

**ON SPECIAL DIFFERENTIAL SUBORDINATIONS USING
SĂLĂGEAN AND RUSCHEWEYH OPERATORS**

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ABSTRACT. We define a new operator using the Sălăgean and Ruscheweyh operators. Denote by L_α^n the operator given by $L_\alpha^n : A \rightarrow A$, $L_\alpha^n f(z) = (1 - \alpha)R^n f(z) + \alpha S^n f(z)$, $z \in U$, where $R^n f(z)$ denote the Ruscheweyh derivative $(n + 1)R^{n+1}f(z) = z(R^n f(z))' + nR^n f(z)$, $z \in U$, $S^n f(z)$ is the Sălăgean operator and $A_n = \{f \in \mathcal{H}(U), f(z) = z + a_{n+1}z^{n+1} + \dots, z \in U\}$ is the class of normalized analytic functions with $A_1 = A$. A certain subclass, denoted by $S_n(\delta, \alpha)$, of analytic functions in the open unit disc is introduced by means of the new operator. By making use of the concept of differential subordination we will derive various properties and characteristics of the class $S_n(\delta, \alpha)$. Also, several differential subordinations are established regarding the operator L_α^n .