2026 四川大学代数与数论论坛

日程安排

2026 年 6 月 12 日 – 2026 年 6 月 14 日

日程安排 (以下均为北京时间 GMT+8)

未注明的报告均为 Zoom 线上报告。线下会场及线上会议号在相应时段标题中注明。

6 月 12 日

上午

Zoom 会议号: 725 329 7593　密码: mcm1234

08:30–09:00	**开幕式**

时间	主持人	报告人	报告题目
09:00–09:50	张寿武	唐云清	The Arithmetic of Power Series and Applications to Irrationality
10:10–11:00	张伟	张明嘉	Intersection Cohomology of Shimura Varieties

晚上

Zoom 会议号: 725 329 7593　密码: mcm1234

时间	主持人	报告人	报告题目
21:00–21:50	袁新意	余庆超	Cohen-Macaulayness of Local Model and Shellability of the Admissible Set

6 月 13 日

上午

数学学院西 303 报告厅 / Zoom 会议号: 725 329 7593　密码: mcm1234

时间	主持人	报告人	报告题目
09:00–09:50	张寿武	刘一峰 （线上/线下）	Special Motivic Classes and L-derivatives of Cohomological Automorphic Representations
10:10–11:00	袁新意	杨向谦	Local Whittaker Coefficients of Cohomology of Shimura Varieties

下午

数学学院西 303 报告厅

时间	主持人	报告人	报告题目
14:10–15:00	田野	王泽宇 （线下）	Diagonal Cycles on Shtukas and Adjoint L-functions
15:10–16:00	田野	宋寅翀 （线下）	Adelic Line Bundle and Beilinson–Bloch Height
16:20–17:20	连增	张寿武 （线下公众报告）	Gross—Zagier formula: its past and future

晚上

Zoom 会议号: 725 329 7593　密码: mcm1234

时间	主持人	报告人	报告题目
21:00–21:50	许晨阳	李纯毅	Bridgeland Stability Conditions on Projective Varieties

6 月 14 日

上午

Zoom 会议号: 725 329 7593　密码: mcm1234

时间	主持人	报告人	报告题目
08:00–08:50	朱歆文	彭湜	Seesaw Identities and the Beilinson–Bloch–Kato Conjecture for Polarized Motives
09:00–09:50	朱歆文	杨梓诠	Special Loci on M_g in Positive Characteristic
10:10–11:00	张伟	许大昕	Frobenius Structure on Irregular Rigid Connections and Arithmetic Applications

2026 四川大学代数与数论论坛

报告信息

2026 年 6 月 12 日 – 2026 年 6 月 14 日

报告题目与摘要 (Titles & Abstracts)

李纯毅 / 华威大学

Title:

Bridgeland Stability Conditions on Projective Varieties

Abstract:

I will give an introductory talk on the notion of Bridgeland stability conditions, which can be viewed as a generalization of slope stability for vector bundles on curves to higher-dimensional varieties in a more unified and robust way, combining the advantages of both slope stability and Gieseker stability. Time permitting, I will also discuss some recent progress on Bridgeland stability conditions for projective varieties.

刘一峰 / 浙江大学

Title:

Special Motivic Classes and L-derivatives of Cohomological Automorphic Representations

Abstract:

Forty years ago, Gross and Zagier published a landmark article in which they obtained a formula that computes the central derivative of L-function of a modular form of weight 2 in terms of its Heegner point, known as the Gross–Zagier formula. Since then, the formula has been vastly generalized. However, except for the work of S. Zhang on elliptic modular forms of even weights under the Heegner condition, all restrict to minimal weights. In this talk, we will explain our recent discovery on finding the arithmetic meaning of L-derivatives of cohomological automorphic representations of general balanced weights.

彭湜 / 麻省理工学院

Title:

Seesaw Identities and the Beilinson–Bloch–Kato Conjecture for Polarized Motives

Abstract:

We study the Beilinson–Bloch–Kato conjecture in analytic rank zero for motives attached to conjugate self-dual automorphic representations. We prove that the nonvanishing of the central critical value implies the vanishing of the corresponding Bloch–Kato Selmer group for relevant conjugate self-dual automorphic representations of $\mathrm{GL}(2r)$; in particular, this yields vanishing results for odd symmetric powers of modular elliptic curves.

宋寅翀 / 北京大学

Title:

Adelic line bundle and Beillinson–Bloch height

Abstract:

In this talk we first give an introduction to height theories and Arakelov geometry, then we focus on Yuan–Zhang's adelic line bundles and Beilinson–Bloch heights. In the end we will discuss my recent work about the adelization conjecture Beilinson–Bloch heights.

