

Publications.

1. G.Tachev, Direct estimation for approximation by Bernstein polynomials in $L_p[0, 1]$, $0 < p < 1$. **Math.Balkanica (N.S.)** 3(1989), no.1, 51-60. MR-90 m:41019; ZB-682(1990),41028
2. G.Tachev, A direct theorem for the best algebraic approximation in $L_p[0, 1]$, $0 < p < 1$. **Math.Balkanica (N.S.)** 4 (1990), no.4, 81-89. MR-93 h:41027; ZB-822(1997), 41022
3. G.Tachev, A converse theorem for the best algebraic approximation in $L_p[-1, 1]$, $0 < p < 1$. **Serdica** 17(1991), no. 2-3, 161-166. MR-93 b:41020; ZB-772(1993), 41028
4. G.Tachev, Approximation by Kantorovich-Bernstein polynomials in $L_p(0 < p < 1)$. **Approximation Theory and its Applications** 8(1992), no.3, 38-MR 94 a:41035; ZB-768(1993), 41023
5. G.Tachev, Approximation by algebraic polynomials in L_p , $0 < p < 1$ -metric, **Ph.D. Thesis**,101 pp.,(1992).
6. G.Tachev, A note on two moduli of smoothness. **Journal of Approximation Theory** 81(1995), no.1,136-140. MR 97 d:41006; ZB-820(1997), 41021,**IF=0.465**
7. G.Tachev, A counterexample to the conjecture of W.Fillipow and P.Oswald. **Ann. Inst. Archit. Genie Civil Sofia** 37(1993-94), 93-97. MR 96 k:42052; ZB-0876.42018
8. G.Tachev, The $h - p$ version of the finite element method with Taylor polynomials. **Ann. Inst. Archit. Genie Civil Sofia** 37(1993-94), 99-108. MR 96 k:65012; ZB-847(1997), 41007
9. G.Tachev, Approximation of $|x - 1/2|$ by Bernstein polynomials in $L_p[0, 1]$, $0 < p < 1$. **Ann. Inst. Archit. Genie Civil Sofia** 37(1993-94), 111-113. ZB-847(1997),41005, MR1357976
10. G.Tachev, On the Jackson Theorem for approximation by algebraic polynomials, in **Proc. of IX Int.Conference on Approx. Theory, Nashville (3-8.01.1998)**, vol.1:Theoretical Aspects,Charles K.Chui and Lar-ry L.Schumaker (eds.), Vanderbilt University Press,1998,327-332. MR 01 c:41007;ZB-1066,41501

11. G. Tachev, On approximation by Taylor polynomials in two-dimensional case, **Ann. Inst. Archit. Genie Civil Sofia** 39(1996 -97), 81-86. MR 1746054

12. G. Tachev, Polynomial approximation in L_p -metric ($0 < p < 1$). **Ann. Inst. Archit. Genie Civil Sofia** 36 (1991-92), 55-58. MR 1317393; ZB-0847.41006

13. G. Tachev, Approximation by algebraic polynomials on rectangles, **J. Comp. Anal. and Appl.** vol.3,no.4(2001),361-381; Temporary reference: Schriftenreihe des Fachbereichs Mathematik, Universitaet Duisburg, SM-DU-436(1999).MR-02g:41010

14. Heinz H. Gonska and Gancho T. Tachev, The Second Ditzian-Totik-Zhou Modulus revisited: Rened Estimates for Positive Linear Operators, **Rev. Anal. Numer. Theor. Approx.** vol.32(2003),39-61; Temporary re-frence: Schriftenreihe des Fachbereichs Mathematik, Universitaet Duisburg, SM-DU-460(1999).ZB-1084.41503

15. G. Tachev, Piecewise linear interpolation with nonequidistant nodes, **Numerical Functional Analysis and Optimization** , vol.21,no.7-8,945-955(2000). MR-01 j:41005; ZB-0972.41007, **IF=0.441**

