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C. David Minda* (minda@ucmail.uc.edu), Department of Mathematical Sciences, Mail Location 0025, University of Cincinnati, Cincinnati, OH 45221-0025. *Hyperbolic distortion for holomorphic maps.*

Suppose Ω_j is a hyperbolic region in the complex plane \mathbb{C} with hyperbolic metric $\lambda_j(z)|dz|$ and associated hyperbolic distance function $h_j(z, w)$, $j = 1, 2$. Let $\mathcal{H} = \mathcal{H}(\Omega_1, \Omega_2)$ be the family of holomorphic maps $f : \Omega_1 \rightarrow \Omega_2$. Various distortion theorems for functions $f \in \mathcal{H}$ will be discussed. The distortion is measured in terms of the hyperbolic metrics or the hyperbolic distances on the domain and range. (Received August 13, 2009)