On subclasses of n-p-valent prestarlike functions of order beta and type gamma

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Abstract
In the present paper, we introduce the class R-p,R-n[alpha, beta, gamma, A, B] of n-p-valent alpha-prestarlike functions of order beta and type gamma with negative coefficients defined by a Salagean operator. Extreme points, integral operators and distortion theorems of this class are obtained. We also obtain several results for the radius of starlikeness, convexity and modified Hadamard products of functions belonging to this class. (C) 2013 Published by Elsevier Ltd

KeyWords: Prestarlike functions; Analytic functions; S alagean operator; Fractional integral operator.
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References:

- [1]
- S. Owa
- On certain classes of *p*-valent functions with negative coefficients
- Simon Stevin, 59 (1985), pp. 385–402
- [2]
- M.K. Aouf, H. Silverman
- Subclasses of *p*-valent and prestarlike functions
- Int. J. Contemp. Math. Sci., 2 (8) (2007), pp. 357–372
- [3]
- H.M. Srivastava, S. Owa
- An applications of fractional derivative
- Math. Jpn., 29 (1984), pp. 384–389
- [4]
- D.A. Patil, N.K. Thakare
- On convex hulls and extreme points of *p*-valent starlike and convex classes with applications
- Bull. Math. Soc. Sci. Math. Roumanie (N.S.), 27 (75) (1983), pp. 145–160
- [5]
- G.S. Sălăgean
- Subclasses of univalent functions
- Lecture Notes in Math., vol. 1013Springer-Verlag (1983), pp. 362–372
- [6]
- M.K. Aouf, A.O. Mostafa
- On a subclass of *n–p*-valent prestarlike functions
- Comput. Math. Appl., 55 (2008), pp. 851–861
- [7]
- T. Sheil- Small, H. Silverman, E.M. Silvia
- Convolution multiplies and starlike functions
- J. Anal. Math., 41 (1982), pp. 182–192

- [8]
- G.A. Kumar, G. Reddy
- Certain class of prestarlike functions
- J. Math. Res. Exposition, 12 (3) (1992), pp. 402–412
- [9]
- G.M. Shenen, T.Q. Salim, M.S. Marouf
- A certain class of multivalent prestarlike functions involving the Srivastava–Saigo–Owa fractional integral operator
- Kyungpook Math. J., 44 (2004), pp. 353–362
- [10]
- M.K. Aouf, G.S. Sălăgean
- Prestarlike functions with negative coefficients
- Rev. Roumaine Math. Pures Appl., 44 (4) (1999), pp. 493–502
- [11]
- B.A. Uralegaddi, S.M. Sarangi
- Certain generlization of prestarlike functions with negative coefficients
- Ganita, 34 (1983), pp. 99–105
- [12]
- H. Silverman, E.M. Silvia
- Prestarlike functions with negative coefficients
- Int. J. Math. Sci., 2 (1979), pp. 427–439
- [13]
- S. Owa, B.A. Uralegaddi
- A class of functions α-prestarlike of order β
- Bull. Korean Math. Soc., 21 (1984), pp. 77–85
- [14]
- H.M. Srivastava, M.K. Aouf
- Some applications of fractional calculus operators to certain subclasses of prestarlike functions with negative coefficients
- Comput. Math. Appl., 30 (1) (1995), pp. 53–61
- [15]
- R.K. Raina, H.M. Srivastava
- Anified presentation of certain subclasses of prestalike functions with negative coefficients
- Comput. Math. Appl., 38 (1999), pp. 71–78
- [16]
- M.K. Aouf, G.S. Sălăgean
- Certain subclasses of prestarlike functions with negative coefficients
- Studia Univ. Babeş-Bolyai Math., 39 (1) (1994), pp. 19–30
- [17]
- G.S. Sălăgean
- Classes of univalent functions with two fixed points
- Babes-Bolyai Univ. Fac. Math. Res. Sem. Prep., 6 (1984), pp. 181–184
- [18]
- G.S. Sălăgean
- Convolutions of certain classes of univalent functions with negative coefficients
- Babes-Bolyai Univ. Fac. Math. Res. Sem. Prep., 5 (1986), pp. 159–168
- [19]
- O.P. Ahuja, H. Silverman
- Convolutions of prestarlike functions

