

A NEW SUBCLASS OF MEROMORPHIC KUMMER FUNCTION RELATED TO HURWITZ- LERCH ZETA FUNCTION

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Abstract. In this paper, we introduce and study a new subclass of meromorphic Kummer function defined by a Hurwitz-Lerch Zeta function operator and obtain coefficient estimates, growth and distortion theorem, radius of convexity, integral transforms, convex linear combinations, convolution properties and δ -neighborhoods for the class $\Sigma_p(\alpha, \beta)$.

1. Introduction

Let A denote the class of all functions $f(z)$ of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \quad (1.1)$$

in the open unit disc $E = \{z \in \mathbb{C} : |z| < 1\}$. Let S be the subclass of A consisting of univalent functions and satisfy the following usual normalization condition $f(0) = f'(0) - 1 = 0$. We denote by S the subclass of A consisting of functions $f(z)$ which are all univalent in E . A function $f \in A$ is a starlike function by the order α , $0 \leq \alpha < 1$, if it satisfy

$$\Re \left\{ \frac{z f'(z)}{f(z)} \right\} > \alpha \quad (z \in E). \quad (1.2)$$

We denote this class with $S^*(\alpha)$.

A function $f \in A$ is a convex function by the order α , $0 \leq \alpha < 1$, if it satisfy

$$\Re \left\{ 1 + \frac{z f''(z)}{f'(z)} \right\} > \alpha \quad (z \in E). \quad (1.3)$$

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