

# ON BECKER'S UNIVALENCE CRITERION

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*Joint work with Toni Vesikko, to appear in J. Math. Anal. Appl.*

**Abstract.** We discuss locally univalent functions  $f$  analytic in the unit disc  $\mathbb{D}$  of the complex plane such that

$$\left| \frac{f''(z)}{f'(z)} \right| (1 - |z|^2) \leq 1 + C(1 - |z|), \quad z \in \mathbb{D},$$

for some  $0 < C < \infty$ . If  $C \leq 1$ , then  $f$  is univalent by Becker's univalence criterion. We discover that for  $1 < C < \infty$  the function  $f$  remains to be univalent in certain horodiscs. Sufficient conditions which imply that  $f$  is bounded, belongs to the Bloch space or belongs to the class of normal functions, are discussed. Moreover, we consider generalizations for locally univalent harmonic functions.

Manuscript available at: <https://arxiv.org/pdf/1705.05738.pdf>

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