

Preface

This volume of RIMS Kôkyûroku Bessatsu is the proceedings of the workshop

“Geometry and Analysis of Discrete Groups and Hyperbolic Spaces”

held at the Research Institute for Mathematical Sciences (RIMS), Kyoto University, from June 22 through June 26, 2015.

There were 19 lectures during the workshop. We hope that it was a good opportunity for 50 participants to overview recent trends in geometry and analysis of discrete groups and hyperbolic spaces and get hints for future research.

This volume collects 11 contributions from the speakers of the workshop and an article written by two other participants, Y. Komori and Y. Umemoto. Although they did not give a talk, their paper is closely related to the topics and influenced results of some contributions to the proceedings of the workshop. All the papers are refereed.

We would like to thank all the participants, and in particular speakers and anonymous referees. We would also like to express our gratitude to the staff of the RIMS for their kind and efficient support of the workshop and this proceedings. Finally, we would like to gratefully acknowledge financial support from the RIMS and the JSPS Grant-in-Aid for Scientific Research (C) No.26400086.

June 2017

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離散群と双曲空間の幾何と解析

Geometry and Analysis of Discrete Groups and Hyperbolic Spaces

京都大学数理解析研究所の共同研究事業の一つとして、下記のように研究集会を催しますので、ご案内申し上げます。

研究代表者: 藤井道彦 (京都大学・理学研究科)

記

日時: 2015年6月22日(月) 13:30 ~ 6月26日(金) 12:20

場所: 京都大学数理解析研究所 111号室

Room 111, RIMS, Kyoto University

京都市左京区北白川追分町

市バス 京大農学部前 または 北白川 下車

プログラム

6月22日(月曜日) **Mon, June 22**

13:30 ~ 14:20 久野雄介 (Yusuke Kuno) (Tsuda College)

A homology valued invariant for trivalent fatgraph spines

14:30 ~ 15:20 河澄響矢 (Nariya Kawazumi) (Univ. Tokyo)

A tensorial description of the Turaev cobracket
on genus 0 compact surfaces

15:40 ~ 16:30 正井秀俊 (Hidetoshi Masai) (Univ. Tokyo)

Finite coverings and random walks on the mapping class groups

6月23日(火曜日) **Tue, June 23**

9:30 ~ 10:20 松崎克彦 (Katsuhiko Matsuzaki) (Waseda Univ.)

The exponents of normal subgroups of a hyperbolic group

10:40 ~ 11:30 片山拓弥 (Takuya Katayama) (Hiroshima Univ.)

RAAGs in knot groups

13:30 ~ 14:20 Ruth Kellerhals (Univ. Fribourg)

Hyperbolic Coxeter groups and commensurability, I

14:30 ~ 15:20 佐々木東容 (Dounnu Sasaki) (Waseda Univ.)

An intersection functional on the space of subset currents
on a free group

15:40 ~ 16:30 納谷 信 (Shin Nayatani) (Nagoya Univ.)

Fixed-point property for uniformly Lipschitz actions on a Hilbert space

6月24日（水曜日） Wed, June 24

9:30 ~ 10:20 藤井道彦 (Michihiko Fujii) (Kyoto Univ.)

On the growth of torus knot groups

10:30 ~ 11:20 雪田友成 (Tomoshige Yukita) (Waseda Univ.)

On the growth of cofinite hyperbolic Coxeter groups
in hyperbolic 3-space

11:30 ~ 12:20 Rafael Guglielmetti (Univ. Fribourg)

Hyperbolic Coxeter groups and commensurability, II,
algorithmic and arithmetic aspects

6月25日（木曜日） Thu, June 25

9:30 ~ 10:20 野坂武史 (Takefumi Nosaka) (Kyushu Univ.)

Central extensions of groups and quandles

10:40 ~ 11:30 棕野純一 (Junichi Mukuno) (Nagoya Univ.)

On the fundamental group of a complete globally hyperbolic
Lorentzian manifold with a lower bound for the curvature tensor

13:30 ~ 14:20 Ruth Kellerhals (Univ. Fribourg)

Hyperbolic Coxeter groups and commensurability, III,
nonarithmetic and analytic aspects

14:30 ~ 15:20 久野恵理香 (Erika Kuno) (Tokyo Tech.)

Uniform hyperbolicity for arc graphs, curve graphs,
and arc-curve graphs of non-orientable surfaces

15:40 ~ 16:30 逆井卓也 (Takuya Sakasai) (Univ. Tokyo)

On homology cobordisms of surfaces of genus 1

6月26日（金曜日） Fri, June 26

9:30 ~ 10:20 杉山健一 (Ken-ichi Sugiyama) (Rikkyo Univ.)

On an intimate relationship between the Ihara zeta function
of a Ramanujan graph and the Hasse-Weil zeta function

10:30 ~ 11:20 蒲谷祐一 (Yuichi Kabaya) (Kyoto Univ.)

Exotic components in linear slices of quasi-Fuchsian groups

11:30 ~ 12:20 大鹿健一 (Ken'ichi Ohshika) (Osaka Univ.)

Approximating boundaries of deformation spaces by closed 3-manifolds

(6月18日作成)

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