唐云清 / 加州大学伯克利分校

Title:

The Arithmetic of Power Series and Applications to Irrationality

Abstract:

We will first briefly discuss our approach to prove irrationality of certain periods such as certain product of two log values. Our method uses rational approximations from the literature and we develop a new framework to make use of these approximations. The key ingredient is an arithmetic holonomy theorem built upon earlier work by André, Bost, Charles (and others) on arithmetic algebraization theorems via Arakelov theory; a version of our arithmetic holonomy theorem was also used in our proof of the unbounded denominators conjecture. We will then discuss our recent result on irrationality measures and a proof of transcendence of π in our framework. This is joint work with Frank Calegari and Vesselin Dimitrov.

王泽宇 / 麻省理工学院

Title:

Diagonal Cycles on Shtukas and Adjoint L-functions

Abstract:

The Gross–Zagier formula relates the Néron–Tate heights of Heegner points on elliptic curves to the central derivative of the associated L-functions. A function field analogue was established by Yun–Zhang, relating the self-intersection numbers of special cycles on PGL_2-Shtukas to higher central derivatives of standard base change L-functions. In this talk, I will present a higher-dimensional analogue of this formula over function fields, relating the self-intersection numbers of diagonal cycles on G-Shtukas to certain higher non-central derivatives of adjoint L-functions. Compared with previous works, we allow arbitrary semisimple groups and arbitrary modification types. This work is motivated by ongoing work of Chen–Lu–Zhang.

许大昕 / 中科院数学院

Title:

Frobenius Structure on Irregular Rigid Connections and Arithmetic Applications

Abstract:

In this talk, we first review the Frobenius structure on the Bessel connection following Dwork, Sperber. Then we explain a generalization of this story for theta connections for reductive groups. Theta connections are certain rigid connections over $\mathbb{P}^1$ minus two points, related to epipelagic representations under the geometric Langlands correspondence. As an application, we verify a conjecture of Reeder–Yu on the epipelagic Langlands parameters under some technical conditions and the conjecture of Heinloth-Ngô-Yun on the functoriality/rigidity of Kloosterman sheaves for reductive groups. The talk is based on my joint works with Xinwen Zhu and with Lingfei Yi.

杨向谦 / 北京大学

Title:

Local Whittaker Coefficients of Cohomology of Shimura Varieties

Abstract:

We discuss torsion-vanishing results for the local Whittaker coefficients of the depth-0 part of the cohomology of Shimura varieties of abelian type. A key ingredient is the t-exactness of the tame coarse categorical local Langlands functor. This is a joint work in progress with Ian Gleason and Xinwen Zhu.

杨梓诠 / 香港中文大学

Title:

Special Loci on M_g in Positive Characteristic

Abstract:

We introduce new techniques to study special loci in moduli spaces and give several applications, focusing in particular on the moduli space M_g of curves. These applications include Zariski density results for split Jacobians, non-density results for supersingular loci, and lifting results for algebraic cycles, all under appropriate numerical conditions. Our methods generalize to more-or-less arbitrary moduli spaces mapping to Hodge-type Shimura varieties (and even some settings beyond the Shimura case), and relate to questions raised by Oort and de Jong. This is joint work with David Urbanik.

余庆超 / 深圳大学

Title:

Cohen-Macaulayness of Local Model and Shellability of the Admissible Set

Abstract:

The special fibre of a local model with parahoric level K is a union of affine Schubert varieties in a partial affine flag variety, indexed by the μ-admissible set $Adm(\mu)$. In this talk, we shall give a brief introduction to the theory of the admissible set and prove the dual EL-shellability of the μ-admissible set. As a consequence, we prove a conjecture of Görtz and prove that the local model is Cohen-Macaulay. This talk is based on my recent joint work with Xuhua He and Felix Schremmer.

张明嘉 / 普林斯顿高等研究院

Title:

Intersection Cohomology of Shimura Varieties

Abstract:

The L^2 cohomology of locally symmetric spaces are closely related to automorphic forms and hence plays an important role in the Langlands program. In the case of Shimura varieties, it is related to the algebraic intersection cohomology, due to the work of Looiyenga, Saper–Stern. Arthur and Kottwitz made precise conjectures about how such cohomology groups can be described in terms of automorphic representations and their associated Galois representations/Arthur–Langlands parameters. I will discuss how one can study the intersection cohomology of Shimura varieties and their relation to Galois representations in the framework of categorical local Langlands correspondence, by constructing intersection complexes on the Igusa stack. This is joint work with Ana Caraiani and Linus Hamann.

张寿武 / **普林斯顿大学**

Title:

Gross–Zagier formula: its past and future

Abstract:

This is the 40th year after the publication of the Gross–Zagier formula, which connects the arithmetic of elliptic curves and special values of L-series. I will provide a brief history of the Gross–Zagier formula, its consequences, and recent developments.