

# *Curriculum Vitae*

## **Personal Information**

1. Name: Ilya Spitkovsky Date October 16, 2009  
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2. Position: Full Professor Mathematics  
Rank Department

## **Education**

3. Academic degrees, institutions and dates

Doctor of Science in Physics and Mathematics (Habilitation Degree)	Institute of Mathematics, Georgian Academy of Sciences	1987
Candidate of Science in Physics and Mathematics (equivalent to PhD)	University of Belorussia, Minsk	1978
M.S. with honors in Mathematics and Education	University of Odessa, Ukraine	1975

## Academic positions

1990–  
Present Department of Mathematics, College of William and Mary, Williamsburg  
**Professor** (August 1993 – Present)  
**Associate Professor** (August 1992 – August 1993)  
**Visiting Professor** (August 1990 – July 1992)

Instituto Superior Tecnico, Lisbon, Portugal  
**Visiting Scientist** (Spring 2009)

University of Pisa, Italy  
**Visiting Professor** (Summer 2004)

Katholieke Universiteit Leuven, Belgium  
**Visiting Scientist** (April – May 2003)

Technische Universität Darmstadt, Germany  
**Visiting C3 Professor** (Summer 1992)

1986–1989 Department of Integral Equations and Boundary Value Problems,  
Marine Hydrophysical Institute, Ukrainian Academy of Sciences  
**Leading Research Fellow** (October 1988 – November 1989)  
**Senior Research Fellow** (February 1986 – September 1988)

1978–1986 Department of Integral Equations and Mathematical Simulating,  
Economics Institute, Ukrainian Academy of Sciences  
**Senior Research Fellow** (December 1980 – February 1986)  
**Junior Research Fellow** (November 1978 – December 1980)

1976–1989 Department of Mathematics, University of Odessa, Ukraine  
**Professor** (September 1987 – July 1989)  
**Associate Professor** (September 1980 – July 1982)  
**Assistant Professor** (February 1976 – July 1978)

## Editorial Positions

Integral Equations and Operator Theory	Editorial Board member (2004 – present)
Operators and Matrices	Editorial Board member (2006 – present)
International Journal for Information Systems Sciences	Associate Editor (2008 – present)
Armenian Journal of Mathematics	Editorial Board Member (2008 – present)
International Journal of Mathematics and Mathematical Sciences	Editorial Board Member (2009 – present)

## Honors, Prizes and Awards

May 1993	Alumni Fellow Teaching Award
September 1984	Certificate <b>Senior Scientist</b> in Mathematical Analysis, awarded by the Academy of Sciences of the USSR
April 1984	Ukrainian Academy of Sciences Award “For the best research in mathematics among young scientists”
1974–1975	Lenin scholarship

## Courses taught

Calculus, linear algebra, foundations of mathematics, analytic geometry, differential equations, real analysis, complex analysis, general topology, functional analysis, operator theory, linear programming,  $C^*$ -algebras, boundary value problems, spectral theory of Toeplitz operators, mathematics of finance, introduction to computational algebraic geometry.

## Graduate and Undergraduate Advising

### Ph.D. students

1988	Sergei Yatsko	University of Odessa, Ukraine
1990	Peter Tishin	University of Odessa, Ukraine
1990	Aziz Tashbaev	University of Odessa, Ukraine

### Post Doctorate Advising

Spring 1996	Torsten Ehrhardt	(Technical University of Chemnitz, Germany)
2002–03 AY	Josue Ramirez	(CINVESTAV, Mexico)

### Honors projects

2005-06 AY	David Rose	Results concerning the Aluthge transform (Highest Honor)
2006–07 AY	Abraham Isgur	Factorization of some almost periodic matrix functions (Highest Honor)

## Research Experience for Undergraduates (REU)

Sigal Gottlieb, Inequalities involving the numerical radius (Summer 1991, advised jointly with Charlie Johnson),

Mark Gelfand, Almost periodic factorization: Applicability of the division algorithm (Summer 1993),

