Bonfert-Taylor, Petra; **Bridgeman, Martin**; **Canary, Richard D.**; **Taylor, Edward C.**

Quasiconformal homogeneity of hyperbolic surfaces with fixed-point full automorphisms.

(English) Zbl 1133.30012
Math. Proc. Camb. Philos. Soc. 143, No. 1, 71-84 (2007).

The main result is the following

Theorem. For each $c \in (0, 2]$, there exists $K_c > 1$, such that if S is a K-quasiconformal homogeneous closed hyperbolic surface of genus g that admits a non-trivial conformal automorphism with at least $c(g + 1)$ fixed points, then $K \geq K_c$.

The authors consider the strongly (extremely) K-quasiconformally homogeneous hyperbolic surface as a surface S, such that for any $x, y \in S$, there is a K-quasiconformal homeomorphism of taking x to y, which is homotopic to a conformal automorphism (identity) of S.

In these cases, one can bound the associated quasiconformal homogeneity constant uniformly away from 1.

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MSC:

30F45 Conformal metrics (hyperbolic, Poincaré, distance functions)

Keywords:

K-quasiconformally homogeneous manifold; uniformly quasiconformally homogeneous manifold; Kleinian group; quasiconformal homogeneity constant; moduli space

Full Text: DOI

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