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Rips induction: index of the dual lamination of an \mathbb{R} -tree. (English) Zbl 1336.20033
Groups Geom. Dyn. 8, No. 1, 97-134 (2014).

Summary: Let T be an \mathbb{R} -tree in the boundary of the outer space \mathcal{CN}_N , with dense orbits. The \mathcal{Q} -index of T is defined by means of the dual lamination of T . It is a generalisation of the Poincaré Lefschetz index of a foliation on a surface. We prove that the \mathcal{Q} -index of T is bounded above by $2N - 2$, and we study the case of equality. The main tool is to develop the Rips machine in order to deal with systems of isometries on compact \mathbb{R} -trees. Combining our results on the \mathcal{Q} -index with results on the classical geometric index of a tree, developed by *D. Gaboriau* and *G. Levitt* [Ann. Sci. Éc. Norm. Supér. (4) 28, No. 5, 549-570 (1995; Zbl 0835.20038)], we obtain a beginning classification of trees.

MSC:

20E08 Groups acting on trees
20E05 Free nonabelian groups
20F65 Geometric group theory

Cited in **2** Reviews
Cited in **10** Documents

Keywords:

\mathbb{R} -trees; outer space; Rips induction; dual lamination

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

References:

- [1] M. Bestvina and M. Feighn, Outer limits. Unpublished, 1994. · andromeda.rutgers.edu
- [2] M. Bestvina and M. Feighn, Stable actions of groups on real trees. Invent. Math. 121 (1995), 287-321. · [Zbl 0837.20047](#) · [doi:10.1007/BF01884300](https://doi.org/10.1007/BF01884300) · [eudml:144300](#)

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