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Measurable rigidity for Kleinian groups. (English) Zbl 1379.37090
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Deformation and rigidity are very important topics in the theory of Kleinian groups. *D. Sullivan* [*Ann. Math. Stud.* 97, 465–496 (1981; [Zbl 0567.58015](#))] proved that there are no quasi-conformal deformations supported on limit sets, which is analogous to Mostow rigidity. Moreover, he proved a measurable rigidity theorem and *P. Tukia* [*Invent. Math.* 97, No. 2, 405–431 (1989; [Zbl 0674.30038](#))] extended this rigidity in a more general setting.

Let G and H be Kleinian groups, and μ_G and μ_H conformal measures, where μ_G has no atom. Suppose that at least one of the dimensions μ_G and μ_H is positive. Suppose that there is an essential injective, measurable and essentially directly measurable (i.e., the image of any measurable set outside some fixed μ_G -null set is measurable) map $f : \Lambda_G \rightarrow \Lambda_H$ which conjugates G to H almost everywhere. Then either there is a set A in Λ_G of full measure with $\mu_H(f(A)) = 0$ or f coincides with the restriction of a conformal automorphism to Λ_G almost everywhere and the dimensions of μ_G and μ_H coincide.

However the existence of such map f is not evident. The authors prove that an equivariant map from the limit set of G to that of H is of divergence type.

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MSC:

- 37F30 Quasiconformal methods and Teichmüller theory, etc. (dynamical systems) (MSC2010) Cited in 1 Document
- 30F40 Kleinian groups (aspects of compact Riemann surfaces and uniformization)
- 28C10 Set functions and measures on topological groups or semigroups, Haar measures, invariant measures
- 57M60 Group actions on manifolds and cell complexes in low dimensions

Keywords:

[Kleinian group](#); [Patterson-Sullivan measure](#); [rigidity theorem](#); [Cannon-Thurston map](#)

Full Text: [DOI](#) [arXiv](#)

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