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Abstracts of Short Communications and Posters

Section:

8. Analysis

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Two point distortion theorems for quasiconformal mappings.
Let U_K be a class of all K- quasiconformal homeomorphisms (q. c. h.) of the unit disk U with a motionless point $z = 0$ and H_K be a class of all K-q. c. h of the upper half-plane H with the normalization $f(0) = 0, f(1) = 1, f(\infty) = \infty$. If we fix more than one point different from the normalization forming points in U or H there is known almost nothing about the mutual behaviour of values of q. c. h. from U_K, H_K at these poins. The upper boundary of the region of the functional $I(f) = |f(z_1)| + i|f(z_2)|$, $0 < z_1 < z_2 < 1$, $f \in U_K$ is determined in [1]. Here we determine the entire region for $I(f)$, $f \in H_K$, z_1, z_2 real, by the extremal length method for curve families. Symmetrization is applied for the analogous results for q. c. h of the plane.

Reference:

1. A. Vasil'ev, Isoperimetric growth theorems for quasiconformal automorphisms of a disk, *Izv. Vysshikh Uchebn. Zaved. Matematika* **3**, (1997). 14–21.