

**Mj, Mahan****Cannon-Thurston maps and bounded geometry.** (English) Zbl 1204.57014

Biswas, Indranil (ed.) et al., Teichmüller theory and moduli problem. Proceedings of the workshop at Harish-Chandra Research Institute, Allahabad, India, January 5–15, 2006. Mysore: Ramanujan Mathematical Society (ISBN 978-93-80416-00-7/hbk). Ramanujan Mathematical Society Lecture Notes Series 10, 489-511 (2010).

The central topic of the paper under review are considerations about results of *J. Cannon* and *W. P. Thurston* from an unpublished Princeton preprint from 1985 entitled “Group Invariant Peano Curves”. A result is the following. Let  $M$  be a closed hyperbolic 3-manifold, fibering over the circle with fibre  $F$ . Let  $i : \mathbb{H}^2 \rightarrow \mathbb{H}^3$  denote the inclusion of  $\tilde{F}$  into  $\tilde{M}$  (where  $\tilde{F}$  and  $\tilde{M}$  are identified with  $\mathbb{H}^2$  and  $\mathbb{H}^3$ , respectively). Then  $i$  extends continuously to a map  $\hat{i} : \mathbb{D}^2 \rightarrow \mathbb{D}^3$ , where  $\mathbb{D}^2$  and  $\mathbb{D}^3$  denote the compactifications of  $\mathbb{H}^2$  and  $\mathbb{H}^3$ , respectively. This was extended to Kleinian surface groups of bounded geometry without parabolics by *Minsky* in 1994. Then *Bowditch* in 2002 proved the above Cannon-Thurston result for bounded geometry surface groups with parabolics. The author gives a new proofs of all these results. They are extracted from earlier work of the author.

For the entire collection see [\[Zbl 1186.00038\]](#).

Reviewer: [Andrzej Szczepański \(Gdańsk\)](#)

**MSC:**

- [57M50](#) General geometric structures on low-dimensional manifolds
- [20F65](#) Geometric group theory
- [20F67](#) Hyperbolic groups and nonpositively curved groups
- [57M10](#) Covering spaces and low-dimensional topology
- [20F69](#) Asymptotic properties of groups
- [55R05](#) Fiber spaces in algebraic topology

Cited in 12 Documents**Keywords:**

[bounded geometry](#); [hyperbolic 3-manifold](#); [fibering over a circle](#); [Kleinian surface group](#)

**Full Text:** [arXiv](#)