16. G. Tachev, On the constants in the equivalence between Ditzian-Totik moduli of smoothness and K-functionals, in "RoGer 2000 - Brasov" (**Proc. 4th Romanian-German Seminar on Approximation Theory and its Applications , Brasov, 3.-7-5.07.2000**:ed.by H.Gonska,D.Kacso and L.Beutel), Duisburg: Schriftenreihe des Fachbereichs mathematik der Gerhard-Mercator-Universitaet SM-DU-485(2000),156-161. MR-1817276;ZB-1006.41005

17. G. Tachev, (1997), Numerical Methods and Algorithms, UACG, Sofia.

18. Heinz H. Gonska and G. Tachev, On the constants in ω_2^ϕ inequalities,, in **Rendiconti Circ.Mat. Palermo (2)Suppl.** ,no.68,vol.II,2002,467-477. **SJR=0.412** MR-04c:41049; ZB-01857732

19. G. Tachev, Rened estimates with linear positive operators, **Ann. Inst. Archit. Genie Civil Sofia** ,40,(1998-1999),155-163. MR-03h:41025, 41A36,(41A25)., ZB 1226.41009

20. L. Beutel, H. Gonska, D. Kacso G. Tachev, On the Second Moments of Variation-diminishing Splines,

Duisburg: Schriftenreihe des Fachbereichs mathematik der Gerhard-Mercator-Universitaet SM-DU-530(2002),in **Journal of Concrete and Applicable Mathematics**,no.1, vol.2,2004,91-117. MR-2132355; ZB-02173984

21.L.Beutel,H.Gonska,D.Kacso G.Tachev, On variation-diminishing Schoenberg operators:new quantitative statements, in **Multivariate Approximation and Interpolation with Applications (ed. by M.Gasca), Mono-graas de la Academia de Ciencias de Zaragoza 20** ,2002,9-58. MR-04a:41027;ZB-01999241

22.H.H.Gonska,D.Kacso and G.Tachev, Direct Estimates and Bernstein-type Inequalities for Schoenberg Splines, in "RoGer 2002 - Sibiu"(**Proc. 5th Romanian-German Seminar on Approximation Theory and its Applications**), Sibiu, 11.06-15.06.2002,Mathematical Analysis and Approximation Theory ,119-129. MR-2076825;ZB-1041.41012

23.L.Beutel,H.Gonska,D.Kacso and G.Tachev,Variation-diminishing splines, revised.2002,**Proc. of the International Symposium Dedicated to the 75th Anniversary of D.D.Stancu,Cluj -Napoca,Romania,2002**,54-75,MR-04g:41013;ZB-02092666

24. G.Tachev, On the cubic Schoenberg Splines, in Jubilee Scientific Conf., vol.8(Sofia, 2002) **Ann. Inst. Archit. Genie Civil** ,41,2001-2002,455- 465, MR-03i:00008,41A15(41A17), ZB 1187.41004

25. G.Tachev,Three open problems, in "RoGer 2002 - Sibiu"(**Proc. 5th Romanian-German Seminar on Approximation Theory and its Applications**), Sibiu, 11.06-15.06.2002,Mathematical Analysis and Approximation Theory ,329-330. ZB-1030.41001

26.H.Gonska,I.Gavrea, R.Paltanea and G.Tachev,General Estimates with Ditzian-Totik moduli of second order, in **East J. Approx. Th.** vol.9,no.2,2003,175-194, MR-04e:41006, ZB-05147510

27.H.H.Gonska,D.Kacso and G.Tachev,Inverse Estimates for the cubic Schoenberg Splines, 2005, in "RoGer 2004 - Sibiu"(**Proc. 6th Romanian-German Seminar on Approximation Theory and its Applications**), Cluj-Napoca, 11.06-15.06.2004,Mathematical Analysis and Approximation Theory ,19-24.

28. G.Tachev,Approximation by rational spline functions ,(2006) in **Calcolo**,vol.43 ,(4),279-286. ZB-05151033 MR-07k:41032.**IF=0.621**

29. G. Tachev, Inequalities for linear positive operators, (2007), in **International Journal of Applied Mathematics and Statistics-special issue on FIDA**,, **SJR=0.102** vol.12,no.D07,112-123. ZB-1137.41339 MR-09a:41018

30. G. Tachev, Weighted approximation of second derivatives for Schoenberg splines, in **Proc. Int. Conf. UACEG 2009: Science and Practice, (2009)**.

