Aouf, M. K.; **Hossen, H. M.**; **Lashin, A. Y.**
An application of certain integral operators. (English) Zbl 0963.30001
J. Math. Anal. Appl. 248, No. 2, 475-481 (2000).

Let A denote the class of functions of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n$$

which are analytic in the open disk $U = \{z \in \mathbb{C}; |z| < 1\}$. Consider the following integral operators P^α and Q^α_β defined by the formulas

$$P^\alpha f(z) = \frac{2^\alpha}{z\Gamma(\alpha)} \int_0^z \left(\log \frac{1}{p}\right)^{\alpha-1} f(t)dt$$

and

$$Q^\alpha_\beta f(z) = \binom{\alpha+\beta}{\beta} \frac{\alpha}{z^\beta} \int_0^z \left(1 - \frac{t}{z}\right)^{\alpha-1} t^{\beta-1} f(t)dt,$$

where $\alpha > 0$, $\beta > -1$ and Γ is the familiar Euler's function. In the paper the authors prove, under suitable assumptions, that $|P^\alpha f(z)| < 1$ and $|Q^\alpha_\beta f(z)| < 1$ for all $z \in U$, and all $f \in A$.

In the opinion of the reviewer the title of the work is not adequate to the contents of this paper.

Reviewer: Stanislaw Walczak (Łódź)

MSC:

30A10 Inequalities in the complex plane
30C99 Geometric function theory

Cited in **8** Documents

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