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Dimension conforme et sphère à l'infini des variétés à courbure négative. (Conformal dimension and the ideal boundary of manifolds with negative curvature). (French) [Zbl 0722.53028](#)
Ann. Acad. Sci. Fenn., Ser. A I, Math. 14, No. 2, 177-212 (1989).

It is shown that the ideal boundary of a Hadamard manifold M carries a natural quasiconformal structure if the curvature of M is negatively pinched or M has a cocompact group of isometries. For any topological space X carrying a quasiconformal structure β , a quasiconformal invariant that generalizes the notion of modulus of a curve family is introduced and used to define the conformal dimension of (X, β) . This dimension increases under quasiconformal imbedding; for example, a quasiisometric imbedding between Hadamard manifolds of pinched negative curvature extends to a quasiconformal imbedding between their ideal boundaries. Calculations on the conformal dimension at infinity yield a lower bound for the pinching of negatively curved Riemannian metrics carried by compact quotients of rank one symmetric spaces, and a sharp lower bound for the Hausdorff dimension of the limit set of certain quasiconformal groups.

Reviewer: [S.Alexander \(Urbana\)](#)

MSC:

[53C20](#) Global Riemannian geometry, including pinching
[30C65](#) Quasiconformal mappings in \mathbb{R}^n , other generalizations

Cited in **4** Reviews
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Keywords:

ideal boundary; Hadamard manifold; quasiconformal structure; quasiconformal imbedding; conformal dimension; Hausdorff dimension

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