## LIST OF PUBLICATIONS

Most of the papers on this list are available from my homepage:
staff.math.su.se/shapiro

## References

[1] PSSY I. Pak, B. Shapiro, I. Smirnov, K-I. Yoshida, Around Watanabe-Yoshida's conjecture on the minimal Hilbert-Kuntz multiplicity, in preparation.
[2] B. Shapiro, I. Smirnov, A. Vaintrob, Deformed graphical zonotopal algebras, arXiv:2204.11331, submitted.
[3] B. Shapiro, M. Shapiro, Corrigendum to "On two conjectures concerning convex curves", by V. Sedykh and B. Shapiro, Int. J. Math., v. 33, iss. 4 (2022) 2292002; https://doi.org/10.1142/S0129167X22920021.
[4] A. Libgober, and B. Shapiro, Meromorphic functions without real critical values and related braids, submitted.
[5] N. Saldanha, B. Shapiro, M. Shapiro, Finiteness of rank for Grassmann convexity, arXiv:2110.07389, Comptes Rendus Mathématique, to appear.
[6] P. Alexandersson, N. Hemmingsson, B. Shapiro, Linear first order differential operators and complex dynamics, arXiv:2202.10197, submitted.
[7] K. Kohn, R. Piene, K. Ranestad, F. Rydell, B. Shapiro, R. Sinn, M-S. Sorea, S. Telen, Adjoints and canonical forms of polypols, arXiv:2108.11747, submitted.
[8] R. Piene, C. Riener, and B. Shapiro, Return of the plane evolute, arXiv:2110.11691, submitted.
[9] B. Shapiro, M. Tater, On spectral asymptotics of quasi-exactly solvable quartic potential, Analysis and Mathematical Physics (2022) 12 (2022), no. 1, Paper No. 2, https://doi.org/10.1007/s13324-021-00612-2.
[10] R. Bøgvad, Ch. Hägg, B. Shapiro, Rodrigues' descendants of a polynomial and Boutroux curves, arXiv:2107.05710, Constr. Approx., to appear.
[11] Ch. Hägg, B. Shapiro, and M. Shapiro, Introducing isodynamic points for binary forms and their ratios, arXiv:2207.01658, submitted.
[12] D. Novikov, B. Shapiro, and G. Tahar, On limit sets for geodesics of meromorphic connections, Journal of Dynamical and Control Systems, DOI 10.1007/s10883-021-09584-9.
[13] Y. Baryshnikov, B. Shapiro, Quadratic differentials and signed measures, J. Anal. Math. 144 (2021), no. 1, 1-19.
[14] B. Shapiro, and G. Tahar, On the existence of quasi-Strebel structures for meromorphic $k$-differentials, Enseign. Math. 67 (2021), no. 1-2, 187-207.
[15] R. Bøgvad, I. Ndikubwayo, B. Shapiro, Generalizing Tran's conjecture, Elect. J. of Math. Anal., Vol. 8(2) July 2020, pp. 346-351.
[16] N. Saldanha, B. Shapiro, M. Shapiro, Grassmann convexity and multiplicative Sturm theory, revisited, Moscow Math. J., Volume 21, Number 3, July-September 2021, Pages 613-637.
[17] L. Lang, B. Shapiro, E. Shustin, On the number of intersection points of the contour of an amoeba with a line, Indiana Univ. Math. J., Vol. 70, No. 4, 1335-1353 (2021).
[18] Yu. Burman, R. Fröberg, B. Shapiro, Algebraic relations among harmonic and anti-harmonic moments of plane polygons, IMRN 2021, no. 14, 11140-11168.
[19] Vl. Kostov, B. Shapiro, New aspects of Descartes' rule of signs, in book "Polynomials Theory and Applications", DOI: 10.5772/intechopen.82040.
[20] G. Katz, B. Shapiro, V. Welker, Real univariate polynomials with constrained multiplicities of real zeros, II. (Co)homology and stabilization, arXiv:2112.15205, submitted.
[21] G. Katz, B. Shapiro, V. Welker, Real polynomials with constrained multiplicities of real zeros, I. Fundamental group, submitted.
[22] K. Kohn, B. Shapiro, and B. Sturmfels, Moment varieties of measures on polytopes, Annali della Scuola Normale Superiore di Pisa 21 (2020) 739-770, DOI: 10.2422/2036-2145.201808003.
