secondly, we will show some eigenvalue inequalities for several geometric operators via the gradient estimates and the Laplacian comparison. Finally, we will give some open problems relating to the generalized Pólya Conjecture.

时间: 16:00–16:50

报告人: 胡孟戈 (浙江大学)

题目: Equivariant Dolbeault cohomology, localization theorem and related topological results

摘要: In this presentation, we will introduce the equivariant Dolbeault cohomology for compact complex manifold. On the one hand, under the Kahler condition, it's isomorphic to equivariant De Rham cohomology by equivariant Hodge decomposition. On the other hand, via the evaluation map, it has the image holomorphic equivariant cohomology which is introduced by Professor Kefeng Liu, and we will use the technics of equivariant cohomology to study Liu's cohomology and prove some related topological results.

1月14日 上午

时间: 09:00–09:50

报告人: 胡正宇 (重庆理工大学)

题目: 广义极小模型理论

摘要: 报告将会介绍经典的极小模型理论的基础知识, 以及广义极小模型的发展与它的意义。我还会介绍近期我在该理论中所做的一些工作。

时间: 09:50–10:40

报告人: 夏天澄 (浙江大学)

题目: Extension of twisted pluricanonical sections: review of Siu's paper in 2002 and Păun's paper in 2007

摘要: In this talk, we review the results of Siu and Păun on the invariance of plurigenera, where Păun simplified the proof of Siu. After comparing the methods of two papers, the proof of the main theorem is reviewed along the idea of Păun's.

时 间: 11:00—11:50

报告人: 李世阳 (浙江大学)

题 目: Mean curvature flow of arbitrary codimension in spheres

摘 要: We investigate Liu-Xu-Ye-Zhao's conjecture and improve the constant in Lei-Xu's sharp convergence theorem for the mean curvature flow of arbitrary codimension in spheres.