- Int. J. Math. Math. Sci., 6 (1) (1983), pp. 59–68
- [20]
- H.M. Srivastava, M. Saigo, S. Owa
- A class of distortion involving certain operators of fractional calculus
- J. Math. Anal. Appl., 131 (1988), pp. 412–420
- [21]
- H.M. Srivestava, M. Saigo, S. Owa
- Some characterization theorems for starlike and convex functions involving a certain fractional operator
- J. Math. Anal. Appl., 140 (1989), pp. 419–426
- [22]
- A. Schild, H. Silverman
- Convolution of univalent functions with negative coefficients
- Ann. Univ. Mariae Curie-Skłodowska Sect. A, 29 (1975), pp. 99–106

On certain subclasses of meromorphic functions associated with certain differential operators

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Abstract

In this work, we study some subordination and convolution properties of certain subclasses of meromorphic functions which are defined by a previously mentioned differential operator. Crown Copyright (C) 2011 Published by Elsevier Ltd. All rights reserved.

KeyWords: Analytic; Meromorphic functions; Differential operator; Convolution

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References:

- [1]
- B.A. Frasin, M. Darus
- On certain meromorphic functions with positive coefficients
- Southeast. Asian Bull. Math., 28 (2004), pp. 615–623
- [2]
- R.M. El-Ashwah, M.K. Aouf
- Hadamard product of certain meromorphic starlike and convex functions
- Comput. Math. Appl., 57 (2009), pp. 1102–1106
- [3]
- D.J. Hallenbeck, St. Ruscheweyh
- Subordination by convex functions
- Proc. Amer. Math. Soc., 52 (1975), pp. 191–195
- [4]
- S.S. Miller, P.T. Mocanu
- Differential Subordinations : Theory and Applications, Series on Monographs and Textbooks in Pure and Applied Mathematics, Vol. 225, Marcel Dekker, New York and Basel (2000)

- [5]
- T.H. MacGregor
- Functions whose derivative has a positive real part
- Trans. Amer. Math. Soc., 104 (1962), pp. 532–537
- [6]
- J. Stankiewicz, Z. Stankiewicz
- Some applications of the Hadamard convolution in the theory of functions
- Ann. Univ. Mariae Curie-Sklodowska Sect. A, 40 (1986), pp. 251–265
- [7]
- E.T. Whittaker, G.N. Watson, A Course on Modern Analysis: An Introduction to the General Theory of Infinite Processes and of Analytic Functions; With an Account of the Principal Transcendental Functions, Fourth ed., Cambridge University Press, Cambridge, 1927 (Reprinted).
- [8]
- A.Y. Lashin
- On certain subclasses of meromorphic functions associated with certain integral operators
- Comput. Math. Appl., 59 (2010), pp. 524–531

Fekete-Szego problem for starlike and convex functions of complex order

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Abstract

For nonzero complex b let F(n)(b) denote the class of normalized univalent functions f satisfying Re [1 (z(D(n)f)'(z)/D(n)f(z) - 1)/b] > 0 in the unit disk U, where D(n)f denotes the Ruscheweyh derivative off. Sharp bounds for the Fekete-Szego functional vertical bar a(3) - mu a(2)(2)vertical bar are obtained. (C) 2010 Elsevier Ltd. All rights reserved.

KeyWords: Coefficient estimates; Ruscheweyh derivative; Fekete-Szego problem; Convex and starlike functions of complex order.

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References:

- [1]
- M. Fekete, G. Szegö
- Eine Bemerkung über ungerade schlichte Funktionen
- J. Lond. Math. Soc., 8 (1933), pp. 85–89
- [2]
- H.R. Abdel-Gawad, D.K. Thomas
- The Fekete–Szegö problem for strongly close-to-convex functions
- Proc. Amer. Math. Soc., 114 (1992), pp. 345–349
- [3]
- H.S. Al-Amiri
- Certain generalization of prestarlike functions
- J. Aust. Math. Soc., 28 (1979), pp. 325–334
- [4]

