

A SUBCLASS OF CLOSE-TO-CONVEX FUNCTIONS

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Abstract

In the present paper, we obtain coefficient estimates and distortion and growth theorems for certain subclass of close-to-convex functions. The results presented here contain those given in earlier works as in some special cases.

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1. Introduction

Let \mathcal{A} denote the class of functions of the form

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

which are analytic and univalent in the open unit disk $\mathbb{U} = \{z \in \mathbb{C} : |z| < 1\}$. Let \mathcal{S} , \mathcal{K} and \mathcal{S}^* denote the usual subclasses of \mathcal{A} whose members are univalent, close-to-convex and starlike in \mathbb{U} , respectively. By $\mathcal{S}^*(\alpha)$, we also denote the class of starlike functions of order α ($0 \leq \alpha < 1$).

For two functions f and g analytic in \mathbb{U} , we say that the function $f(z)$ is subordinate to $g(z)$ in \mathbb{U} , and write as:

$$f \prec g \quad \text{or} \quad f(z) \prec g(z) \quad (z \in \mathbb{U}),$$

if there exists a Schwarz function $w(z)$, analytic in \mathbb{U} with

$$w(0) = 0 \quad \text{and} \quad |w(z)| < 1,$$

such that

$$f(z) = g(w(z)) \quad (z \in \mathbb{U}).$$

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