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RIMS Kôkyûroku Bessatsu B93

**Research on preserver problems on Banach
algebras and related topics**

edited by Shiho Oi

July, 2023

**Research Institute for Mathematical Sciences
Kyoto University**

RIMS Kôkyûroku Bessatsu B93

*Research on preserver problems on
Banach algebras and related topics*

October 25 ~27, 2021

edited by Shiho Oi

July, 2023

Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

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Preface

This volume is the proceedings of the conference “Research on preserver problems on Banach algebras and related topics”, held from October 25th to 27th, 2021. This conference was supported by the joint research program of the Research Institute for Mathematical Sciences (RIMS) of Kyoto University. Originally planned as an in-person event at RIMS, the conference had to be held online via Zoom due to the pandemic. Nevertheless, 23 speakers talked about their recent research concerning preserver problems and related topics.

This volume comprises research papers, announcements, and survey articles. All papers in this volume have been reviewed and are in their final forms, thanks to the valuable and constructive feedback from the anonymous referees who devoted considerable time and effort to evaluating the submissions. The organizer deeply appreciates their efforts, which have greatly contributed to the quality of the proceedings. The organizer also acknowledges the patience and understanding of the authors during the review process, which may have taken longer than expected.

The conference had 50 participants, 29 of whom are affiliated with institutions outside Japan. The organizer would like to express sincere gratitude to all the participants, invited speakers, authors, anonymous referees, and RIMS secretaries for their kind cooperation in making this conference a success.

The organizer believes this volume will be a valuable resource for researchers in this field and looks forward to further developments in the future.

June, 2023

Shiho Oi

Program

Research on preserver problems on Banach algebras and related topics

25 - 27 October, 2021

RIMS (Online)

October 25, 2021

Opening	October 25	16:25-16:30	Zoom
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16:25-16:30 Opening

1 Evening Session	October 25	16:30-18:40	Zoom
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Chairman: Lajos Molnár (16:30-17:30)
Ryotaro Tanaka (17:40-18:40)

16:30 - 17:00 On Wigner's theorem

Peter Šemrl (University of Ljubljana)

17:00 - 17:30 Wigner–Uhlhorn type theorems for bijective transformations between sets of minimal tripotents

Antonio M. Peralta (Instituto de Matemáticas (IMAG). Universidad de Granada)

17:30 - 17:40 — Break time —

17:40 - 18:10 Nonlinear Birkhoff-James orthogonality preservers and the Wigner equation

Dijana Ilišević (University of Zagreb)

18:10 - 18:40 Graph of the relation induced by Birkhoff-James orthogonality.

Bojan Kuzma (University of Primorska)

2 Night Session

October 25 20:00-22:10 Zoom

Chairman: Antonio M. Peralta (20:00-21:00)
Lei Li (21:10-22:10)

20:00 - 20:30 Linear angle and parallelism preservers of real or complex Hilbert C^* -modules

Ngai-Ching Wong (National Sun Yat-sen University)

20:30 - 21:00 The Mazur-Ulam property for uniform algebras

Osamu Hatori (Niigata Universtiy)

21:00 - 21:10 — Break time —

21:10 - 21:40 Tingley's problem for uniformly closed function algebras

Takeshi Miura (Niigata University)

21:40 - 22:10 A Lifting Property for Banach Spaces

Fernanda Botelho (University of Memphis)

October 26, 2021

3 Afternoon Session

October 26 13:00-15:10 Zoom

Chairman: Keiichi Watanabe (13:00-14:00)
Takeshi Miura (14:10-15:10)

13:00 - 13:30 Properties of C -normal operators

Ji Eun Lee (Sejong University)

13:30 - 14:00 Almost disjointness preserving functionals on Banach lattices of differentiable functions

Lei Li (Nankai University)

14:00 - 14:10 — Break time —

14:10 - 14:40 Surjective isometries on a Lipschitz space on analytic functions on the open unit disc

Norio Niwa (Nihon University)

14:40 - 15:10 Surjective linear isometries on unital C^* -algebra valued Lipschitz algebras

Shiho Oi (Niigata University)

4 Evening Session

October 26 16:30-18:00 Zoom

Chairman: Shiho Oi

16:30 - 17:00 2-iso-reflexivity of pointed Lipschitz spaces

Moisés Villegas-Vallecillos (Universidad de Cádiz)

17:00 - 17:30 Topological reflexivity of isometries on algebras of matrix-valued Lipschitz maps

María de Gádor Cabrera-Padilla (University of Almería (Spain))
Jiménez-Vargas Antonio (University of Almería (Spain))

17:30 - 18:00 Surjective isometries on the Banach algebra of continuously differentiable maps with values in Lipschitz algebra

Daisuke Hirota (Graduate School of Science and Technology, Niigata University)

5 Night Session

October 26 20:00-22:10 Zoom

Chairman: Peter Šemrl (20:00-21:00)
Bojan Kuzma (21:10-22:10)

20:00 - 20:30 On the order determining property of the norm of a Kubo-Ando mean in operator algebras

Lajos Molnár (University of Szeged and Budapest University of Technology and Economics)

20:30 - 21:00 Lattices of projections and their isomorphisms

Michiya Mori (RIKEN)

21:00 - 21:10 — Break time —

21:10 - 21:40 A new order relation on self-adjoint operators based on their variance

György Pál Gehér (Riverlane, Cambridge, UK)

21:40 - 22:10 Linear maps preserving inner functions

Javad Mashreghi (Laval University)

October 27, 2021

6 Evening Session	October 27 16:00-18:45 Zoom
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Chairman: Osamu Hatori (16:00-17:00)
Dijana Ilišević (17:45-18:45)

16:00 - 16:30 Möbius gyrovector spaces and functional analysis

Keiichi Watanabe (Niigata University)

16:30 - 17:00 A gyrogroup operation on invertible matrices

Toshikazu Abe (Ibaraki University)

17:00 - 17:15 — Break time —

17:45 - 18:15 Isometries and unitaries in the Jordan setting

María Cueto-Avellaneda (University of Kent)

18:15 - 18:45 Isometries of Wasserstein spaces

Dániel Virosztek (Alfréd Rényi Institute of Mathematics)

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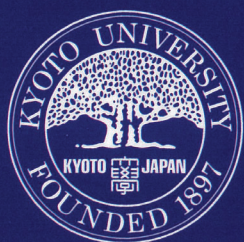
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