- J.H. Choi, Y.Ch. Kim, T. Sugawa
- A general approach to the Fekete–Szegö problem
- J. Math. Soc. Japan, 59 (3) (2007), pp. 707–727
- [5]
- A Chonweerayoot, D.K. Thomas, W. Upakarnitikaset
- On the Fekete–Szegö theorem for close-to-convex functions
- Publ. Inst. Math. (Beograd) (N.S.), 66 (1992), pp. 18–26
- [6]
- M. Darus, D.K. Thomas
- On the Fekete–Szegö theorem for close-to-convex functions
- Math. Japonica, 44 (1996), pp. 507–511
- [7]
- M. Darus, D.K. Thomas
- On the Fekete–Szegö theorem for close-to-convex functions
- Math. Japonica, 47 (1998), pp. 125–132
- [8]
- S. Kanas, A. Lecko
- On the Fekete–Szegö problem and the domain convexity for a certain class of univalent functions
- Folia Sci. Univ. Tech. Resov., 73 (1990), pp. 49–58
- [9]
- F.R. Keogh, E.P. Merkes
- A coefficient inequality for certain classes of analytic functions
- Proc. Amer. Math. Soc., 20 (1969), pp. 8–12
- [10]
- W. Koepf
- On the Fekete–Szegö problem for close-to-convex functions
- Proc. Amer. Math. Soc., 101 (1987), pp. 89–95
- [11]
- R.R. London
- Fekete–Szegö inequalities for close-to-convex functions
- Proc. Amer. Math. Soc., 117 (1993), pp. 947–950
- [12]
- W. Ma, D. Minda
- A unified treatment of some special classes of univalent functions
- Z. Li, F. Ren, L. Yang, S. Zhang (Eds.), Proceeding of Conference on Complex Analytic, Int. Press (1994), pp. 157–169
- [13]
- M.A. Nasr, M.K. Aouf
- Starlike function of complex order
- J. Natur. Sci. Math., 25 (1985), pp. 1–12
- [14]
- P. Wiatrowski
- The coefficients of a certain family of holomorphic functions
- Zeszyty Nauk. Uniw. Lodz., Nauki. Mat. Przyrod. Ser. II (1971), pp. 75–85
- [15]
- M.A. Nasr, M.K. Aouf
- On convex functions of complex order
- Mansoura Sci. Bull. (1982), pp. 565–582
- [16]

- S. Ruscheweyh
- New criteria for univalent functions
- Proc. Amer. Math. Soc., 49 (1975), pp. 109–115
- [17]
- O.P. Ahuja
- Integral operator of certain univalent functions
- Int. J. Math. Sci., 8 (4) (1985), pp. 653–662
- [18]
- O.P. Ahuja
- On the radius problems of certain analytic functions
- Bull. Korean Math. Soc., 22 (1) (1985), pp. 31–36
- [19]
- R. Singh, S. Singh
- Integrals of certain univalent functions
- Proc. Amer. Math. Soc., 77 (1979), pp. 336–340
- [20]
- V. Kumar, S.L. Shukla, A.M. Chaudhary
- On a class of certain analytic functions of complex order
- Tamkang J. Math., 21 (2) (1990), pp. 101–109
- [21]
- M. Darus, A. Akbarally
- Coefficient estimates for Ruscheweyh derivative
- Int. J. Math. Math. Sci. (2004), pp. 1937–1942
- [22]
- C. Pommerenke
- Univalent Functions, Studia Mathematica Mathematische Lehrbucher, Vandenhoeck and Ruprecht (1975)

Some Applications of Srivastava-Attiya Operator to p-Valent Starlike Functions

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Abstract

We introduce and study some new subclasses of p-valent starlike, convex, close-to-convex, and quasi-convex functions defined by certain Srivastava-Attiya operator. Inclusion relations are established, and integral operator of functions in these subclasses is discussed.

KeyWords: UNIVALENT-FUNCTIONS; INTEGRAL OPERATOR; CONVEX

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References:

1. Goodman, AW: On the Schwarz-Christoffel transformation and p-valent functions. Transactions of the American Mathematical Society. **68**, 204–223 (1950) Aouf, MK: On a class of p-valent close-to-convex functions of order β and type α. International Journal of Mathematics and Mathematical Sciences. **11**(2),

259–266 (1988 Libera, RJ: Some radius of convexity problems. Duke Mathematical Journal. **31**(1), 143–158 (1964).
2. Liu, J-L: Subordinations for certain multivalent analytic functions associated with the generalized Srivastava-Attiya operator. Integral Transforms and Special Functions. **19**(11-12), 893–901 (2008)
3. Srivastava, HM, Attiya, AA: An integral operator associated with the Hurwitz-Lerch zeta function and differential subordination. Integral Transforms and Special Functions. **18**(3-4), 207–216 (2007)
4. Liu, J-L: Notes on Jung-Kim-Srivastava integral operator. Journal of Mathematical Analysis and Applications. **294**(1), 96–103 (2004). Jung, IB, Kim, YC, Srivastava, HM: The Hardy space of analytic functions associated with certain one-parameter families of integral operators. Journal of Mathematical Analysis and Applications. **176**(1), 138–147 (1993).
5. Liu, J-L: Some applications of certain integral operator. Kyungpook Mathematical Journal. **43**(2), 211–219 (2003) Saitoh, H: A linear operator and its applications to certain subclasses of multivalent functions. Sūrikaisekikenkyūsho Kōkyūroku.(821), 128–137 (1993).
6. Sălăgean, GŞ: Subclasses of univalent functions. Complex Analysis, Lecture Notes in Mathematics, pp. 362–372. Springer, Berlin, Germany (1983).Jack, IS: Functions starlike and convex of order α. Journal of the London Mathematical Society. **3**, 469–474 (1971). Miller, SS, Mocanu, PT: Second-order differential inequalities in the complex plane. Journal of Mathematical Analysis and Applications. **65**(2), 289–305 (1978).
7. Bernardi, SD: Convex and starlike univalent functions. Transactions of the American Mathematical Society. **135**, 429–446 (1969)
8. Libera, RJ: Some classes of regular univalent functions. Proceedings of the American Mathematical Society. **16**, 755–758 (1965).

