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SUBCLASS OF ANALYTIC FUNCTIONS

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Abstract

Let $\mathbf{G}(\mathbf{A},\mathbf{B})$ denote the class of functions $f(Z) = z + a_2z^2 + \cdots$ which are analytic in the unit disk $E = \{z : |z| < 1\}$ and satisfy the condition

$$\frac{f'(z)}{g'(z)} = \frac{1 + A\ w(z)}{1 + B\ w(z)}, \quad -1 \leq B < A \leq 1$$

and $g(z) \in \mathbf{S}(\mathbf{a},\mathbf{b})$ satisfying the condition

$$|g'(z) - a| < b$$

for $a+b \geq 1, b \leq a \leq b+1$ and $w(z)$ is a Schwartz function with $w(0) = 0, |w(z)| < 1$ for $z \in E$.

In this paper we investigate properties like distortion, rotation theorem, coefficient estimates and radius of convexity for functions in the class $\mathbf{G}(\mathbf{A},\mathbf{B})$ and showed the results are sharp.

Key Words : *Distortion, Rotation, Coefficient estimates and Radius of convexity.*

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