

Zeitschrift: L'Enseignement Mathématique
Herausgeber: Commission Internationale de l'Enseignement Mathématique
Band: 54 (2008)
Heft: 3-4

Artikel: Infinite topology of curve complexes and non-Poincaré duality of Teichmüller modular groups

Autor: Ivanov, Nikolai / Ji, Lizhen

Bibliographie

DOI: <https://doi.org/10.5169/seals-109943>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 06.08.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

REFERENCES

- [BiE] BIERI, R. and B. ECKMANN. Groups with homological duality generalizing Poincaré duality. *Invent. Math.* 20 (1973), 103–124.
- [Bo1] BOREL, A. Cohomology of arithmetic groups. In: *Proceedings of the International Congress of Mathematicians*, (Vancouver, B.C., 1974), Vol. 1, 435–442. Canad. Math. Congress, 1975.
- [Bo2] —— Stable real cohomology of arithmetic groups. *Ann. Sci. École Norm. Sup.* (4) 7 (1974), 235–272.
- [BoS] BOREL, A. and J.-P. SERRE. Corners and arithmetic groups. *Comment. Math. Helv.* 48 (1973), 436–491.
- [Br1] BROWN, K. *Buildings*. Springer-Verlag, 1989.
- [Br2] —— *Cohomology of Groups*. Corrected reprint of the 1982 original. Graduate Texts in Mathematics 87. Springer-Verlag, 1994.
- [Bu] BUSER, P. *Geometry and Spectra of Compact Riemann Surfaces*. Progress in Mathematics 106. Birkhäuser, 1992.
- [Fa] FARRELL, T. Poincaré duality and groups of type (FP). *Comment. Math. Helv.* 50 (1975), 187–195.
- [Ha1] HARER, J. The second homology group of the mapping class group of an orientable surface. *Invent. Math.* 72 (1983), 221–239.
- [Ha2] —— Stability of the homology of the mapping class groups of orientable surfaces. *Ann. of Math.* (2) 121 (1985), 215–249.
- [Ha3] —— The virtual cohomological dimension of the mapping class group of an orientable surface. *Invent. Math.* 84 (1986), 157–176.
- [Ha4] —— The cohomology of the moduli space of curves. In: *Theory of Moduli*, 138–221. Lecture Notes in Mathematics 1337. Springer-Verlag, 1988.
- [Harv1] HARVEY, W.J. Geometric structure of surface mapping-class groups. In: *Homological Group Theory*, ed. by C. T. C. Wall, 255–269. London Math. Soc. Lecture Note Ser. 36. Cambridge University Press, 1979.
- [Harv2] —— Boundary structure of the modular group. In: *Riemann Surfaces and Related Topics: Proceedings of the 1978 Stony Brook Conference*, ed. by I. Kra and B. Maskit, 245–251. Annals of Math. Studies 97. Princeton University Press, 1981.
- [Iv1] IVANOV, N.V. Complexes of curves and the Teichmüller modular group. *Uspekhi Mat. Nauk* 42 (1987), 49–91; English transl.: *Russian Math. Surveys* 42 (1987), 55–107.
- [Iv2] —— Attaching corners to Teichmüller space. *Algebra i Analiz* 1 (1989), 115–143; English transl.: *Leningrad Math. J.* 1 (1990), 1177–1205.
- [Iv3] —— Complexes of curves and Teichmüller spaces. *Mat. Zametki* 49 (1991), 54–61; English transl.: *Math. Notes* 49 (1991), 479–484.
- [Iv4] —— Automorphisms of complexes of curves and of Teichmüller spaces. *Internat. Math. Res. Notices* 14 (1997), 651–666.
- [Iv5] —— Mapping class groups. In: *Handbook of Geometric Topology*, 523–633. North-Holland, 2002.

- [Kor1] KORKMAZ, M. Complexes of curves and mapping class groups. PhD thesis, Michigan State University, 1996.
- [Kor2] —— Automorphisms of complexes of curves on punctured spheres and on punctured tori. *Topology Appl.* 95 (1999), 85–111.
- [Ku] KU, C. A new proof of the Solomon-Tits theorem. *Proc. Amer. Math. Soc.* 126 (1998), 1941–1944.
- [Luo] LUO, F. Automorphisms of the complex of curves. *Topology* 39 (2000), 283–298.
- [M] MESS, G. Unit tangent bundle subgroups of the mapping class groups. Preprint IHES/M/90/30, 1990, 15 pp.
- [Se] SERRE, J.-P. Arithmetic groups. In: *Homological Group Theory*, 105–136. Cambridge Univ. Press, 1979.
- [St] STREBEL, R. A remark on subgroups of infinite index in Poincaré duality groups. *Comment. Math. Helv.* 52 (1977), 317–324.

(Reçu le 27 juillet 2007)

Nikolai Ivanov

Michigan State University
 Department of Mathematics
 Wells Hall
 East Lansing, MI 48824-1027
 USA
e-mail : ivanov@math.msu.edu

Lizhen Ji

University of Michigan
 Department of Mathematics
 East Hall, 530 Church Street
 Ann Arbor, MI 48109-1043
 USA
e-mail : lji@umich.edu