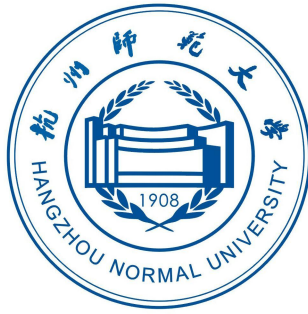


共形代数及相关问题研讨会



会议时间： 5 月 21 日

线上会议室 腾讯会议 ID: 493 110 735

组织委员会：何济位 洪燕勇 李康桥 尤翰洋 俞晓岚 张棉棉 郑艺伟

联系人： 洪燕勇

会议日程

5月21日周六 腾讯会议 会议 ID: 493 110 735

日期	序号	时间	报告人	主持人	报告题目
5月21日 周六	1	08:25--08:30		何济位	开幕式
	2	08:30--09:05	吴志祥 (浙江大学)	何济位	结合伪代数的Morita定理
	3	09:05--09:40	陈海波 (上海立信会计金融学院)		Irreducible non-weight modules over the N=1 Ramond algebra
	4	09:40--10:15	何校 (北京化工大学)		Classification of rank three Lie conformal algebras
	5	10:15--10:25	茶歇		
	6	10:25--11:00	岳晓青 (同济大学)	尤翰洋	Two Z-graded infinite Lie conformal algebras related to the Virasoro conformal algebra
	7	11:00--11:35	吴鹤楠 (山西大学)		Cohomology of some Lie conformal algebras
	8	11:35--12:10	苏育才 (同济大学)		李共形代数与Schur-Weyl对偶
	9	12:10--14:00	午餐		
	10	14:00--14:35	韩建智 (同济大学)	郑艺伟	Cocommutative connected vertex (operator) bialgebras
	11	14:35--15:10	许懋森 (绍兴文理学院)		A class of uniformly bounded simple Z-graded Lie conformal algebras
	12	15:10--15:45	孙钦秀 (浙江科技学院)		Cohomologies of differential 3-Lie algebras and applications
	13	15:45--15:55	茶歇		
	14	15:55--16:30	袁腊梅 (哈尔滨工业大学)	洪燕勇	O-operators and Nijenhuis operators on associative conformal algebras
	15	16:30--17:05	骆立鹏 (同济大学)		A class of graded conformal algebras which is induced by Heisenberg-Virasoro conformal algebra
	16	17:05--17:40	夏春光 (中国矿业大学)		Lie conformal algebras related to Galilean conformal algebras

报告题目和摘要

5月21日

结合伪代数的Morita定理

吴志祥(浙江大学)

在本报告中, 我简单地介绍一下Morita定理在伪代数中的推广.

Irreducible non-weight modules over the $N = 1$ Ramond algebra

陈海波(上海立信金融会计学院)

Based on the classification of irreducible modules over the Weyl superalgebra, we construct a class of non-weight modules over the $N = 1$ Ramond algebra. The sufficient and necessary conditions for these modules to be irreducible are determined. In addition, lots of interesting examples for such irreducible modules with different features are given, which include super intermediate series modules, $U(\hbar)$ -free modules of rank two, super degree two modules and so on.

Classification of rank three Lie conformal algebras

何校(北京化工大学)

Based on our previous work on rank two Lie conformal algebras and Leibniz conformal algebras, we give a classification of rank three Lie conformal algebras up to isomorphism. This is a joint work with Z. X. Wu and A. Chakhar.

Two \mathbb{Z} -graded infinite Lie conformal algebras related to the Virasoro conformal algebra

岳晓青(同济大学)

We study two \mathbb{Z} -graded infinite Lie conformal algebras, which are closely related to a class of Lie algebra of the generalized Block type, and which both have a quotient algebra isomorphic to the Virasoro conformal algebra. We concretely determine their isomorphic mappings, conformal derivations, extensions by a one-dimensional center under some conditions, finite conformal modules and \mathbb{Z} -graded free intermediate series modules.

