Subclasses of Bi-Univalent Functions Associated with Hohlov Operator

Authors : Rashidah Omar, Suzeini Abdul Halim, Aini Janteng

Abstract : The coefficients estimate problem for Taylor-Maclaurin series is still an open problem especially for a function in the subclass of bi-univalent functions. A function $f \in A$ is said to be bi-univalent in the open unit disk D if both f and f^{-1} are univalent in D. The symbol A denotes the class of all analytic functions f in D and it is normalized by the conditions $f(0) = f'(0) - 1 = 0$. The class of bi-univalent is denoted by The subordination concept is used in determining second and third Taylor-Maclaurin coefficients. The upper bound for second and third coefficients is estimated for functions in the subclasses of bi-univalent functions which are subordinated to the function ϕ. An analytic function f is subordinate to an analytic function g if there is an analytic function w defined on D with $w(0) = 0$ and $|w(z)| < 1$ satisfying $f(z) = g[w(z)]$. In this paper, two subclasses of bi-univalent functions associated with Hohlov operator are introduced. The bound for second and third coefficients of functions in these subclasses is determined using subordination. The findings would generalize the previous related works of several earlier authors.

Keywords : analytic functions, bi-univalent functions, Hohlov operator, subordination