

Expanding the universe of universal groups

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In a foundational paper in 2000, M. Burger and S. Mozes introduced the notion of a *universal group* acting on a regular locally finite tree, with a local action prescribed by a fixed finite transitive permutation group ([1]). When endowed with the permutation topology, these groups give interesting examples of totally disconnected locally compact groups.

Since then multiple generalisations have been explored, for instance by allowing infinite or intransitive local groups, by extending the framework to right-angled buildings instead of trees [2], or by allowing some ‘singularities’ in the action [3]. We present a unification of the various settings and discuss how permutational properties of the local groups and combinatorial aspects of the buildings affect topological properties of the resulting groups.

References

- [1] Marc Burger, Shahar Mozes. *Groups acting on trees: from local to global structure*. Publications Mathématiques de l’IHÉS, 92:113–150, 2000.
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- [3] Adrien Le Boudec. *Groups acting on trees with almost prescribed local action*. Commentarii Mathematici Helvetici, 91(2):253–293, 2016.

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