会议安排和报告信息

注册12月4日或者5日在会场。

会场：东区五教5301, （周一更改为）5206

会议安排：

周六（12-05）：东区五教5301

9:00-10:30： 宋雷 Quot Schemes （I-II）

10:45-11:45：余讯 Automorphism groups of Calabi-Yau manifolds (I)

14:00-15:30：余讯 Automorphism groups of Calabi-Yau manifolds (II,III)

16:00-17:00：曹阳 Arithemetic purity of local-global principle

周日（12-06）：东区五教5301

9:00-10:30：沈洋 Canonical sections of Hodge bundles (I, II)

10:45-11:45：宋雷 Quot Schemes （III）

14:00-15:30: 江智 Syzygies of abelian varieties

16:00-17:30：沈洋 Canonical sections of Hodge bundles (III, IV)

周一（12-07）：东区五教5206

9:00-10:00： 周明铄 Frobenius splitting and moduli of vector bundles

10:15-11:15：申屠钧超

报告信息：

余讯，天津大学

Title：Automorphism groups of Calabi-Yau manifolds

Abstract: I will start with some basic results for automorphism groups of Calabi-Yau manifolds of arbitrary dimensions. Then I will talk about automorphism groups of K3 surfaces (i.e., two-dimensional Calabi-Yau manifolds). In particular, I will recall global Torelli theorem and surjectivity of the period map for K3 surfaces and explain how to reduce problems about automorphism groups of K3 surfaces to lattice theoretical problems. Finally, I will discuss automorphism groups of Calabi-Yau manifolds of higher dimensions.

宋雷，中山大学

Title: Quot schemes: Construction and applications

Abstract: Quot schemes is an important tool in algebraic geometry. In the first part of talks, I will talk about Grothendieck's construction of quot schemes, following N. Nitsures's notes arXiv:math/0504590v1. In the second part, as an application, I will discuss a theorem of Mukai-Sakai, which gives a lower bound on the slope of maximal subbundles of a vector bundle over a smooth projective curve.

沈洋

题目：Canonical sections of Hodge bundles

摘要: In this talk, we introduce our recent work on the canonical sections of Hodge bundles. First, we review the work of the sections of Hodge bundles for Calabi-Yau manifolds, which uses the method of deformation theory. Then we generalize it to the Calabi-Yau type case, using the method of Hodge theory. Finally, we introduce the applications to characterizing the moduli spaces of certain polarized manifolds as ball quotients.

江智，复旦大学

Syzygies of abelian varieties

Syzygies of powers of ample line bundles are relatively well-understood due to the work of Lazarsfeld, Kempf, Pareschi. I will report some recent progress of syzygies of primitive ample line bundles and focus on the relations of syzygies with Fujita's conjecture and cohomological rank functions.

Osamu Fujino, Osaka University

Title: On mixed-$\omega$-sheaves

Abstract: It is well known that the Fujita--Zucker--Kawamata semipositivity theorem is a very important tool for the study of higher-dimensional complex algebraic varieties.Viehweg introduced the notion of weakly positive sheaves in order to study the Iitaka conjecture based on the Fujita--Zucker--Kawamata semipositivity theorem. On the other hand, Nakayama introduced the notion of $\omega$-sheaves to treat subadditivities of numerical Kodaira dimensions. Nakayama's theory gives a powerful framework for the study of pluricanonical bundles and is based on the theory of pure Hodge structures. In this series of lectures, I would like to explain the theory ofmixed-$\omega$-sheaves, which is a kind of generalizations of Nakayama's theory from the mixed Hodge theoretic viewpoint.

Meeting id: 63193349493

time: 2020-12-02 09:40 (Chinese Zone) = 10:40 (Japanese Zone)

link:https://zoom.com.cn/j/63193349493

Password: 341282 | 主持密码:620693

Meeting id: 64635264757

time: 2020-12-09 09:40 (Chinese Zone) = 10:40 (Japanese Zone)

link:https://zoom.com.cn/j/64635264757

Password: 178142 | 主持密码: 180629

Meeting id: 68285908628

time: 2020-12-16 09:40 (Chinese Zone) = 10:40 (Japanese Zone)

link: https://zoom.com.cn/j/68285908628

Password: 900562 | 主持密码:180629

Lei Wu

Title: V-filtrations, nearby and vanishing cycles, Hodge modules and vanishing theorems

Abstratc: I will give a brief introduction on the theory of D-modules and Hodge modules. More precisely, it will cover

1. General properties for D-modules and (regular) holonomic D-modules on curves.

2. Relative D-modules and Kashiwara-Malgrange filtrations on holonomic D-modules.

3. The construction of nearby and vanishing cycles for both perverse sheaves and D-modules and their comparison.

4. Bernstein-Sato polynomials.

5. Inductive definition/construction of pure Hodge modules.

6. Applications of pure Hodge modules on vanishing theorems in algebraic geometry.

会议时间：2020/12/13（周日） 09:30-12:00

会议 ID：499 9682 0391

会议密码：2020

重复周期：每周(周日)

点击链接入会，或添加至会议列表：

https://meeting.tencent.com/s/Ihfzjx6wsvyl

会议 ID：499 9682 0391

会议密码：2020