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Möglichst konforme Spiegelung an einem Jordanbogen auf der Zahlenebene. (German)

Zbl 0706.30014

Ann. Acad. Sci. Fenn., Ser. A I, Math. 14, No. 2, 357-367 (1989).

For a Jordan curve or arc C on the complex sphere by a reflection in C is meant a sense reversing homeomorphism of the sphere which leaves the points of C invariant. If such a homeomorphism is a quasiconformal mapping it is called a quasiconformal reflection. If one such exists one can ask for the properties of a maximally conformal reflection, i.e., one with minimal maximal dilation q_C . The author has studied this question in a number of interesting works [see especially, Jahresber. Dtsch. Math.-Ver. 90, 90-109 (1988; Zbl 0638.30021); Complex Analysis, Artic. dedicated to Albert Pfluger, 139-156 (1988; Zbl 0659.30016)]. In the present paper the author considers quasiconformal reflections in a Jordan arc C under the additional assumption that the point at infinity is fixed by the mapping. The results have the form of asymptotic behavior of q_C for subarcs C on a fixed analytic arc as C shrinks down to a point and properties of quadratic differentials associated with a maximally conformal mapping.

Reviewer: J.A.Jenkins

MSC:

[30C62](#) Quasiconformal mappings in the complex plane

[30C75](#) Extremal problems for conformal and quasiconformal mappings, other methods

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