[23] T. Grøsfjeld, B. Shapiro, K. Zarembo, On level crossing in random matrix pencils. II. Random perturbation of a random matrix, J. Phys. A 52 (2019), no. 21 https://doi.org/10.1088/17518121/ab1733
[24] E. Horozov, B. Shapiro, and M. Tater, In search of a higher Bochner theorem, J. Approx. Th., to appear
[25] N. Gravin, D. V. Pasechnik, B. Shapiro, M. Shapiro, On moments of a polytope, Analysis and Math. Phys., 8(2), (2018) 255-287, DOI: 10.1007/s13324-018-0226-8.
[26] R. Fröberg, S. Lundqvist, A. Oneto, and B. Shapiro, Algebraic stories from one and from the other pockets, Arnold Mathematical Journal 4(2), (2018), 137-160, https://doi.org/10.1007/s40598-018-0088-z.
[27] S. Lundqvist, A. Oneto, B. Reznick, and B. Shapiro, On generic and maximal kranks of binary forms, J. of Pure and Applied Algebra, 223 (2019) 2062-2079, DOI: 10.1016/j.jpaa.2018.08.015.
[28] D. Dimitrov, B. Shapiro, Electrostatic problems with a rational constraint and degenerate Lamé operators, Potential Analysis, 52(4), 645-659, DOI: 10.1007/s11118-018-9754-y.
[29] Vl. Kostov, B. Shapiro, Polynomials, sign patterns, and Descartes' rule, Acta Universitatis Matthiae Belii series Mathematics, Issue 2019, 1-11.
[30] B. Shapiro, F. Štampach, Non-selfajoint Toeplitz matrices whose principal submatrices have real spectrum, Constr. Approx. 49 (2019), no. 2, 191-226, https://doi.org/10.1007/s00365-017-9408-0.
[31] G. Nenashev, B. Shapiro, M. Shapiro, Secant degeneracy index of the standard strata in the space of binary forms, Arnold Mathematical Journal, 3(4), (2018) 499-510, https://doi.org/10.1007/s40598-017-0077-7.
[32] A. F. Costa, S. Natanzon, and B. Shapiro, Topological classification of generic real meromorphic functions, Annales Academiae Scientiarum Fennicae Mathematica (2018) 43 349-363.
[33] B. Shapiro, M. Tater, On spectral asymptotics of quasi-exactly solvable sextic, Exp. Math. 28 (2019), no. 1, 16-23, https://doi.org/10.1080/10586458.2017.1325792.
[34] J. Forsgård, D. Novikov, B. Shapiro, A tropical analog of Descartes' rule of signs, Int. Math. Res. Notices (2017), issue 12, 3726-3750.
[35] G. Nenashev, B. Shapiro, "K-theoretic" analogs of Postnikov-Shapiro algebra distinguishes graphs, Journal of Combinatorial Theory, Series A 148 (2017) 316-332.
[36] Y. Burman, B. Shapiro, On Hurwitz-Severi numbers. Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) 19 (2019), no. 1, 155-167. 14H50 (14H51), DOI Number: 10.2422/2036 - 2145.201605_011.
[37] B. Shapiro, K. Zarembo, On level crossing in random matrix pencils. I. Random perturbation of a fixed matrix, Journal of Physics A: Mathematical and Theoretical, Volume 50(4).
[38] B. Shapiro, A. Solynin, Root-counting measures of Jacobi polynomials and topological types and critical geodesics of related quadratic differentials, in "Analysis meets geometry: A Tribute to Mikael Passare, Trends in Mathematics", 369-438, Springer 2017.
[39] R. Bøgvad, B. Shapiro, On mother body measures with algebraic Cauchy transform, L'Enseignement Math., vol. 62, (2016) 117-142. DOI 10.4171/LEM/62-1/2-8
[40] P. Bränden, I. Krasikov, B.Shapiro, Elements of Pólya-Schur theory in finite-difference setting, Proc. of the AMS, vol. 144, issue 11 (2016) 4831-4843.
[41] R. Fröberg, B. Shapiro, On Vandermonde varieties, Mathematica Scandinavica, vol. 119, (2016) 73-91.
[42] D. Novikov, B. Shapiro, On global non-oscillation of linear ordinary differential equations with polynomial coefficients, J. Differential Equations vol 261, issue 7 (2016) 3800-3814, doi:10.1016/j.jde.2016.06.008.
