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Alan F. Beardon and C. David Minda^{*} (minda@ucmail.uc.edu), Department of Mathematical Sciences, Cincinnati, OH 45221-0025. *Rescaling non-Lipschitz families of analytic functions*. Preliminary report.

In 1973 Lohwater and Pommerenke proved a rescaling characterization of non-normal functions on the unit disk \mathbb{D} . In 1975 Zalcman established a rescaling characterization of non-normal families of meromorphic functions on \mathbb{D} by using an adaptation of the Lohwater-Pommerenke technique. Zalcman's Rescaling Lemma has proved valuable in function theory and related fields. The proofs of these and related scaling results has been analytic. A uniform geometric approach to these and other rescaling results for various non-Lipschitz families of analytic functions is presented. The main tool is a natural non-expanding conformal rescaling of an individual analytic function that provides a systematic geometric approach to rescaling results in a number of contexts. The original affine rescalings of Lohwater-Pommerenke and Zalcman follow from these conformal rescalings by using affine approximations for conformal mappings. (Received February 10, 2014)