Bonfert-Taylor, Petra; **Martin, Gaven**; **Reid, Alan W.**; **Taylor, Edward C.**

Teichmüller mappings, quasiconformal homogeneity, and non-amenable covers of Riemann surfaces. (English) Zbl 1239.30007

Pure Appl. Math. Q. 7, No. 2, 455-468 (2011).

Summary: We show that there exists a universal constant K_c so that every K-strongly quasiconformally homogeneous hyperbolic surface X (not equal to $\mathbb{H}^2$) has the property that $K > K_c > 1$. The constant K_c is the best possible, and is computed in terms of the diameter of the $(2, 3, 7)$-hyperbolic orbifold (which is the hyperbolic orbifold of smallest area). We further show that the minimum strong homogeneity constant of a hyperbolic surface without conformal automorphisms decreases if one passes to a non-amenable regular cover.

MSC:

30C65 Quasiconformal mappings in $\mathbb{R}^n$, other generalizations
30F60 Teichmüller theory for Riemann surfaces

Keywords:

quasiconformal homogeneity; Riemann surface; hyperbolic orbifold

Full Text: DOI