Abstract

In the present work, which is divided into six chapters, we have defined certain subclasses of the class $S$ and studied their convolution and subordination properties. These classes generalize many of the subclasses of the class $S$ studied extensively by several authors. Some growth and distortion theorems are obtained. We have also obtained coefficient estimates for the functions of these classes. Certain inclusion relations and their applications are obtained.

The study of integral operators has attracted wide attention over the past decade. A good deal of research has been done in defining new integral operators and studying their inclusion properties and their effect on well known subclasses of the class $S$.

We have studied the effect of Noor integral operator and Srivastava-Attiya operator on some well known subclasses of the class $S$. Using these integral operators, certain subclasses of analytic functions related to starlike functions, convex functions, close to convex functions, strongly starlike and strongly convex functions of order $\alpha$, are defined. For these classes inclusion relations are studied mainly using the method of differential subordination. Some applications of these inclusion relations are also given. We have also shown that these classes are invariant under Bernardi's integral operator, with certain conditions on the parameters.