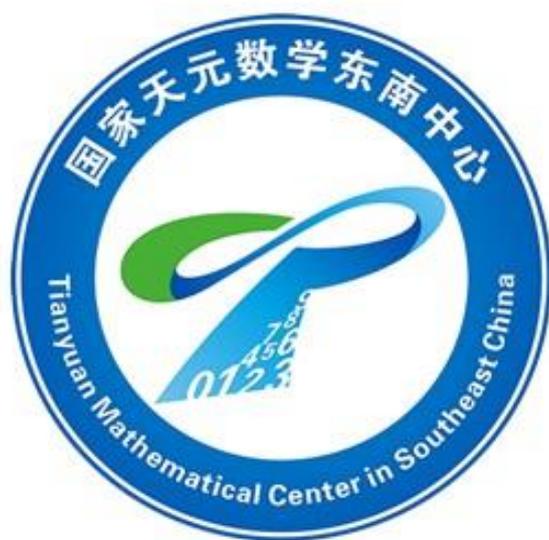




会议手册



加权射影曲线的奇点 理论与量子群 (III)



2022年6月25日



国家天元数学东南中心

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学术报告地点（线上）：

腾讯会议 APP 会议 ID： 933-4914-6053（无密码）

会议链接：<https://meeting.tencent.com/dm/hIvy7lV29jVU>

一、日程表

日期	时间	事项	主持人
6 月 25 日	09:00-09:50	A local survey on cluster algebras focused in the past decade (adjusted) 李方（浙江大学）	林亚南
	10:00-10:50	The extensions of t-structures, after Bernhard Keller 陈小伍（中国科学技术大学）	
	11:00-11:50	Endomorphism algebras of rigid objects in the cluster categories from marked surfaces 周宇（清华大学）	
	12:00	休息	
	14:30-15:20	The liftability question for stable equivalences between representation-finite self-injective algebras 刘玉明（北京师范大学）	陈健敏
	15:30-16:20	Denominators of cluster monomials for some surface cluster algebras 耿圣飞（四川大学）	
	16:30-17:20	Deformations and homotopy theory of operated algebras 周国栋（华东师范大学）	

二、学术报告题目与摘要

A local survey on cluster algebras focused in the past decade

李方（浙江大学）

过去十年，丛代数理论获得很大的发展，也更深化了丛代数与数学其他理论的联系。这十年，也是我们在丛代数研究取得一系列重要进展的十年。本报告，就是汇报一下我们在这段时间中取得的主要成果及与此相关的进展。

The extensions of t-structures, after Bernhard Keller

陈小伍（中国科学技术大学）

In the seminal paper on triangulated orbit categories, Bernhard Keller uses a result on extending bounded t-structures to unbounded ones. We will review Keller's result and reformulate it. This is joint with Zengqiang Lin and Yu Zhou.

Endomorphism algebras of rigid objects in the cluster categories from marked surfaces

周宇（清华大学）

Let S be a compact oriented surface with non-empty boundary and with marked points and $C(S)$ the associated cluster category. For any rigid object R in $C(S)$, we give a classification of (certain) indecomposable modules of $\text{End}(R)$ via curves on S and a description of homomorphisms via intersections. As an application, the tau-tilting theory of $\text{End}(R)$ is investigated. This is based on ongoing joint work with Ping He and Bin Zhu.

The liftability question for stable equivalences between representation-finite self-injective algebras

刘玉明（北京师范大学）

The derived and stable classifications of representation-finite self-injective algebras

over an algebraically closed field were given by H. Asashiba in 1999. An interesting question (the liftability question) arising from the above classifications is the following:

“Does every stable equivalence F between two representation-finite self-injective algebras lift to a standard derived equivalence? In particular, is F a stable equivalence of Morita type?”

In 2003, Asashiba answered positively the above question for most standard representation-finite self-injective algebras, and the other few cases in standard case were solved by Dugas using mutation theory in 2014.

Recently, we show that the same holds for every stable equivalence between nonstandard representation-finite self-injective algebras. Our method can also be applied to fill a serious gap in the original proof in standard case. This gives a complete solution of the above liftability question. This is a joint work with Nengqun Li.

