

**Srivastava, H. M.; Aouf, M. K.**

**A certain fractional derivative operator and its applications to a new class of analytic and multivalent functions with negative coefficients. II.** (English) Zbl 0831.30008

J. Math. Anal. Appl. 192, No. 3, 673-688 (1995).

Recently, the authors [J. Math. Anal. Appl. 171, 1-13 (1992; Zbl 0760.30006)] made use of a certain operator of fractional derivatives in order to introduce (and initiate a systematic study of) a novel subclass  $T_p(\alpha, \beta, \lambda)$  of analytic and  $p$ -valent functions with negative coefficients. In this sequel to the aforementioned work, they prove a number of closure and inclusion theorems and determine the radii of  $p$ -valent close-to-convexity, starlikeness, and convexity for the class  $T_p(\alpha, \beta, \lambda)$ . They also obtain a class-preserving integral operator of the form:

$$F(z) = (J_{\gamma,p}f)(z) := \frac{\gamma+p}{z^\gamma} \int_0^z t^{\gamma-1} f(t) dt \quad (\gamma > -p)$$

for the class studied here.

Reviewer: [H.M.Srivastava](#)

**MSC:**

[30C45](#) Special classes of univalent and multivalent functions of one complex variable (starlike, convex, bounded rotation, etc.)

[26A33](#) Fractional derivatives and integrals

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