[43] J. Forsgård, Vl. Kostov, B. Shapiro, Could René Descartes have known this? Experimental Mathematics, vol 24, issue 4, (2015) 438-448.
[44] B. Shapiro, Problems with polynomials - the good, the bad, and the ugly, Arnold Mathematical Journal: vol 1, issue 1 (2015), 91-99.
[45] J. Ongaro, B. Shapiro, A note on planarity stratification of Hurwitz spaces, Canadian Mathematical Bulletin vol 58, issue 3 (2015) 596-609. http://dx.doi.org/10.4153/CMB-2015-015-x.
[46] B. Shapiro, On Evgrafov-Fedoryuk's theory and quadratic differentials, Anal. Math. Phys. vol 5 (2015) 171-181, DOI 10.1007/s13324-014-0092-y.
[47] Y. Baryshnikov, B. Shapiro, How to run a centipede: a topological perspective, Geometric Control Theory and Sub-Riemannian Geometry, Springer International Publishing, (2014), 37-51.
[48] P. Alexandersson, B. Shapiro, Around multivariate Schmidt-Spitzer theorem, Lin. Algebra Appl., vol 446 (2014), 356-368.
[49] D. Pasechnik, B. Shapiro, On polygonal measures with vanishing harmonic moments, Journal d'Analyse mathematique, vol 123, issue 1 (2014) 281-301.
[50] V. Kostov, B.Shapiro, Hardy-Petrovich-Hutchinson's problem and partial theta function, Duke Math. J. vol 162, issue 5 (2013) 889-924.
[51] R. Fröberg, G. Ottaviani, and B. Shapiro, On the Waring problem for polynomial rings, PNAS, vol 109, issue 15 (2012), 5600-5602.
[52] N. Saldanha, and B. Shapiro, Spaces of locally convex curves in $S^{n}$ and combinatorics of the group $B_{n+1}^{+}$, J. of Singularities, vol 4 (2012), $1-22$.
[53] B. Shapiro, M. Shapiro, A few riddles behind Rolle's theorem, Amer. Math. Monthly, vol 119, issue 9 (2012) 787-793.
[54] P. Alexandersson, B. Shapiro, Discriminants, symmetrized graph monomials, and sums of squares, Experimental Math. vol 21, issue 4 (2012), 353-361.
[55] O. Katkova, B. Shapiro, and A. Vishnyakova, Multiplier sequences and logarithmic mesh, Comptes Rendus Mathematique vol 349, issue 1-2 (2011) 35-38.
[56] A. Khoroshkin, B. Shapiro, Using homological duality in consecutive pattern avoidance, Electr. J. Comb., vol 18, issue 2 (2011), \#P9.
[57] V. Kostov, B. Shapiro, and M. Tyaglov, Maximal univalent disks of real rational functions and Hermite-Biehler polynomials, Proc. Amer. Math. Soc. vol 139, issue 5 (2011) 1625-1635.
[58] M. Passare, M. Rojas, and B. Shapiro, New multiplier sequences via discriminant amoebae, Moscow Math. J. vol 11, issue 3 (2011) 547-560.
[59] J. Borcea, S. Friedland, and B. Shapiro, Parametric Poincaré-Perron theorem with applications, Journal d'Analyse mathematique vol 113, issue 1 (2011) 197-225.
[60] B. Shapiro, K. Takemura, and M. Tater, On spectral polynomials of the Heun equation. II, Comm. Math. Phys. vol 311, issue 2 (2012), 277-300.
[61] T. Holst, and B. Shapiro, On higher Heine-Stieltjes polynomials, Isr. J. Math. vol 183 (2011) 321-347.
[62] B. Shapiro, and M. Tater, On spectral polynomials of the Heun equation. I, JAT, vol 162 (2010) 766-781.
[63] B. Shapiro, Algebro-geometric aspects of Heine-Stieltjes theory, J. London Math. Soc. vol 83, issue 1 (2011) 36-56.
[64] V. Kostov, A. Martínez-Finkelshtein, and B. Shapiro, Narayana numbers and Schur-Szegö composition, JAT, vol 161 (2009) 464-476.
[65] A. Guterman, and B. Shapiro, On linear operators preserving the set of positive polynomials, JFPTA, vol 3, issue 2 (2009) 411-429.
