Sadayoshi KOJIMA

0 Research Summary

- **Comparison of Entropy of Surface Automorphisms and Volume of thier Mapping Tori** :

  It is probabilistically expected that entropies and volumes are related linearly. We continued to study this by introducing quasi-isometric relation on the set of invariants with values in metric spaces. Also, we tried to apply the idea of quasi-isometry to find topology of ends of Teichmüller spaces with low complexcity.

- **Moduli Space of Equilateral Pentagons on the plane** :

  The moduli space of equilateral pentagons is known to be homeomorphic to a surface of genus 4. I have given a very simple proof to this fact based just on combinatorics. S. Klaus at Oberwolfach gave another new proof to this using real algebraic method a few years ago and we have started joint research on related topics.

1 Publications

1.1 Papers

1. None.

1.2 Talks

1. None.

1.3 Books

1. “A Kaleidoscope of Thurston”, editor/coauthor, Kyoritsu Shuppan, Co. LTD., 2020/09

2. Featured Articles ”Mathematical Science of non Euclidean Geometry”, editor, Science Co. LTD., SUURIKAGAKU, April issue, 2021.

2 Research Activities

2.1 Seminars

1. Organize a seminar on “Compactification of Teichmüller spaces through renormalized volumes” at Waseda, 2020/09/01

2. Organize a mini-workshop on “Geometric Group Theory and Related Topics” at Waseda, 202/12/23

2.2 Overseas Travel

1. None.

3 Fundings

1. JSPS Grant-in-Aid for Challenging Exploratory Research, “Invariants of hyperbolic 3-manifolds related with gauge theory”, 2019/04 - 2022/03 (PI : Tomotada Ohtsuki (RIMS))

4 Others

1. Cooperative Member of SCJ, 2008/10 - 2020/09.

2. Steering Committee Member of RIMS, 2019/09 - 2021/08.

3. Auditor of MSJ, 2010/04 - 2023/05.

4. Councilor of Mathematical Olympiad Foundation of Japan, 2012/06 - 2023/05.

5. Associate Editor of Experimental Mathematics, 2001/11 -

6. Lecturer of ”Frontiers of Science and Technology” at TokyoTech, 2020/05/25, 05/28

7. Lecturer of ”FMS Special Lecture” at Meiji University, 2020/12/03.