

The 47th Symposium on Ring Theory and Representation Theory

Osaka City University, Osaka
September 13 – 15, 2014

Program

September 13 (Saturday)

- 9:00–9:30** Tomohiro Itagaki, Katsunori Sanada (Tokyo University of Science)
Notes on the Hochschild homology dimension and truncated cycles
- 9:40–10:10** Takuma Aihara (Nagoya University)
On silting-discrete triangulated categories
- 10:20–10:50** Osamu Iyama (Nagoya University)
Sifting reduction of triangulated categories
- 11:00–11:50** Henning Krause (Bielefeld University)
Deriving Auslander’s formula
- 13:40–14:10** Hiroki Ishioka (Tokyo University of Science)
Brauer indecomposability of Scott modules
- 14:20–14:50** Ken Nakashima, Hideto Asashiba (Shizuoka University)
Tilted algebras and configurations of self-injective algebras of Dynkin type
- 15:00–15:30** Izuru Mori (Shizuoka University)
3-dimensional Calabi-Yau algebras and deformation quantizations
- 15:50–16:20** Yu Liu (Nagoya University)
Half exact functors associated with general hearts on exact categories
- 16:30–17:00** Ryo Kanda (Nagoya University)
Classification of categorical subspaces of locally noetherian schemes
- 17:10–18:00** Alexander Zimmermann (Université de Picardie)
Degeneration for triangulated categories

September 14 (Sunday)

- 9:00–9:30** Hirotaka Koga (Tokyo Denki University), Mitsuo Hoshino (University of Tsukuba), Noritsugu Kameyama (Shinshu University)
Dualities in stable categories
- 9:40–10:10** Daiki Obara (Tokyo University of Science)
On the Hochschild cohomology ring modulo nilpotence of the quiver algebra defined by c cycles and quantum-like relation
- 10:20–10:50** Ayako Itaba (Tokyo University of Science), Takahiko Furuya (Meikai University), Katsunori Sanada (Tokyo University of Science)
On the decomposition of the Hochschild cohomology group of a monomial algebra satisfying a separability condition
- 11:00–11:50** Alexander Zimmermann (Université de Picardie)
Batalin-Vilkovisky structure on Hochschild cohomology of Frobenius algebras

- 13:40–14:10** Tokuji Araya (Okayama University of Science), Kei-ichiro Iima (Nara National College of Technology)
Gorensteinness on the punctured spectrum
- 14:20–14:50** Ryo Takahashi, Hiroki Matsui (Nagoya University)
Singularity categories of stable resolving subcategories
- 15:00–15:30** Ryoichi Kase (Nara Women’s University)
Taking tilting modules from the poset of support tilting modules
- 15:50–16:20** Takahide Adachi (Nagoya University)
 τ -rigid-finite algebras with radical square zero
- 16:30–17:10** Hiroyuki Minamoto (Osaka Prefecture University), Osamu Iyama (Nagoya University)
On a generalization of complexes and their derived categories
- 17:10–18:00** Henning Krause (Bielefeld University)
Highest weight and monoidal structure for strict polynomial functors
- 18:30–** Conference dinner

September 15 (Monday)

- 9:00–9:30** Yuta Kimura (Nagoya University)
Tilting objects in stable categories of Preprojective algebras
- 9:40–10:10** Yuya Mizuno (Nagoya University)
Tilting complexes over preprojective algebras of Dynkin type
(The title has been changed from “Path algebras, preprojective algebras and Coxeter groups”.)
- 10:20–10:50** Masahide Konishi (Nagoya University)
Basicalization of KLR algebras
- 11:10–11:40** Mayumi Kimura (Shizuoka University)
On isomorphisms of generalized multifold extensions of algebras without nonzero oriented cycles
- 11:50–12:20** Kazutoshi Koike (Okinawa National College of Technology)
A characterization of the class of Harada rings

Tilting complexes over preprojective algebras of Dynkin type

Yuya Mizuno

This talk is based on joint work with Takuma Aihara.

In [2], we study support τ -tilting modules over preprojective algebras of Dynkin type. In particular, we show that support τ -tilting modules can be parameterized by the corresponding Weyl group.

On the other hand, it is known that support τ -tilting modules are closely related to silting complexes. More precisely, there is a bijection between support τ -tilting modules and 2-term silting complexes [1].

In this talk, using these properties, we study tilting complexes over preprojective algebras of Dynkin type.

In particular, we show that we can give a complete description of 2-term tilting complexes in terms of subgroup of the Weyl group. Moreover we extend this property to tilting complexes and explain a relationship between tilting complexes and braid groups.

REFERENCES

- [1] T. Adachi, O. Iyama, I. Reiten, *τ -tilting theory*, Compos. Math. 150 (2014), no. 3, 415–452.
- [2] Y. Mizuno *Classifying τ -tilting modules over preprojective algebras of Dynkin type*, Math. Z. 277 (2014) 3, 665–690.

GRADUATE SCHOOL OF MATHEMATICS

NAGOYA UNIVERSITY

FUROCHO, CHIKUSAKU, NAGOYA 464-8602 JAPAN

Email: yuya.mizuno@math.nagoya-u.ac.jp