[66] B. Shapiro, and M. Shapiro, On eigenvalues of rectangular matrices, Proc. Steklov Math. Inst. vol. 267, issue 1 (2009) 248-255.
[67] J. Borcea, R. Bøgvad and B. Shapiro, Homogenized spectral pencils for exactly solvable operators: asymptotics of polynomial eigenfunctions, Publ. RIMS, vol 45 (2009) 525-568. Corrigendum: "Homogenized spectral pencils for exactly solvable operators: asymptotics of polynomial eigenfunctions", Publ. RIMS, vol 85 (2012) 229-233.
[68] A. Gabrielov, A. Eremenko, and B. Shapiro, High energy eigenfunctions of one-dimensional Schrödinger operators with polynomial potentials, Comput. Methods Funct. Theory, vol 8, issue 2 (2008) 513-529.
[69] J. Borcea, B. Shapiro, Root asymptotics of spectral polynomials for the Lamé operator, Comm.Math.Phys, vol 282 (2008) 323-337.
[70] A. Gabrielov, A. Eremenko, and B. Shapiro, Zeros of eigenfunctions of some anharmonic oscillators, Annales de l'institut Fourier, vol 58, issue 2 (2008) 603-624.
[71] M. Kazarian and B. Shapiro, A Giambelli-type formula for subbundles of the tangent bundle, Pacific J. Math. vol 230, issue 1 (2007) 233-255.
[72] V. Kostov, and B. Shapiro, On the Schur-Szegö composition of polynomials, C. R. Math. Acad. Sci. Paris vol 343, issue 2 (2006) 81-86.
[73] A. Degtyarev, T. Ekedahl, I. Itengberg, B. Shapiro, and M. Shapiro, On total reality of meromorphic functions, Annales de l'institut Fourier, vol 57, issue 6 (2007) 2015-2030.
[74] T. Ekedahl, B. Shapiro, and M. Shapiro, First step towards total reality of meromorphic functions, Mosc. Math. J. vol 6, issue 1 (2006) 95-106.
[75] Yu. Burman and B. Shapiro, Around matrix-tree theorem, Math. Res. Lett. vol 13, issue 5-6 (2006) 761-774.
[76] J. Borcea, R. Bøgvad, and B. Shapiro, On rational approximation of algebraic functions, Adv. Math. vol 204, issue 2 (2006) 448-480.
[77] A. Gabrielov, D. Novikov, and B. Shapiro, Mystery of point charges, Proc. London Math. Soc. (3) vol 95, issue 2 (2007) 443-472.
[78] J. Borcea and B. Shapiro, Classifying real polynomial pencils, Int. Math. Res. Not. vol 69 (2004) 3689-3708.
[79] J. Borcea and B. Shapiro, Hyperbolic polynomials and spectral order, C. R. Math. Acad. Sci. Paris, vol 337, issue 11 (2003) 693-698.
[80] A. Postnikov and B. Shapiro, Trees, parking functions, syzygies, and deformations of monomial ideals, Trans. Amer. Math. Soc. vol 356, issue 8 (2004) 3109-3142.
[81] V. Sedykh and B. Shapiro, On two conjectures concerning convex curves, Internat. J. Math. vol 16, issue 10 (2005) 1157-1173.
[82] B. Shapiro, M. Shapiro and A. Vainshtein, Periodic de Bruijn triangles: exact and asymptotic results, Discrete Math. vol 298 issue 1-3 (2005) 321-333.
[83] B. Shapiro, Underground "Jewish University", Multiple facets of quantization and supersymmetry, World Sci. Publishing, River Edge, NJ (2002) 36-39.
[84] T. Bergkvist, H. Rullgård and B. Shapiro, On Bochner-Krall orthogonal polynomial systems, Math. Scand. vol 94, issue 1 (2004) 148-154.
[85] B. Shapiro and A. Vainshtein, Counting real rational functions with all real critical values. Dedicated to V. I. Arnold on occasion of his 65 th birthday, Moscow Math. J. vol 3, issue 2 (2003) 647-659.
[86] S. Natanzon, B. Shapiro and A. Vainshtein, Topological classification of generic real rational functions, J. Knot Theory Ramifications, vol 11, issue 7 (2002) 1063-1075.
