Proceedings of the 50th Symposium
on Ring Theory and Representation Theory

October 7 (Sat.) – 10 (Tue.), 2017
University of Yamanashi, Japan

Edited by
Katsunori Sanada
Tokyo University of Science

February, 2018
Tokyo, JAPAN

第50回 環論および表現論シンポジウム報告集

2017年10月7日(土) – 10日(火)
山梨大学 甲府キャンパス

編集: 眞田克典 (東京理科大学)

2018年2月
東京理科大学

Organizing Committee of The Symposium on Ring Theory and Representation Theory

The Symposium on Ring Theory and Representation Theory has been held annually in Japan and the Proceedings have been published by the organizing committee. The first Symposium was organized in 1968 by H. Tominaga, H. Tachikawa, M. Harada and S. Endo. After their retirement a new committee has been formed in 1997 to manage the Symposium, and its committee members are listed in the web page

http://www.ring-theory-japan.com/ring/h-of-ringsymp.html.

The present members of the committee are H. Asashiba (Shizuoka Univ.), T. Nishinaka (Univ. of Hyogo), S. Kawata (Nagoya City Univ.) and I. Kikumasa (Yamaguchi Univ.).

The number of applications for talk at the Symposium has been increasing steadily year by year. To deal with the situation, the committee decided to launch a poster session from this time, in addition to the conventional (individual, 30-minute) talks. This form of the Symposium should make it possible to accommodate more presentations. There was, however, a concern that it would be insufficient as a presentation just to display the posters. Therefore it has been concluded that each presenter who will be making the poster will also be giving a 10-minute talk (short talk). To allocate either "30-minute talk only" or "10-minute talk + poster" to the applicants, a selection board has been set up. The members of the selection board were: H. Asashiba, S. Kawata, K. Kato, and O. Iyama.

The Proceedings of each Symposium are edited by the program organizer. If you wish to have these Proceedings, please ask the program organizer of each Symposium or one of the committee members.

For information on ring theory and representation theory of groups and algebras (including schedules of meetings and symposiums), as well as ring mailing list service for registered members, please refer to the following websites, which are edited by K. Yamaura (Univ. of Yamanashi):

http://www.ring-theory-japan.com/ring/ (in Japanese)

http://www.ring-theory-japan.com/ring/japan/ (in English)

The Symposium in 2018 will be held at Okayama University of Science from September 19 (Wed) to September 22 (Sat). The program organizer is I. Mori (Shizuoka Univ.) and the local organizer is T. Araya (Okayama Univ. of Science).

Hideto Asashiba
Shizuoka, Japan
February, 2018

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Preface

The 50th Symposium on Ring Theory and Representation Theory was held at University of Yamanashi on October 7th – 10th, 2017. The symposium and this proceedings are financially supported by

This volume consists of the articles presented at the symposium. We would like to thank all speakers and coauthors for their contributions.

We would also like to express our thanks to all the members of the orgnizing commitee and the selection board for their helpful suggestions concerning the symposium. Finally we would like to express our gratitude to Professor Masahisa Sato, Professor Hiroki Miyahara and Professor Kota Yamaura and students of Science University of Tokyo who contributed in the organization of the symposium.

Katsunori Sanada
Tokyo, Japan
February, 2018

第 50 回 環論および表現論シンポジウム
プログラム

<div align="right">* 印は短報講演を表します</div>

10 月 7 日（土）

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    A necessary condition for two commutative noetherian rings to be singularly equivalent

9:45–10:15 中村 力（岡山大学）

    Localization functors in derived categories of commutative Noetherian rings

*10:30–10:40 荒谷 督司（岡山理科大学）

    On the vanishing of self extensions over Cohen-Macaulay local rings

*10:40–10:50 小林 稔周（名古屋大学）

    On delta invariants of certain ideals

*10:50–11:00 Minjae Kwon (Kyungpook National University)

    The Krull dimension of composite power series rings over valuation rings

11:20–12:10 Robert Wisbauer (Heinrich Heine Universität Düsseldorf)

    Around Azumaya rings - An overview of ring theory in the last decades

14:00–14:50 Julia Sauter (Universität Bielefeld)

