

CERTAIN PROPERTIES OF SPIRALLIKE SAKAGUCHI TYPE FUNCTIONS CONNECTED WITH q -HYPERGEOMETRIC SERIES

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Abstract. We discuss the properties like coefficient estimation, subordination results and Fekete-Szegő problem for certain subclass of spirallike Sakaguchi type functions associated with q -hypergeometric series.

Mathematics subject classification (2010): 30C45.

Keywords and phrases: Analytic functions, univalent functions, starlike functions, convex functions, spirallike functions, q -hypergeometric series, q -difference operator, Hadamard product, subordinating factor sequence, Fekete-Szegő problem.

REFERENCES

- [1] R. J. LIBERA, *Univalent α -spiral functions*, *Canad. J. Math.*, **19**, (1967), 449–456.
- [2] F. R. KEOGH AND E. P. MERKES, *A coefficient inequality for certain classes of analytic functions*, *Proc. Amer. Math. Soc.*, **20**, (1969), 8–12.
- [3] L. SPACEK, *Contribution a la theorie des fonctions univalentes*, *Cas. Mat. Fys.*, **62**, 2 (1932), 12–19.
- [4] F. H. JACKSON, *On q -functions and a certain difference operator*, *Trans. Royal Soc. Edinburgh*, **46**, (1908), 253–281.
- [5] A. ARAL, V. GUPTA AND R. P. AGARWAL, *Applications of q -calculus in operator theory*, Springer, New York, 2013.
- [6] S. D. PUROHIT AND R. K. RAINA, *Fractional q -calculus and certain subclasses of univalent analytic functions*, *Mathematica*, **55 (78)**, 1 (2013), 62–74.
- [7] A. MOHAMMED AND M. DARUS, *A generalized operator involving the q -hypergeometric function*, *Mat. Vesnik*, **65**, 4 (2013), 454–464.
- [8] S. MAHMOOD AND J. SOKOL, *New subclasses of analytic functions in conical domain associated with Ruscheweyh q -differential operator*, *Results Math.*, **71**, (2017), 1345–1357.
- [9] S. ARACI, U. DURAN, M. ACIKGOZ AND H. M. SRIVASTAVA, *A certain (p, q) -derivative operator and associated divided differences*, *J. Inequal. Appl.*, (2016) 2016:301.
- [10] H. SILVERMAN, *Sufficient conditions for spiral-likeness*, *Internat. J. Math. Sci.*, **12**, 4 (1989), 641–644.
- [11] H. S. WILF, *Subordinating factor sequence for convex maps of the unit circle*, *Proc. Amer. Math. Soc.*, **12**, (1961), 689–693.
- [12] H. ORHAN, D. RADUCANU, M. CAGLAR AND M. BAYRAM, *Coefficient estimates and other properties for a class of spirallike functions associated with a differential operators*, *Abstr. Anal. Appl.*, vol. 2013, Art. ID 415319, 7 pp.
- [13] H. M. SRIVASTAVA, A. K. MISHRA AND M. K. DAS, *The Fekete-Szegő problem for a subclass of close-to-convex functions*, *Complex Var. Theory Appl.*, **44**, (2001), 145–163.
- [14] S. KANAS AND D. RADUCANU, *Some subclass of analytic functions related to conic domains*, *Math. Slovaca*, **64**, 5 (2014), 1183–1196.
- [15] Z. NEHARI, *Conformal mapping*, McGraw-Hill, New-York, 1952.
- [16] ST. RUSCHEWEYH, *New criteria for univalent functions*, *Proc. Amer. Math. Soc.*, **49**, (1975), 109–115.