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 \( U = \{ z : |z| < 1 \} \). In this paper the expression
\[
\frac{1 - \gamma + z f''(z)/f'(z)}{zf'(z)/f(z)}
\]
is studied and sharp sufficient conditions that imply strong starlikeness of positive order and
\[
\frac{zf'(z)}{f(z)} \preceq 1 + Ax + Bz
\]
are given. Here "\( \preceq \)" 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])

References


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1991 Mathematics Subject Classification. 30C45.

Key words and phrases. univalent function, criteria, differential subordination.