31. Ioan Gavrea and G. Tachev, Estimates with Ditzian-Totik moduli of second order, **Schriftenreihe des Fachbereichs mathematik der Gerhard-Mercator-Universitaet SM-DU-489(2000)**,manuscript.

32. G. Tachev, Voronovskaja's Theorem Revisited, in **Journal of Mathematical Analysis and Applications**,343 (2008),399-404, ZB-1140.41002 MR-09c:41048.**IF=1.046**

33. G. Tachev , The Distance between Bezier Curve and its Control Polygon, 2013, pp. 7380 **Jubilee Collection of Papers Dedicated to the 60th Anniversary of Prof. Mihail M. Konstantinov**

34. G. Tachev, A lower bound for the second moment of Schoenberg operator, in **General Mathematics**, 16 (2008), no.4, 165-170, MR-2471282 ZB-05626027.

35. G. Tachev, Approximation, numerical differentiation and integration based on Taylor polynomial, in **J. Inequal. Pure and Appl. Math. (JIPAM)**, 10(1),(2009), electronic, ZB-1168.65325,MR-2491928.**SJP=0.031** (SCImago Journal Country Rank)

36. H. Gonska and G. Tachev, (2009), A Quantitative Variant of Voronovska-ja's Theorem, in **Results in Mathematics**,53(2009),287-294, MR-2524730 ZB-1181.41026.**IF=0.513**

37. G. Tachev, On the second moment of rational Bernstein functions, in **Journal of Computational Analysis and Applications, JoCAAA** , 12(2010),no.2, 471-479. ZB 1192.41003, MR-2650454.**IF=0.697**

38. G. Tachev, Approximation of a continuous curve by its Bernstein-Bezier operators, **Mediterranean J. of Math.**, 8(2011), no.3, 381-393. ZB 1231.65036, MR-2824587.**IF=0.463**

39. H. Gonska and G. Tachev, Gruss-type inequality for positive linear operators with second order Ditzian-Totik moduli, **Mat. Vesnik**, 63(2011), ii.

4, 247-252. MR-12g:41027, ZB-06217194. **SJR=0.435**-(SCImago Journal Country Rank)

40. G.Tachev, Voronovskaja Theorem for Schoenberg operator, in **Mathematical Inequalities and Applications, MIA**, 15 (2012), no.1, 49-59. ZB 1236.41010, MR-2919430. **IF=0.588**

41. G.Tachev, New estimates in Voronovskaja's theorem, in **Numerical Algorithms**, 59(2012), 119-129. ZB-06006049, MR-2886440. **IF=1.128**

42. G.Tachev, The complete asymptotic expansion for Bernstein operators, in **Journal of Math. Anal. and Appl., JMAA**, 385 (2012), 1179-1183. ZB 1232.41016, MR-2834919. **IF=1.050**

43. G.Tachev, On multiplicativity of Bernstein operator, in **Computers and Mathematics with Applications, CMA**, 62 (2011), no.8, 3236-3240. ZB-1232.41005, MR-2837756. **IF=1.747**

44. G.Tachev, Pointwise Approximation by Bernstein Polynomials, in **Bulletin of the Australian Mathematical Society, BAMS**, 85(2012), no.2, 353-358. ZB-1251.41002, MR-2924764. **IF=0.480**

45. G.Tachev, The rate of approximation by rational Bernstein functions in terms of second order moduli of continuity, in **Numerical Functional Analysis and Applications**, 33(2) (2012), 206-215. ZB-1244.41002, MR-2876778. **IF=0.500**

46. G.Tachev, From Bernstein polynomial to Lagrange interpolant, in **Proc. of 2-nd Int. Conf. MDIS-Sibiu, Romania 2011**, ISBN 978-606-12-0243-0, Lucian Blaga University Press, Ed. Dana Simian, 192-199 .

47. Sorin Gal and Gancho Tachev, On the Constant in The Lower Estimate for the Bernstein Operator, in **Mathematica Balkanica**, 27(2013), no.1-2, 39-51. ZB-06450671

48. G.Tachev, On the conjecture of Cao, Gonska and Kacso, in **Stud. Univ. Babes-Bolyai Math.**, 57(2012), no.1, 83-88. . MR-2922183, ZB - 1274.41035, **SJR=0.158**.

