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A Class of Multivalent Functions with Positive Coefficients Defined by Convolution

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Abstract: For a given p -valent analytic function g with positive coefficients in the open unit disk Δ , we study a class of functions $f(z) = z^p + \sum_{n=m}^{\infty} a_n z^n$, $a_n \geq 0$ satisfying

$$\frac{1}{p} \Re \left(\frac{z(f * g)'(z)}{(f * g)(z)} \right) < \alpha \quad \left(z \in \Delta; 1 < \alpha < \frac{m+p}{2p} \right).$$

Coefficient inequalities, distortion and covering theorems, as well as closure theorems are determined. The results obtained extend several known results as special cases.



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