Subclasses of analytic functions associated with the generalized hypergeometric function

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Abstract
Using the generalized hypergeometric function, we study a class Phi(p)(k)(q, s; A, B, lambda) of analytic functions with negative coefficients. Coefficient estimates, distortion theorem, extreme points and the radii of close-to-convexity and convexity for this class are given. We also derive many results for the modified Hadamard product of functions belonging to the class Phi(p)(k)(q, s: A, B, lambda). (C) 2009 Published by Elsevier Ltd

KeyWords: Analytic; Distortion theorem; Hypergeometric function; Modified Hadamard product.
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References:

- [1]
- J. Dziok, H.M. Srivastava

- Classes of analytic functions associated with the generalized hypergeometric function
- Appl. Math. Comput., 103 (1999), pp. 1–13
- [2]
- H. Saitoh
- A linear operator and its applications of first order differential subordinations
- Math. Japan., 44 (1996), pp. 31–38
- [3]
- S.D. Bernardi
- Convex and starlike univalent functions
- Trans. Amer. Math. Soc., 135 (1996), pp. 429–446
- [4]
- R.J. Libera
- Some classes of regular univalent functions
- Proc. Amer. Math. Soc., 16 (1965), pp. 755–758
- [5]
- A.E. Livingston
- On the radius of univalence of certain analytic functions
- Proc. Amer. Math. Soc., 17 (1966), pp. 352–357
- [6]
- Vinod Kumar, S.L. Shukla
- Multivalent functions defined by Ruscheweyh derivatives
- Indian J. Pure Appl. Math., 15 (11) (1984), pp. 1216–1227
- [7]
- Vinod Kumar, S.L. Shukla
- Multivalent functions defined by Ruscheweyh derivatives
- Indian J. Pure Appl. Math., 15 (11) (1984), pp. 1228–1238
- [8]
- H.M. Srivastava, M.K. Aouf
- A certain fractional derivative operator and its applications to a new class of analytic and multivalent functions with negative coefficients. I and II
- J. Math. Anal. Appl., 171 (1992), pp. 1–13 ; 192 (1995) 673–688
- [9]
- S. Owa
- On the distortion theorems. I
- Kyungpook Math. J., 18 (1978), pp. 53–59
- [10]
- H.M. Srivastava, S. Owa (Eds.), Univalent Functions, Fractional Calculus, and their Applications, Halsted Press (Ellis Horwood Limited), Chichester (1989) John Wiley and Sons, New York, Chichester, Brisbane and Toronto
- [11]
- M.K. Aouf
- Certain class of analytic functions associated with the generalized hypergeometric function
- J. Math. Appl., 29 (2007), pp. 17–31
- [12]
- M.K. Aouf
- A generalization of multivalent functions with negative coefficients
- Bull. Korean Math. Soc., 25 (2) (1988), pp. 221–232
- [13]

- M.K. Aouf
- Certain classes of p-valent functions with negative coefficients. II
- Indian J. Pure Appl. Math., 19 (8) (1988), pp. 761–767
- [14]
- S.K. Lee, S. Owa, H.M. Srivastava
- Basic properties and characterizations of a certain class of analytic functions with negative coefficients
- Utilitas. Math., 36 (1989), pp. 121–128
- [15]
- M.K. Aouf, H.E. Darwish
- Some classes of multivalent functions with negative coefficients
- Honam Math. J., 16 (1) (1994), pp. 119–135
- [16]
- A. Schild, H. Silverman
- Convolution univalent functions with negative coefficients
- Ann. Univ. Mariae Curie-Sklodowska Sect. A, 29 (1975), pp. 99–107