49. Margareta Heilmann and Gancho Tachev, Commutativity, Direct and Strong Converse Results for Phillips Operators, in **East J. Approx. Th.**, 17(2011), no. 3, 299-317, Dedicated to the Memory of acad. B. Bojanov, ZB-06077250, MR-2953082.

50. H. Gonska, J. Prestin and G. Tachev, New estimates on Holder approximation by Bernstein operators, in **Appl. Math. Letters**, 26(2013), no.1, 48-53. **IF=1.501**, ZB-06106993, MR-2971397, ZB - 1253.41019.

51. G. Tachev, Global smoothness preservation with second order moduli of smoothness, in **Math. Slovaca**, 63(2013), ř.5, 1153-1161. **IF=0.394**. MR -3122365, ZB-06258784

52. Teodora Zapryanova and Gancho Tachev, Generalized Inverse Theo-rem for Schoenberg Operator, in **Journal of Modern Mathematics Frontier-JMMF**, 1(2012), no.2, 11-16.

53. H. Gonska, J. Prestin, G. Tachev and D. X. Zhou, Simultaneous Approx-imation with Bernstein polynomials in Holder norms, in **Mathematische Nachrichten**, 286(2013), no.4, 349-359, **IF=0.576**. MR-3028779, ZB-06155923.

54. Heiner Gonska and Gancho Tachev, On the composition and decomposition of positive linear operators IV: Favard-Bernstein operators revisited, in **General Mathematics**, 20(2012), no.5, 37-46.

55. Margareta Heilmann and Gancho Tachev, Linear Combinations of Genuine Szasz-Mirakjan - Durrmeyer Operators, in **Springer Proceedings in Mathematics and Statistics with Volume title Advances in Applied Mathematics and Approximation Theory- Contributions from AMAT 2012 Conference, Turkey**, ed by G. Anastassiou and O. Duman, (2012), 5-th Chapter, 85-106., **SJR=0,226**, MR 3078153

56. Teodora Zapryanova and Gancho Tachev, Approximation by the iter-ates of Bernstein operator, in **AIP Conf. Proc.**, 1497, (2012), 184-189. **SJP=0.025**.

57. Gancho T. Tachev, Refined estimates for the equivalence between Ditzian- Totik moduli of smoothness and K-functionals, in "**Theory and Applications of Mathematics Computer Sciences**" **TAMSC** , 2(2012), no.2, 48-54. ZB-1288.41002

58. Ioan Gavrea and Gancho Tachev, On multiplicativity of linear opera-tors, in **Journal of Mathematical Analysis and Applications-JMAA** , 408(2013), ř.1, 203-208. **IF=1.050**, MR-3079958, ZB-1310.41020.

59. Vijay Gupta and Gancho Tachev, Approximation by Szasz-Baskakov operators, in **Journal of Applied Functional Analysis-JAFA** , 9(2014) (3-4), 308-309, **Dedicated to 65-th Anniversary of prof. H. H. Gonska** , MR-3156215

