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Jun Hu*, Department of Mathematics, Brooklyn College of CUNY, Brooklyn,, NY 11210, and
Oleg Muzician, Ph.D. Program in Mathematics, Graduate Center of CUNY, New York, NY
10036. *Cross-ratio distortion and Douady-Earle extension: A new upper bound on
quasiconformality.*

In this paper, we develop a new method to explore the direct dependence of quasiconformality of the Douady-Earle extension Φ of a circle homeomorphism f on the cross-ratio distortion of f . Two outcomes arise: (1) we provide a new proof of that Φ is quasiconformal if f is quasisymmetric; (2) we provide a new upper bound for the complex dilatation $K(\Phi)$ in terms of the cross-ratio distortion norm $\|f\|_{cr}$ of f . (Received March 30, 2010)