

LIST OF PUBLICATIONS

Miron B. Bekker

Peer Reviewed Articles in Mathematics

1. *Extreme Self-Adjoint Extensions of a Semibounded q -Difference Operator* (with M. Bohner and H. Voulov). *Mathematische Nachrichten* 1-16 (2013),
DOI 10.1002/mana.201200261
2. *On the roots of determinants of a class of holomorphic matrix-valued functions.* *Journal of Mathematical Analysis and Applications.* **408** (2013), 291-297
3. *On Selfadjoint Homogeneous Operators* (with B. Bekker). *Complex Analysis and Operator Theory*, (2013) 7:9-31.
4. *A q -Difference Operator with Discrete and Simple Spectrum* (with M. Bohner and H. Voulov). *Methods of Functional Analysis and Topology*, Vol.17, No.4 (2011), 281-294.
5. *On Spectral Analysis of a Scale Invariant Difference Operator* (with M. Bohner, A. Herega, H. Voulov). *J. Phys. A: Math. Theor.* 43 (2010) 145207
6. *Strange Attractors and Chaotic Behavior of a Mathematical Model for a Centrifugal Filter with Feedback (Picturepaper)"* (with A. Herega, T. Lozovskiy). *Advances in Dynamical Systems and Applications*, Vol 4, No 2 (2009), 179-194.
7. *Imitation Model of Synergetic Processes in Dynamical Disperse Systems. Ξ -criteria* (with A.M. Aslanov, V.N. Vyrovoy, and A.N. Herega). *Journal of Technical Physics*, Vol. 80, No. 1 (2010), 148-151 (Russian).
8. *Automorphic Invariant Isometric Operators.* *Complex Analysis and Operator Theory*, Vol. 3, No 3 (2009), 583-610.
9. *On One class of Non-Densely Defined Hermitian Contractions.* *Advances in Dynamical Systems and Applications*, Vol. 2, No 2 (2007), 141-165
10. *On Non-Densely Defined Invariant Hermitian Contractions.* *Methods of Functional Analysis and Topology*, Vol. 13, No. 3 (2007), 223-235.
11. *On Periodic Operators* (with E. Tsekanovskii). *Proceedings of the Sixteenth Crimea Autumn Mathematical School-Symposium (KROMSH-2005).* Simferopol, 2006, Crimea, Ukraine, 204-208.
12. *Tangential Interpolation Problem for a Class of Automorphic Matrix – Functions,* (with A.A.Nudel'man). *Linear Algebra and its Applications*, Vol. 397, 2005, 171-184

13. *The Helson- Szegö Theorem for Operator – Valued Weight (with A. P. Ugol'nikov)*, Methods of Functional Analysis and Topology, Vol. 10, No 3, 2004, 11-16.
14. *On Periodic Matrix-Valued Weyl-Titchmarsh Functions (with E. Tsekanovskii)*, J. Math. Anal. Appl., Vol. 294, 2004, 666-686
15. *On Two-Dimensional Trigonometric Moment Problem*, Methods of Functional Analysis and Topology, vol. 3, no 9 (2003), 185-188.
16. *On the Extension Problem for the Continuous Positive Definite Generalized Toeplitz Kernels*. "Illinois Journal of Mathematics", **45**, No 4, Winter 2001, 1315-1330
17. *On the Extension Problem for the Continuous Positive Definite Generalized Toeplitz Kernels Definite on a Finite Interval*, Integral Equations and Operator Theory, **35**, No 4, (1999), 379-397.
18. *On Integral Representation of the Continuous $O(n)$ -Positive Definite Functions*, Integral Equations and Operator Theory, **31** (1998), 133-149.
19. *On the Construction of Positive Polynomials of Two Variables Which Cannot Be Represented as a Sum of Squares. The Results of Numerical Analysis*, (With A. P. Ugol'nikov), III Seminar "Applied Research and Simulations". Odessa, 1996, 18-20 (Russian).
20. *Isometric Operators with Directing Mappings*, Modern Analysis and its Applications, Kiev, Naukova Dumka Publishing House, 1989, pp. 3-9, (Russian).
21. *On Continuation from a Half-Axis of Continuous Positive Definite Generalized Toeplitz Kernel*, Dokl. Acad. Nauk Ukrain. SSR. No.4, **A**, (1989), 3-6 (Russian).
22. *An Integral Representation of Hermitian-Positive Matrix Kernels of a Special Structure*, Ukrainian Math Zh. **40**, No. 5, (1988), 626-628 (Russian); Transl. in Ukrainian Math. Journal. **40** (1988) No.5, 533-535.

