ON CERTAIN SUBCLASSES OF p-VALENTLY ANALYTIC FUNCTIONS OF ORDER α

M.K. AOUF

Abstract. The object of the present paper is to derive various properties and characteristics of certain subclasses of p-valently analytic functions of order α in the open unit disc by using the techniques involving the Briot-Bouquet differential subordination.

MSC 2000. 30C45.

Key words. Analytic functions, differential subordination, hypergeometric functions, starlike functions, convex functions.

REFERENCES

[1] AOUF, M.A., HOSSEN, H.M. and SRIVASTAVA, H.M., *Some families of multivalent functions*, Computers Math. Applic., **39** (2000), 39–48.

[2] DZIOK, J. and STANKIEWICZ, J., *The order of starlikeness of p-valent α-convex functions*, Zeszyty Nauk. Politech. Rzeszowskiej Mat., **19** (1996), 5–12.

[3] MILLER, S.S. and MOCANU, P.T., *Differential subordination and univalent functions*, Michigan Math. J., **28** (1981), 157–171.

[4] MILLER, S.S. and MOCANU, P.T., *Univalent solutions of Briot-Bouquet differential subordinations*, J. Differential Equation, **56** (1985), 297–309.

[5] NUNOKAWA, M., *On the theory of multivalent functions*, Tsukuba Math. J., **11** (1987), 273–286.

[6] OBRADOVIC, M., *On certain inequalities of some regular functions in $|z| < 1$*, Internat. J. Math. Math. Sci., **8** (1985), 277–281.

[7] OBRADOVIC, M. and OWA, S., *On certain properties for some classes of starlike functions*, J. Math. Anal. Appl., **145** (1990), 357–364.

[8] OWA, S., *Notes on p-valently α-convex functions*, Indian J. Math., **32** (1990), 235–240.

[9] OWA, S., *Some properties of certain multivalent functions*, Appl. Math. Lett., **4** (5) (1991), 79–83.

[10] PATIL, D.A. and THAKARE, N.K., *On convex hulls and extreme points of p-valent starlike and convex classes with applications*, Bull. Math. Soc. Sci. Math. R. S. Roum., **27** (75) (1983), 145–160.

[11] SAITOH, H., NUNOKAWA, M., OWA, S., SEKINE, T. and FUKUI, S., *A remark on multivalent functions*, Bull. Soc. Roy. Sci. Liege, **56** (1987), 137–141.

[12] SRIVASTAVA, H.M., PATEL, J. and MOHAPATRA, G.P., *A certain class of p-valently analytic functions*, Math. Computer Modeling, **41** (2005), 321–334.

[13] WHITTAKER, E.T. and WATSON, G.N., *A course of Modern Analysis: An Introduction to the General Theory of Infinite Processes and of Analytic Functions; With an Account of the Principle Transcendental Functions*, Fourth Edition, Combridge Univ. Press, Combridge, 1927.

[14] WILKEN, D.R. and FENG, J., *A remark on convex and starlike functions*, J. London Math. Soc. (Ser. 2), **21** (1980), 287–290.

Department of Mathematics
Faculty of Science
Mansoura University
Mansoura, Egypt
E-mail: mkaouf127@yahoo.com