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**Robert B. Burckel, Donald E. Marshall and C. David Minda\***

(David.Minda@math.uc.edu), Department of Mathematical Sciences, Mail Location 0025,  
University of Cincinnati, Cincinnati, OH 45221-0025, and **Pietro Poggi-Corradini**. *Area, length  
and diameter versions of Schwarz's Lemma.*

The classical version Schwarz's lemma deals with holomorphic self-maps of the unit disk  $\mathbb{D}$  that fix the origin; the extremal functions for Schwarz's Lemma are rotations about the origin. We consider holomorphic maps of  $\mathbb{D}$  into a region  $\Omega$  that satisfies some geometric property that holds for the unit disk. For example,  $\Omega$  has diameter at most 2. There are regions of diameter 2 that are not contained in a disk of radius 1, so this case properly contains the classical framework. Landau and Toeplitz in considered this situation in 1907. Other geometric conditions on  $\Omega$  involve area, length of the boundary and higher-order diameters, including the transfinite diameter. In all cases we obtain sharp analogs of the classical Schwarz Lemma and identify the extremal functions. (Received January 12, 2007)