

1021-20-193

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*Coarse geometry of mapping class groups.*

Mapping class groups of surfaces enjoy a sort of “graded relative hyperbolicity” property, in which they act on  $\delta$ -hyperbolic complexes with stabilizers equal to simpler mapping class groups. This structure allows one for example to obtain a useful distance formula and to study the asymptotic cones of these groups. The *geometric rank conjecture* of Brock-Farb (which states that the maximal rank of an abelian subgroup equals the maximum rank of a quasiflat) can be settled by these methods. Joint work with Masur, Behrstock, and (in progress) Behrstock-Kleiner-Mosher. (Received September 05, 2006)