

Strong differential superordination results using a generalized Sălăgean operator and Ruscheweyh operator

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In the present paper we study the operator $DR_\lambda^m f(z, \zeta)$ the Hadamard product of the extended generalized Sălăgean operator $D_\lambda^m f(z, \zeta)$ and extended Ruscheweyh operator $R^m f(z, \zeta)$, given by $DR_\lambda^m f(z, \zeta) : \mathcal{A}_\zeta^* \rightarrow \mathcal{A}_\zeta^*$, $DR_\lambda^m f(z, \zeta) = (D_\lambda^m * R^m) f(z, \zeta)$, $z \in U$, $\zeta \in \bar{U}$, and $\mathcal{A}_{n\zeta}^* = \{f \in \mathcal{H}(U \times \bar{U}) : f(z, \zeta) = z + a_{n+1}(\zeta)z^{n+1} + \dots, z \in U, \zeta \in \bar{U}\}$ with $\mathcal{A}_{1\zeta}^* = \mathcal{A}_\zeta^*$, is the class of normalized analytic functions. We obtain several strong differential superordinations regarding the operator DR_λ^m .