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Certain Classes of Multivalent Functions Defined by a Fractional Differential Operator [1]

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Abstract

In this paper, the fractional differential operator $\mathcal{D}_{p,\lambda}^{n,\alpha}$ is introduced and applied to define the classes $\mathcal{S}_{p,\lambda}^{n,\alpha}(\delta,\beta)$ and $\mathcal{T}_{p,\lambda}^{n,\alpha}(\delta,\beta)$ of $\beta-$uniformly convex and starlike $p-$valent functions and $p-$valent functions with negative coefficients, respectively. Several results concerning coefficient estimates and extreme points mainly for the class $\mathcal{T}_{p,\lambda}^{n,\alpha}(\delta,\beta)$ are obtained. Also results for a family of class preserving integral operators are considered.

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