Cohomology of some Lie conformal algebras

吴鹤楠(山西大学)

Cohomology groups of the $W(2,2)$ conformal algebra, the Heisenberg-Virasoro conformal algebra and the Schrödinger-Virasoro conformal algebra are researched.

李共形代数与Schur-Weyl对偶

苏育才(同济大学)

在这个报告中,我们将首先回顾一下Schur-Weyl对偶的一些经典结论,然后再探讨一下是否可能将Schur-Weyl对偶用到李共形代数的表示中.

Cocommutative connected vertex (operator) bialgebras

韩建智(同济大学)

In this talk, I am going to discuss the category \mathcal{B} of cocommutative connected vertex bialgebras. We first recall the equivalence between \mathcal{B} and the category of Lie conformal algebras. Then we classify certain simple objects in \mathcal{B} and characterize the subcategory of \mathcal{B} consisting of vertex operator bialgebras.

A class of uniformly bounded simple \mathbb{Z} -graded Lie conformal algebras

许懋森(绍兴文理学院)

We will review some classification results on uniformly bounded simple \mathbb{Z} -graded Lie algebra and simple Novikov algebra. Then we will give a classification of uniformly bounded with upper bound 1 simple \mathbb{Z} -graded Lie conformal algebra under some conditions.

Cohomologies of differential 3-Lie algebras and applications

孙钦秀(浙江科技学院)

In this talk, we introduce the representations and cohomologies of differential 3-Lie algebras with any weight. Abelian extensions and skeletal differential 3-Lie 2-algebras are characterized in terms of cohomology groups.

\mathcal{O} -operators and Nijenhuis operators on associative conformal algebras

袁腊梅(哈尔滨工业大学)

This talk is about \mathcal{O} -operators on associative conformal algebras with respect to their conformal bimodules. As natural generalizations of \mathcal{O} -operators and dendriform conformal algebras, we introduce the notions of twisted Rota-Baxter operators and conformal NS-algebras. We show that twisted Rota-Baxter operators give rise to conformal NS-algebras, the same as \mathcal{O} -operators induce dendriform conformal algebras. And we introduce a conformal analog

of associative Nijenhuis operators and enumerate main properties. By using derived bracket construction of Kosmann-Schwarzbach and a method of Uchino, we obtain a graded Lie algebra whose Maurer-Cartan elements are given by \mathcal{O} -operators. This allows us to construct cohomology of \mathcal{O} -operators. This cohomology can be seen as the Hochschild cohomology of an associative conformal algebra with coefficients in a suitable conformal bimodule.

A class of graded conformal algebras which is induced by Heisenberg-Virasoro conformal algebra

骆立鹏(同济大学)

In this talk, we obtain a class of \mathbb{Z} -graded conformal algebras which is induced by Heisenberg-Virasoro conformal algebra. We classify \mathbb{Z} -graded conformal algebras $\mathcal{A} = \bigoplus_{i=-1}^{\infty} \mathcal{A}_i$ satisfying the following conditions,

- (C1) \mathcal{A}_0 is the Heisenberg-Virasoro conformal algebra;
- (C2) Each \mathcal{A}_i for $i \in \mathbb{Z}_{\geq -1}^*$ is an \mathcal{A}_0 -module of rank one;
- (C3) $[X_{-1}, X_i] \neq 0$ for $i \geq 0$, where X_i is any one of $\mathcal{C}[\partial]$ -generators of \mathcal{A}_i for $i \in \mathbb{Z}_{\geq -1}$.

Moreover, we prove that all finite non-trivial irreducible modules of these algebras are free of rank one as a $\mathbb{C}[\partial]$ -module. The conformal derivations of this class of graded Lie conformal algebras are also determined. All the results of this talk are completed together with Yucai Su and Xiaoqing Yue.

Lie conformal algebras related to Galilean conformal algebras

夏春光(中国矿业大学)

In this talk, we will give some structure and representation results, including conformal derivations, free intermediate series module, finite irreducible conformal modules and their extension problem, on Lie conformal algebras related to Galilean conformal algebras.