Quasiconformal properties of $Q_{p,0}$ curves and Dirichlet-type curves

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Abstract

Let Γ be a closed Jordan curve, and f the conformal mapping that sends the unit disc $\mathbb{D}$ onto the interior domain of Γ. If $\log f'$ belongs to the Dirichlet space $\mathcal{D}$, we call Γ a Weil-Petersson curve. The purpose of this talk is to discuss extensions of recent results, obtained by G. Cui and Ch. Bishop in the case of Weil-Petersson curves, to the case when $\log f'$ belongs to either some $Q_{p,0}$, space, for $0 < p \leq 1$, or to some weighted-Dirichlet space contained in $\mathcal{D}$. More precisely, we will characterize the quasiconformal extensions of f, and describe some of the geometric properties of Γ, that arise in this context.