Peer Reviewed Articles in Applied Science

1. *Quantitative Aspects of Chirality. I: Method of Dissymmetry Functions (with V. E. Kuz'min, I. B. Stel'makh, D. V. Pozigun)*, Journal of Physical Organic Chemistry, **25**, (1992), 295-298.
2. *Quantitative Aspects of Chirality. II: Analysis of Dissymmetry Function Behavior Depending on the Structure of Model Systems (with V. E. Kuz'min, I.B. Stel'makh, D. V. Pozigun)*, Journal of Physical Organic Chemistry. **25**, (1992), 299-307.

3. *Canonical Equation of State of Imperfect Gases in the High Temperature and Pressure Ranges* (With V.I.Nedostup, E.P. Gal'kevich, E. S. Kaminsky), Thermophysics of High Temperatures, **26**, N.5, (1988) 874-877, (Russian); Transl. Teplofizika Vysokikh Temperatur, (1989), 674-677.
4. *Calculation of the Third Virial Coefficient for Pair-Additive Spherical - Symmetric Potentials of Intermolecular Interaction* (With L. S. Turchinskaja), Thermophysics of High Temperature, **25**, No.5, (1987) (Russian).
5. *Thermodynamic Properties of Binary System of UF₆ - WF₆* (With V. I. Nedostup, I.V.Onufriev), in book: Thermophysical Properties of Substances and Materials, Moscow, Standart Publishing House, No.22, (1985), 27-44 (Russian).
6. *Calculation of Fluctuations of Thermodynamic Quantities in Equilibrium States* (With A. P. Ugol'nikov), Izv. VUZOV, Physics, No.2, (1985), 116-117 (Russian).
7. *Comparative Method of Calculations of Thermodynamic Properties of Gases*, (With V. I. Nedostup, E. P. Gal'kevich, B. A. Koval'chuk), Industrial Thermotechnics No.2, (1984), 67-70 (Russian).
8. *Determination of the Parameters of the Potential for the Interaction Between Polar Molecules* (With A. P. Ugol'nikov), Russ. Journal of Phys. Chem. **58**, No.3, (1984), 765-766 (Russian). Transl in Zhurnal Fizicheskoi Khimii, **58**, 1984, 466.
9. *Calculation of Thermodynamic Properties of Less Well Characterized Gases* (With V.I. Nedostup). Russ. Journal of Phys. Chem. **56**, No.6, (1982), 1519- 1521 (Russian). Transl. in Zhurnal Fizicheskoi Khimii, **56**,(1982), 922-924.
10. *Calculation of Thermodynamic Properties of Mixtures of Compressed Gases*, (With V. I Nedostup), Thermophysics of High Temperatures, **18**, No.6, (1980), 1168-1171 (Russian); Transl. in Teplofizika Vysokikh Temperatur, **18** No.6, 1981, 869-871.
11. *Kinetics of Phase Transitions of Superheated and Supercooled Liquid Drops* (With V. E. Glushkov, N. V. Fedoseeva , N. H. Kopyt), Physics of Air Dispersive Systems, No.16, 1977, 16-21 (Russian).

Presentations Published as Abstract

1. *On Helson-Zsego Theorem for Operator-Valued Weight* (with A.P. Ugol'nikov), ISAAC 2003, Toronto, August 2003
2. *Combinatorial Topology - The Source of New Stereochemical Concepts* (with V.E. Kuz'min, V. A. Chelombit'ko, L .P. Trigub, I. V. Udanova), 11-th Dubrovnik International Conference on Interfaces Among Mathematics, Chemistry and

Computer Sciences. Croatia, Dubrovnik, 1996.

