Section number: 11

CRITERIA FOR UNIVALENCE OF AN ANALYTIC FUNCTION

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ABSTRACT. Let $f(z) = z + \sum_{k=2}^{\infty} a_k z^k$ be an analytic function in the unit disc $\mathcal{U} = \{z : |z| < 1\}$. In this paper the expression
$$\frac{1 - \gamma + zf''(z)/f'(z)}{zf'(z)/f(z)}$$
is studied and sharp sufficient conditions that imply strong starlikeness of positive order and $\frac{zf'(z)}{f(z)} \prec \frac{1+Az}{1+Bz}$ are given. Here "$\prec$" is the usual subordination. Special cases when $\gamma = 0$ and $\gamma = 1$ are discussed and comparison with previous results is made. ([1], [2], [3], [4])

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