[87] V. Kostov and B. Shapiro, On arrangements of roots for a real hyperbolic polynomial and its derivatives, Bull. Sci. Math. vol 126, issue 1 (2002) 45-60.
[88] G. Másson and B. Shapiro, On polynomial eigenfunctions of a hypergeometric-type operator, Experiment. Math. vol 10, issue 4 (2001) 609-618.
[89] B. Shapiro and A. Vainshtein, On the number of connected components in the space of $M$ polynomials in hyperbolic functions, Adv. in Appl. Math. vol 30, issue 1-2 (2003) 273-282.
[90] B. Shapiro, M. Shapiro, A. Vainshtein and A. Zelevinsky, Simply laced Coxeter groups and groups generated by symplectic transvections. Dedicated to W.Fulton on ocassion of his 60th birthday, Michigan Math. J. vol 48 (2000) 531-551.
[91] A. Postnikov, B. Shapiro, M. Shapiro, Algebras of Curvature Forms on Homogeneous Manifolds, Differential topology, Infinite-dimensional Lie algebras and applications, Amer. Math. Soc. Transl. Ser 2, vol 194, (2000) 227-235.
[92] B. Shapiro, M. Shapiro, Projective convexity in $\mathbb{P}^{3}$ implies Grassmann convexity, Internat. J. Math. vol 11, issue 4 (2000) 579-588.
[93] B. Khesin and B. Shapiro, Homotopy classification of non-degenerate quasi-periodic curves on the 2 -sphere. Geometric combinatorics (Kotor, 1998), Publ. Inst. Math. (Beograde), (N.S) vol 66, issue 80 (1999) 127-156.
[94] B. Shapiro, M. Shapiro and A. Vainshtein, Skew-symmetric vanishing lattices and intersection of Schubert cells, Internat. Math. Res. Notices no. 11, (1998) 563-588.
[95] B. Shapiro, M. Shapiro, On ring generated by Chern 2-forms on $\mathbb{S L}_{n} / B$, C. R. Acad. Sci. Paris Sér. I Math. vol 326, issue 1 (1998) 75-80.
[96] M. Kazarian, R. Montgomery and B. Shapiro, Characteristic classes for the degenerations of two-plane fields in four dimensions, Pacific J. Math. vol 179, issue 2 (1997) 355-370.
[97] B. Shapiro, M. Shapiro and A. Vainshtein, On combinatorics and topology of pairwise Intersections of Schubert cells in $\mathbb{S L}_{n} / B$ (1997), Arnold-Gelfand Mathematical Seminars, Birkhäuser Boston, Boston, MA, 397-437.
[98] B. Shapiro, $\partial$-free maps satisfy the homotopy principle, Indag. Math. (NS) vol 9, issue 1 (1998) 107-111.
[99] B. Shapiro, M. Shapiro and A. Vainshtein, Connected components in the intersection of two open opposite Schubert cells in $S L_{n}(R) / B$, Internat. Math. Res. Notices, no. 10, (1997) 469-493.
[100] B. Shapiro, Discriminants of convex curves are homeomorphic, Proc. Amer. Math. Soc. vol 126, issue 7 (1998) 1923-1930.
[101] B. Shapiro, On the number of connected components of the space of trigonometric polynomials of degree $n$ with $2 n$ distinct critical values (in Russian), Mat. Zametki, vol 62 (1997), 635-640. (English transl. in Math. Notes vol 62, issue 3-4 (1997) 529-534.
[102] B. Shapiro and V. Welker, Combinatorics and topology of stratifications of the space of monic polynomials with real coefficients, Result. Math. vol 33, issue 3-4 (1998) 338-355.
[103] V. Sedykh and B. Shapiro, On Young hulls of convex curves in $\mathbb{R}^{2 n}$, J. Geom. vol 63, issue 1-2 (1998) 168-182.
[104] B. Shapiro, Tree-like curves and their number of inflection points. Differential and symplectic topology of knots and curves, Amer. Math. Soc. Transl. Ser. 2 vol 190 (1999), 113-129.
[105] A. Gorodentsev and B. Shapiro, On associated discriminants for polynomials in one variable, Beiträge Algebra Geom. vol 39, issue 1 (1998) 53-74.
[106] B. Shapiro, M. Shapiro and A. Vainshtein, Ramified coverings of $S^{2}$ with one degenerate branching point and enumeration of edge-ordered graphs, Topics in singularity theory Amer. Math. Soc. Transl. Ser. 2, vol 180 (1997) 219-227.