    On quiver Grassmannians and orbit closures for gen-finite modules

15:05–15:35 中本 和典（山梨大学）・鳥居 猛（岡山大学）

    The moduli of subalgebras of the full matrix ring of degree 3

*15:50–16:00 小境 雄太（東京理科大学）

    Two-sided tilting complexes and folded tree-to-star complexes

*16:00–16:10 相原 琢磨（東京学芸大学）

    Singularity categories and silting objects

*16:10–16:20 青木 利隆（名古屋大学）

    Two-term silting complexes over radical square zero algebras

*16:20–16:30 櫻井 太朗（千葉大学）

    Central elements of the Jennigs basis and certain Morita invariants

16:50–17:40 越谷 重夫（千葉大学）

    Simple modules in the Auslander-Reiten quivers for finite group algebras

10 月 8 日（日）

9:00–9:30 木村 雄太（名古屋大学）

    Functor categories on derived categories of hereditary algebras

9:45–10:15 Erik Darpö（名古屋大学）

    d-representation-finite self-injective algebras

*10:30–10:40 淺井 聡太（名古屋大学）

        Bricks over preprojective algebras

*10:40–10:50 百合草 寿哉（名古屋大学）

        Wide subcategories are semistable

*10:50–11:00 伊山 修（名古屋大学）

        Tilting theory for Gorenstein rings in dimension one

11:20–12:10 Robert Wisbauer (Heinrich Heine Universität Düsseldorf)

        A categorical approach to algebras and coalgebras

14:00–14:50 池畑 秀一（岡山大学）

        Hisao Tominaga, one of founders of this Symposium

*15:05–15:15 星野 光男（筑波大学）・亀山 統胤（サレジオ工業高等専門学校）・
　　　　古賀 寛尚（東京電機大学）

        Infinite sequences of Frobenius extensions

*15:15–15:25 板場 綾子（東京理科大学）・小野塚 亮（静岡大学）・
　　　　James Eccles（静岡大学）

        The defining relations and the Calabi-Yau property of 3-dimensional quadratic AS-regular algebras

*15:25–15:35 塚本 真由（大阪市立大学）

        Strongly quasi-hereditary algebras and rejective subcategories

*15:35–15:45 平松 直哉（呉工業高等専門学校）

        Degenerations of Cohen-Macaulay modules via matrix representations

*16:05–16:15 板垣 智洋（東京理科大学）

        Symmetric Hochschild extension algebras and normalized 2-cocycles

*16:15–16:25 Jung Wook Lim (Kyungpook National University)

        On S-Noetherian rings

*16:25–16:35 Jutirekha Dutta and Dhiren K. Basnet（Tezpur University）

        Relative non-commuting graph of a finite ring

16:55–17:25 佐藤 眞久（山梨大学）

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        When is an abelian category a quantum projective space?

9:45–10:15 Aaron Chan（名古屋大学）

        Two constructions of Iwanaga-Gorenstein algebras

10:30–11:00 榎本 悠久（名古屋大学）

Classifications of exact structures and Cohen-Macaulay finite algebras

11:20–12:10 William Crawley-Boevey (Universität Bielefeld)

Sigma-pure-injective modules for string algebras

14:00–14:30 本瀬 香（弘前大学）

The Feit -Thompson conjecture is true

14:45–15:15 Gangyong Lee (Chungnam National University)・
Mauricio Medina-Bárcenas (Chungnam National University)・
Khanh Tung Nguyen (Vietnam National University)

The number of partial matrix rings

15:30–16:00 鯉江 秀行（東京理科大学）・板垣 智洋（東京理科大学）・
眞田 克典（東京理科大学）

The ordinary quivers of Hochschild extension algebras for self-injective
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Complex rings, Quaternion rings and Octonion rings

17:00–17:50 越谷 重夫（千葉大学）

Source algebra version of Donovan's conjecture for finite group algebras

10月10日（火）

9:00–9:30 源 泰幸（大阪府立大学）・山浦 浩太（山梨大学）

On finitely graded IG-algebas and the stable categories of their (graded)
CM-modules

9:45–10:15 Laurent Demonet (名古屋大学)

Lattice of torsion classes

10:30–11:00 足立 崇英（大阪府立大学）・水野 有哉（静岡大学）

How to capture t-structures by silting theory

11:20–12:10 William Crawley-Boevey (Universität Bielefeld)

Representations of equipped graphs

The 50th Symposium on Ring Theory and Representation Theory

Program

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9:45–10:15   Tsutomu Nakamura (Okayama University)
  Localization functors in derived categories of commutative Noetherian rings

*10:30–10:40   Tokuji Araya (Okayama University of Science)
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  Central elements of the Jennigs basis and certain Morita invariants

16:50–17:40   Shigeo Koshitani (Chiba University)
  Simple modules in the Auslander-Reiten quivers for finite group algebras

October 8 (Sunday)

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> Functor categories on derived categories of hereditary algebras

9:45–10:15   Erik Darpö (Nagoya University)
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> Hirotaka Koga (Tokyo Denki University)
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                  Dhiren K. Basnet (Tezpur University)

  Relative non-commuting graph of a finite ring

16:55–17:25   Masahisa Sato (University of Yamanashi)

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              Kenta Ueyama (Hirosaki University)

  When is an abelian category a quantum projective space?

9:45–10:15   Aaron Chan (Nagoya University)

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A characterization of the class of Harada rings