60. G. Tachev, Approximation of bounded continuous functions by linear combinations of PHILLIPS OPERATORS, in **Demonstratio mathematica**, 47(2014), no.3, 662-671, electronic only. ZB- 1298.41041, MR-3259058.**SJR=0.344**
61. Vijay Gupta and Gancho Tachev, Approximation by linear combinations of complex Phillips operators in compact disks, in **Results in Mathematics**, 66(2014), no.1-2, 265-272, ZB-1300.41041, MR-3255018.**IF=0.86**.
62. Vijay Gupta and Gancho Tachev, UPPER ESTIMATE FOR GENERAL COMPLEX BASKAKOV SZASZ OPERATOR, in **Journal of Classical Analysis**, 7(2015), no.1, 17-23, MR-3450956 .
63. Gancho Tachev and Vijay Gupta, General Form of Voronovskaja's Theorem in Terms of Weighted Modulus of Continuity, in **Results in Mathematics**, 69 (3-4), 419-430,(2016), **IF=0.86, Dedicated to the Memory of acad. D.D.Stancu**, ZB-1339.41032, MR-MR3499571 .
64. Gancho Tachev, A Global Inverse Theorem for Combinations of Phillips Operators, in **Mediterranean Journal of Mathematics**, 13 (2016), no. 5, 27092719 , **IF=0.66**, MR-MR3554271, ZB-066661.798.
65. Gancho Tachev, Pointwise estimate for linear combinations of Phillips operators, in **Journal of Classical Analysis**, vol.8, no.1 (2016), 41-51, MR-3502429 .
66. Gancho Tachev, A Modified Pointwise Estimate on Simultaneous Approximation by Bernstein Polynomials, **Mathematical Analysis, Approximation Theory and Their Applications Volume 111 of the series Springer Optimization and Its Applications**, pp 631-637, (2016), **SJR=0.103, MR3561461**
67. Ali Aral, Heiner Gonska, Margareta Heilmann, Gancho Tachev, Quantitative Voronovskaya-Type Results for Polynomially Bounded Functions, **Dedicated to 65-th Anniversary of prof. Ioan Rasa** , in **Results in Mathematics**, 70 (2016), no. 3-4, 313324, Springer, **IF=0.768**, ZB6657.444, MR-MR3544862 .
68. Vijay Gupta and Gancho Tachev, On approximation Properties of Phillips Operators Preserving Exponential Functions, to appear in **Mediterranean Journal of Mathematics**, 14(4):177 · July 2017, online available at Springer, **IF=0.868**. MR3681381
69. Gancho Tachev, Vijay Gupta, Ali Aral, Voronovskaja Theorem for functions with exponential growth, in **Georgian Mathematical Journal (GMJ)**, 27 (3), 459-468, 2020, **IF=0.482, Dedicated to 60-th Anniversary of prof. Margareta Heilmann**.

70. Vijay Gupta and Gancho Tachev, Improved approximation on Durrmeyer – type operators, accepted in **Boletín de la Sociedad Matemática Mexicana**, Springer, July 2019, Volume 25, [Issue 2](#), pp 363–373| . **SJR=0.88**
71. Vijay Gupta, Gancho Tachev and Ana – Maria Acu, Modified Kantorovich operators with better approximation properties, in **Numerical Algorithms**,81(2019), no.1, p.125-148, Springer, ,**IF=1.536**.
72. Ali Aral ad Gancho Tachev, "Quantitative Voronovskaya Type Theorems For General Sequence of Linear Positive Operators", in **FILOMAT**, **IF=0.635,33:8(2019), 2507-2518**
73. Vijay Gupta and Gancho Tachev, A Note on the Differences of Two Positive Linear Operators, **Constructive Mathematical Analysis**, 2(2019), No. 1, pp. 1-7.
74. Ana-Maria Acu, Vijay Gupta and Gancho Tachev, Better Numerical Approximation by Durrmeyer Type Operators, **Results in Mathematics**, 74(2019), no.3, article 90, **IF=0.969**
75. Gancho Tachev, On two modified Phillips operators, **Stud. Univ. Babeş-Bolyai Math.** 64(2019), No. 3, 305–312, **SJR=0.220, Dedicated to 70-th anniversary of Prof. H.H.Gonska**
76. Vijay Gupta and Gancho Tachev, Some results on Post-Widder operators preserving test function x^f , to appear in **Kraguevac Journal of Mathematics**, **SJR=0.330, IF=0.889, vol.46,no.1,149-165, 2022**
77. Ana-Maria Acu, Gancho Tachev, Yet Another New Variant of Szasz-Mirakyan Operator, **Symmetry**,13(11), 2021, **IF=2.713**
78. V. Gupta, G. Tachev, A modified Post Widder operators preserving e^{Ax} . **Stud. Univ. Babeş-Bolyai Math.**, 67, 599-606, **IF=0.601,2022**
79. Gancho Tachev, Linear combinations of two Bernstein polynomials, accepted in **MFC – Mathematical Foundations of Computing**, **IF=0.35**, online available at the webpage of the journal, **December 2022, Dedicated to 60-th anniversary of prof. Vijay Gupta.**

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