[107] B. Shapiro, Normal forms of the Whitney umbrella with respect to a cone-preserving contact group (Russian), Funktsional. Anal. i Prilozhen. vol 31, issue 4 (1997), 635-640 (English transl. in Funct. Anal. Applic. vol 31, issue 2 (1997) 91-94.
[108] B. Shapiro, M. Shapiro and A. Vainshtein, Kazhdan-Lusztig polynomials for certain varieties of incomplete flags. Disc. Math. vol 180 (1998) 345-355.
[109] B. Shapiro, On singularities of smooth maps to a space with a fixed cone, Math. Scand. vol 77 , issue 1 (1995) 19-44.
[110] B. Shapiro, M. Shapiro, On the boundary of totally positive upper triangular matrices, Linear Algebra Appl. vol 231 (1995) 105-109.
[111] B. Shapiro, M. Shapiro and A. Vainshtein, Topology of intersections of Schubert cells and Hecke algebra. Discr. Math. vol 153, issue 1-3 (1996) 305-318.
[112] K. Jewell, P. Orlik and B. Shapiro, On the complements of affine subspace arrangements, Topology Appl. vol 56 (1994) 215-233.
[113] B. Shapiro, The mixed Hodge structure of the complement to an arbitrary arrangement of affine complex hyperplanes is pure, Proc. Amer. Math. Soc. vol 117, issue 4 (1993), 931-934.
[114] B. Khesin and B. Shapiro, Swallowtails and Whitney umbrellas are homeomorphic, J. Algebraic Geom. vol 1, issue 4 (1992) 549-560.
[115] B. Khesin and B. Shapiro, Nondegenerate curves on $S^{2}$ and orbit classification of the Zamolodchikov algebra, Comm. Math. Phys. vol 145 (1992) 357-362
[116] B. Shapiro and M. Shapiro, On the number of connected components in the space of closed non-degenerate curves on $S^{n}$, Bull. Amer. Math. Soc. (N.S.) vol 25, issue 1 (1991) 75-79.
[117] B. Shapiro and M. Shapiro, The M-property of flag varieties, Topology Appl. vol 43, issue 1 (1992) 65-81.
[118] B. Shapiro and A. Vainshtein, Euler characteristics for links of Schubert cells in the space of complete flags, Adv. Sov. Math. Theory of singularities and its applications vol 1 (1990), 273-286, AMS, Providence, RI.
[119] B. Shapiro, Spaces of linear differential equations and flag manifolds. (Russian) Izv. Akad. Nauk SSSR Ser. Mat. vol 54, issue 1 (1990), 173-187 (English transl. in Math. USSR - Izv. vol 36, issue 1 (1991), 183-197.
[120] V. Kostov and B. Shapiro, The flags in $R^{3}$, transversal to a given set of flags, form an M-manifold. (Russian), Vestnik Moskov. Univ. Ser. I Mat. Mekh. vol. 44 , issue 5, (1989) 26-30. (English transl. in Mosc. Univ. Math. Bull. vol 44, issue 5 (1989), 31-36)
[121] B. Shapiro, Linear differential equations and real flag manifolds. (Russian), Funktsional. Anal. i Prilozhen. vol 23, issue 1 (1989), 92-93. (English transl. in Funct. Anal. Appl. vol 23, issue 1 (1989), 82-83)
[122] A. Vainshtein and B. Shapiro, Singularities of the boundary of a domain of hyperbolicity. (Russian), Itogi Nauki i Tekhniki, Current problems in mathematics. Newest results, 236, Akad. Nauk SSSR, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, vol 33 (1988), 193214 (English transl. in J. Soviet Math. vol 52, issue 4 (1990), 3326-3337)
[123] A. Vainshtein and B. Shapiro, Multi-dimensional analogues of the Newton and Ivory theorems. (Russian), Funktsional. Anal. i Prilozhen. vol 19, issue 1 (1985), 20-24. (English transl. in Functional Anal. Appl. vol 19 (1985), 17-20)
[124] A. Vainshtein, L. Reitblat, and B. Shapiro, Asymptotic behavior of the solution of difference equations of two variables. (Russian), Differentsial' nye Uravneniya vol. 20, issue 8 (1984), 1433-1437. (no English translation available, recorded on Mathscinet)
[125] A. Vainshtein and B. Shapiro, Structure of a set of $\bar{a}$-representable numbers. (Russian), Izv. Vyssh. Uchebn. Zaved. Mat. (1980), issue 5, 8-11. (English transl. in Soviet Math. (Izv. VUZ) 1980.
