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Representation spaces, twisted topological invariants and geometric structures of 3-manifolds

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Representation spaces, twisted topological invariants and geometric structures of 3-manifolds

May 28～ June 1, 2012

edited by Takayuki Morifuji

May, 2013

Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

This is a report of research done at the Research Institute for Mathematical Sciences, Kyoto University. The papers contained herein are in final form and will not be submitted for publication elsewhere.

Preface

The RIMS Seminar "Representation spaces, twisted topological invariants and geometric structures of 3-manifolds" was held at Gora Seiunso, Hakone, Japan, during the period May 28 - June 1, 2012.

In this seminar there were 15 talks concerning with representation spaces, twisted topological invariants and their applications to geometric structures of 3-manifolds. Most of the papers in this volume are based on the talks.

On behalf of the organizers, I would like to thank all the participants and speakers. Masaaki Suzuki took care of most of the practical aspects of producing this volume. His devotion is highly appreciated. I would also like to express my sincere gratitude to the RIMS for support of the seminar and publication of the proceedings.

Yokohama, January 2013

Takayuki Morifuji

RIMS Seminar

Representation spaces, twisted topological invariants and geometric structures of 3-manifolds

Gora Seiunso, May 28–June 1, 2012

Program

May 28 (Mon)

13:30–14:30 Ayumu Inoue (Tokyo)
An approach to classifying links up to link-homotopy using quandle colorings

14:45–16:15 Joan Porti (Barcelona)
Geometrization of three-manifolds

16:30–17:30 Yasushi Yamashita (Nara)
$\mathrm{Out}(F_n)$ actions on $SL(2,\mathbb{C})$-character variety

May 29 (Tue)

9:00–10:30 Yuichi Kabaya (Osaka)
Parametrization of $PSL(n,\mathbb{C})$-representations of surface groups I

11:00–12:00 Eiko Kin (Tokyo)
The boundary of a fibered face of the magic 3-manifold and the asymptotic behavior of the minimal pseudo-Anosovs dilatations

14:30–15:30 Luisa Paoluzzi (Marseille)
The character varieties of Montesinos knots of Kinoshita-Terasaka type

16:00–17:30 Makoto Sakuma (Hiroshima)
End invariants of Heckoid groups for 2-bridge links

May 30 (Wed)

9:00–10:30 Yasushi Yamashita (Nara)
A brief introduction to the virtual Haken conjecture

11:00–12:00 Greg McShane (Grenoble, Tokyo)
Geometric identities

May 31 (Thu)

9:00–10:30 Luisa Paoluzzi (Marseille)
The notion of commensurability in group theory and geometry

11:00–12:00 Yuichi Kabaya (Osaka)
Parametrization of $PSL(n,\mathbb{C})$-representations of surface groups II

14:30–15:30 Hidetoshi Masai (Tokyo)
On the number of hyperbolic 3-manifolds of a given volume

16:00–17:30 Fumikazu Nagasato (Nagoya)
On trace-free characters and abelian knot contact homology

June 1 (Fri)

9:00–10:30 Masaharu Ishikawa (Sendai)
Tangle sums and factorization of A-polynomials

11:00–12:00 Joan Porti (Barcelona)
Reidemeister torsion and volume for hyperbolic knots

Organizers: Takayuki Morifuji (Yokohama)
Yasushi Yamashita (Nara)
Teruaki Kitano (Hachioji)

Representation spaces, twisted topological invariants and
geometric structures of 3-manifolds
RIMS 合宿型セミナー報告集

２０１２年５月２８日～６月１日
研究代表者　森藤　孝之 (Takayuki Morifuji)
副代表者　山下　靖 (Yasushi Yamashita)

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