Denominators of cluster monomials for some surface cluster algebras

耿圣飞（四川大学）

Fomin-Zelevinsky has conjectured that for a cluster algebra with a given initial seed, different cluster monomials have different denominators. In this paper, we show that for some surface cluster algebra with an admissible initial seed, different cluster monomials have different denominators.

In particular, we get that, for cluster algebras of type A, B, C, D , \widetilde{A} and \widetilde{D} , different cluster monomials have different denominators for any given initial seed. This talk is based on joint work with Changjian Fu.

Deformations and homotopy theory of operated algebras

周国栋（华东师范大学）

Minimal models of algebras originated from rational homotopy theory and play an important role in algebra. For algebraic structures, it is also important to seek minimal models, say, homotopy version of them. For instance, A -infinity algebras are the homotopy version of associative algebras, which can be obtained by Koszul duality. However, for operated algebras such Rota-Baxter algebras or differential algebras with nonzero weights, the minimal models remained open. Recently we found a method to produce minimal models for such operated algebras. This talk is a survey about recent work on this subject.

三、参会人员名单

序号	姓名	单位
1	肖杰	清华大学
2	邓邦明	清华大学
3	朱彬	清华大学
4	徐帆	清华大学
5	邱宇	清华大学
6	周宇	清华大学
7	彭联刚	四川大学
8	付昌建	四川大学
9	耿圣飞	四川大学
10	卢明	四川大学
11	叶郁	中国科学技术大学
12	陈小伍	中国科学技术大学
13	胡维	北京师范大学
14	刘玉明	北京师范大学
15	周国栋	华东师范大学
16	罗粟	华东师范大学
17	郭晋云	湖南师范大学
18	章璞	上海交通大学
19	高楠	上海大学
20	惠昌常	首都师范大学
21	陈红星	首都师范大学
22	何济位	杭州师范大学
23	刘品	西南交通大学
24	韩阳	中国科学院
25	樊赵兵	哈尔滨工程大学
26	李方	浙江大学
27	林亚南	厦门大学
28	陈健敏	厦门大学
29	阮诗佳	厦门大学
30	谭绍滨	厦门大学

31	王清	厦门大学
32	陈福林	厦门大学
33	余妮娜	厦门大学
34	余世霖	厦门大学

Tianyuan Mathematical Center in Southeast China

Tianyuan Mathematical Center in Southeast China (TMSE) is one of the five national mathematical centers approved and supported by the Tianyuan Mathematics Fund of the National Natural Science Foundation of China. The unveiling ceremony of the Center was held on January 8th 2019, which marks its official launch and operation.

Tianyuan Mathematics Fund was set up in 1990 with the aim of building China into a strong country in mathematics. It is in 2017 that the academic leadership committee of the Tianyuan Mathematics Fund of the National Natural Science Foundation of China launched the programme of establishing Tianyuan Mathematical Centers for balanced regional development of mathematics. The programme focuses on providing platforms for collaboration and research, and aims to enhance the research in relevant fields, foster research strengths and promote the progress of mathematical sciences. So far there are five Tianyuan Mathematical Centers which are respectively located in the southwest, northwest, northeast, southeast and central of China.

TMSE is based at Xiamen University and co-supported by several other universities in Fujian Province, Zhejiang Province, Guangdong Province, Jiangxi Province and Hainan Province. Centering upon the research on pure mathematics and its interdisciplinary application, TMSE will organize a variety of academic activities with a view to pooling high-caliber talents, promoting international cooperation, cultivating young mathematicians and ultimately advance the progress of mathematical sciences in the southeast part of China.

Under the guidance of the academic leadership committee of the Tianyuan Mathematics Fund of the National Natural Science Foundation of China and with the great support of Xiamen University and the joint efforts of its partner universities for TMSE, the center will make great strides in fostering first-class mathematical talents, producing world-class research and developing into a world-renowned platform for talent cultivation, joint research and academic cooperation.

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