[126] B. Shapiro, An algorithm for construction of a chain covering of an undirected graph. (Russian), Moskov. Inst. Inzh. Zheleznodorozh. Transporta Trudy, Prikl. Mat. i Zadachi Zheleznodorozh. Transporta, vol. 640 (1979), 138-142, (no English translation available, recorded on Mathscinet).

## MISCELLANIA, CONFERENCE PROCEEDINGS, PREPRINTS ETC

[127] B. Shapiro, A. Vaintrob, On algebras and matroids associated to undirected graphs, arXiv:2005.06160
[128] R. Bøgvad, D. Khavinson, B. Shapiro, On asymptotic Gauss-Lucas theorem, arXiv:1510.02339v1.
[129] B.Shapiro, M. Tater, Polynomial solutions of the Heun equation, Acta Polytechnica, vol 51(4), (2011) 90-94.
[130] B. Shapiro, M. Shapiro, Linear ordinary differential equations and Schubert calculus, Proc. of the 17-th Gökova Geometry and Topology conference, 2010, 79-87.
[131] B. Shapiro, Root asymptotics for the eigenfunctions of univariate differential operators, Acta Polytechnica, vol 50(5) (2010) 77-83.
[132] B. Shapiro, and M. Tater, Asymptotics of spectral polynomials, Acta Polytechnica vol 47(23) (2007) 32-35.
[133] B. Shapiro and A. Vainshtein, The Maslov index for a quadruple of Lagrangian planes and the index of a two-folded closed trajectory of the Birkhoff billiards in $\mathbb{R}^{n+1}$. (Russian), Proc. 13th USSR Sem. on Operator Theory in Functional Spaces, Kuǐbyshev (1988), 39 (no English translation available).
[134] B. Shapiro, M. Shapiro and A. Vainshtein, Generalized Lyashko-Looijenga map, ramified coverings of the sphere, and enumeration of edge-labeled $k$-trees, Proc. 8th Intl. Conf. on Formal Power Series and Algebr. Combinatorics, (1996), 421-426.
[135] B. Shapiro, M. Shapiro and A. Vainshtein, Magic of Entringer numbers and Olivier functions, Proc. 14th Intl. Conf. on Formal Power Series and Algebr. Combinatorics, (2002), 211-219.
[136] B. Shapiro and A. Vainshtein, About the Newtonian attraction of ellipsoids. (Russian) Kvant, issue 5 (1990), 18-25 (no English translation available and no record on Mathscinet)
[137] B. Shapiro, The boundary of disconjugate domain for linear Hamiltonian systems. (Russian), Uspekhi Mat. Nauk, vol 43, issue 4 (1988), 170-171 (no English translation available and no record on Mathscinet)
[138] A. Vainshtein and B. Shapiro, Singularities of hyperbolic polynomials and the boundary of a domain of hyperbolicity. (Russian), Uspekhi Mat. Nauk vol 40, issue 5 (1985), 305.
[139] A. Guterman and B. Shapiro, A note on positivity preservers, preprint available from my homepage.
[140] J-E.Björk, J.Borcea and B. Shapiro, Hypergeometric-type integrals and Fuchsian differential operators, preprint available from my homepage.

## MORE RESEARCH IN PROGRESS

[141] D. Novikov, B. Shapiro, Counting real zeros of exponential sums, in preparation.
[142] G. Nenashev, A. Postnikov, B. Shapiro, M. Shapiro, Algebras generated by curvature forms on $\mathbb{S L}_{n} / P$ and Schubert calculus, in preparation.
[143] Y. Burman, B. Shapiro, Inertia minimizers in the inverse moment problem in logarithmic potential theory, in preparation.
[144] T. Grøsfjeld, B. Shapiro, K. Zarembo, On level crossing in random matrix pencils. III. Analogs of Wigner's and Girko's laws, in preparation.
[145] B. Shapiro, Variation on a theme of Kac-Murdock-Szegö and Kuijlaars-van Assche-Tilli. Probabilistic approach, in preparation.

