

SOME CLASSES OF P-ANALYTIC FUNCTIONS DEFINED BY CERTAIN INTEGRAL OPERATOR

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Abstract. Let $\mathcal{A}(p)$, $p \in \mathbb{N}$, be the class of functions $f(z) = z^p + a_{p+1}z^{p+1} + \dots$, analytic in the open unit disc E . For $n = 0, 1, 2, \dots$, $n > -p$, a certain integral operator $I_{n+p-1} : \mathcal{A}(p) \rightarrow \mathcal{A}(p)$ is defined as $I_{n+p-1}f = f_{n+p-1}^{(-1)} * f$ such that $(f_{n+p-1}^{(-1)} * f_{n+p-1})(z) = \frac{z^p}{(1-z)^p}$, where $f_{n+p-1}(z) = \frac{z^p}{(1-z)^{n+p}}$ and $*$ denotes convolution or Hadamard product. Using this integral operator, a new subclass $R_k(n, p, \alpha)$ of $\mathcal{A}(p)$, $0 \leq \alpha < p$ is introduced in E and some interesting properties of this class are investigated.

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