3. *On the Extension Problem for the Continuous Positive Definite Generalized Toeplitz Kernels*, 1996 British - Russian Workshop in Functional Analysis, St.-Petersburg, October 1996
4. *Quantitative Description of Molecular Chirality: Method of Dissymmetry Functions* (With V. E. Kuz'min, I. B. Stel'makh, L. A. Kutulya), Second World Congress of Theoretical Organic Chemistry, 1990, Toronto, BA -22.
5. *New Method of Quantitative Estimation of Chirality for Various Conformations of Molecules* (With V. E. Kuz'min, I. B. Stel'makh, I. V. Udanova), VIII All-Union Conference on Intermolecular Interaction and Conformations of Molecules, Novosibirsk 1990, part I, p.100 (Russian).
6. *Equation of State of a Molecular System up to High Temperatures and Pressures* (With V. I. Nedostup, E. P. Gal'kevich, E. S. Kaminsky), 10-th IUPAC Conference of Chemical Thermodynamics, Prague, Czechoslovakia, 1988, part II.
7. *New Method of Calculations of Thermodynamics properties for Gaseous and Liquid Mixtures* (With V. I. Nedostup, E. P. Gal'kevich, E.S.Kaminsky). 10-th IUPAC Conference of Chemical Thermodynamics. Prague, Czechoslovakia 1988, part II, B14.
8. *Equation of State for Real Gases Under High Pressure* (With V. I. Nedostup, E. P. Gal'kevich, E. S. Kaminsky), 3-d All-Union Conference on the Properties of Materials and Substances, Moscow 1987, 123-124 (Russian).
9. *Computerized Information System on Thermophysical Properties of Thermal Engineering Materials* (With V. I. Nedostup, E. P. Gal'kevich, I. Z.Rizhaja), 5-th Conference on Thermogrammetry and Thermal Engineering, Budapest, Hungary, 1987, pp.173-176.
10. *Calculation of Thermodynamic Properties of Gases at High Temperatures and Pressures* (With V. I. Nedostup), VII-th All-Union Conference on Thermophysical Properties, Moscow, 1982, 54-56 (Russian).
11. *Thermophysical Properties and Electric Conductivity of the Binary System UF₆ - WF₆ Over a Wide Range of Parameters* (With V. Yu. Zitserman, A.N. Drozdov, V. I. Nedostup, I.V.Onufriev). VIII- th European Conference on Thermophysical Properties, Abstracts Baden-Baden, (1982), paper No.144, 267-269.
12. *Accurate Method for the Determination of the Second Virial Coefficients*, (With V. I. Nedostup, E. P.Gal'kevich), III All-Union Seminar Metrological Support of Thermophysical Measurements Under Low Temperature, Khabarovsk, Russia, 1979, 25-26 (Russian).

PRESENTATIONS

Professional Talks

May	2013	6 th International Conference “Complex Analysis and Dynamical Systems, VI”, Nahariya, Israel.
May	2011	5 th International Conference “Complex Analysis and Dynamical Systems, Akko, Israel.
October	2009	University of Kansas Lawrence
September	2009	Prairie Analysis Seminar, Kansas State University
October	2007	Meeting of AMS, Special Session on Sequence Spaces and Transformations DePaul University, Chicago, IL
October	2007	Saint Louis University
May	2006	Great Plains Operator Theory Symposium, University of Iowa, Iowa City
December	2005	International Conference in Harmonic Analysis and Ergodic Theory, De Paul University, Chicago IL
July	2005	International Workshop in Operator Theory and Applications, Stross CT
March	2005	North Carolina State University, Raleigh, NC
February	2005	Idaho State University, Pocatello ID
October	2004	Meeting of AMS, Special Session in Differential Operators Northwestern University, Evanston, Illinois
October	2003	University of Missouri, Columbia
March	2003	Toronto University, SUNY at Buffalo
October	2002	University of Rochester, Rochester NY
August	2002	International Workshop in Operator Theory and Applications, Virginia Tech, VA
April	2002	Washington University, St. Louis
October	2000	University of California San-Diego
December	1999	University of Illinois at Chicago
October	1999	University of Missouri, Columbia
October	1999	Meeting of AMS, Special Session in Operator Theory, Charlotte, NC
September	1999	Northwestern University, Evanston, Illinois

Informal Talks

“Methods of “Ideal Curves” in Thermodynamics of Real Gases”. Graduate Student seminar, Department of Chemical Engineering, University of Missouri - Rolla, November 2001.

“Linear Stationary Dynamical Systems with Discrete Time”. Graduate Student seminar, Department of Mathematics and Statistics, University of Missouri - Rolla, March 2002

Talks on Analysis seminar, Department of Mathematics and Statistics, University of Missouri - Rolla, 2001-2007.

Talks on Graduate seminar, Department of Mathematics and Statistics, University of Missouri – Kansas City, 2009-2009.