

**Bowditch, B. H.**

**Convergence groups and configuration spaces.** (English) [Zbl 0952.20032](#)

Cossey, John (ed.) et al., Geometric group theory down under. Proceedings of a special year in geometric group theory, Canberra, Australia, July 14-19, 1996. Berlin: de Gruyter. 23-54 (1999).

The paper develops some of the basic properties of convergence groups (initially introduced by *F. W. Gehring* and *G. J. Martin* [Lect. Notes Math. 1275, 158-167 (1987; [Zbl 0623.30030](#)])) in the fairly general context of an arbitrary compact Hausdorff space, from the point of view of the induced action on the space of distinct triples. This view is equivalent to the original Gehring-Martin definition in the case of topological spheres – it axiomatises the essential dynamical properties of a discrete conformal action on the ideal sphere of real hyperbolic space, see the reviewer's book [Conformal geometry of discrete groups and manifolds, Walter de Gruyter (2000)]. The motivation of this generalization stems from the fact that a word hyperbolic group (in the sense of Gromov) acting on its boundary satisfies the convergence axioms.

For the entire collection see [\[Zbl 0910.00040\]](#).

Reviewer: [Boris N.Apanasov \(Norman\)](#)

**MSC:**

- [20F65](#) Geometric group theory
- [57M60](#) Group actions on manifolds and cell complexes in low dimensions
- [57M07](#) Topological methods in group theory
- [20F67](#) Hyperbolic groups and nonpositively curved groups
- [54F50](#) Topological spaces of dimension  $\leq 1$ ; curves, dendrites

Cited in **41** Documents

**Keywords:**

convergence groups; compact Hausdorff spaces; conformal actions; word hyperbolic groups