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An Integral Representation Formula of the Schwarzian Derivative

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Abstract. Let f be a conformal map of the unit disk \mathbb{D} onto a domain bounded by a curve C , which is of class $C^{3,\delta}$, except for a finite number of corners. In this paper we derive a representation formula of the Schwarzian derivative Sf , expressed in terms of the integral of the arclength derivative of the curvature of C and a sum of polar terms corresponding to the vertices.

Keywords. Schwarzian derivative, curvature, smooth curve, corners.

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