Dennis Keeler, The numerical range of  $3 \times 3$  matrices (Summer 1994, advised jointly with Leiba Rodman),

Sudheer Shukla, Equality of higher numerical ranges of matrices and a conjecture of Kippenhahn on hermitian pencils (Summer 1995, advised jointly with Chi Kwong Li),

Darryl Yong, Almost periodic factorization of certain block triangular matrix functions (Summer 1995),

Daniel Quint, New cases of almost periodic factorization of triangular matrix functions (Summer 1996, advised jointly with Leiba Rodman),

Ronald Walker, Almost periodic factorization of block triangular matrix functions revisited (Summer 1997),

Laren Caston and Milena Savova, On eigenvalues and boundary curvature of the numerical range (Summer 1999, advised jointly with Nahum Zobin),

Nicholas McCarthy and David Ogilvie, Birkhoff's theorem and convex hulls of Coxeter groups (Summer 1999, advised jointly with Nahum Zobin),

Walter Lin, Factorization of some triangular almost periodic matrix functions (1999-2000 AY),

Chris Hillar, Positive eigenvalues and two-letter generalized words (Summer 2000, advised jointly with Charlie Johnson),

Ethan Brown, On matrices with elliptical numerical ranges and on flat portions on the boundary of the numerical range (Summer 2002 and 2002-03 AY),

Justin Droba and David Rose, On some properties of the Aluthge transform (Summer 2005),

Anastasia Boryssenko and Bich Hoai, On power dominance of positive semi definite matrices (Summer 2006, advised jointly with Charlie Johnson),

Hakan Seyalioglu, Cones invariant under families of matrices (2006-07 AY, advised jointly with Leiba Rodman),

Ashwin Rastogi, On comparison of the division algorithm and Portuguese transformation approach to explicit factorization of certain matrix functions (2007-08 AY, advised jointly with Leiba Rodman),

Eduard Einstein, The ratio field of values (Summer 2009, advised jointly with Charlie Johnson).

The results of work with undergraduates are in items [71], [84], [88], [92], [93], [98], [100], [105], [112], [114], [117], [127], [129], [139], [140], [141], [144], [147], [152] of joint publications with them.

## Fellowships and Grants

### Grants awarded by outside agencies

- 2005–09 NSF Grant DMS-0456625 “Wiener-Hopf Factorization and its Applications” \$ 153,000
- 2000–04 NSF Grant DMS-9988579 “Problems in Operator and Matrix Theory” \$ 201,489
- 1999 NRC COBASE Grant “Toeplitz Operators with Matrix Semi Almost Periodic Symbols and their Applications in Diffraction Theory” \$ 2,750
- 1998–2000 NSF Grant DMS-9800704 “ Almost Periodic and Multivariable Periodic Matrix Functions: Extensions, Factorizations, Applications” \$ 120,522
- 1997–99 NATO Grant CRG-950332 “Toeplitz Operators and Algebras of Convolution Type Operators” (renewal) \$ 7,400
- 1995–97 NATO Grant CRG-950332 “Toeplitz Operators and Algebras of Convolution Type Operators” \$ 6,234
- 1994–97 NSF Grant DMS-9401848 “Topics in Operator Theory” \$ 67,500
- 1991–93 NSF Grant DMS-9101143 “Matrices, Operators and Factorization” \$ 37,550

### Grants received from William and Mary

- 2008 Faculty Research Assignment (taken during 2008-09 academic year)
- 2005 Faculty summer research grant
- 2001 Faculty Research Assignment (taken during 2002-03 academic year)
- 2000 Faculty summer research grant
- 1998 Faculty summer research grant
- 1995 Faculty Research Assignment
- 1994 Faculty summer research grant
- 1993 Faculty summer research grant.

# Research

## Refereed research papers

1. The reconstruction of a unitary operator from two of its diagonal blocks, *Mat. Issled.* **8** (1973), no. 4 (30), 187–193. **MR 50 # 2997**.
2. Stability of partial indices of the Riemann boundary value problem with a strictly nondegenerate matrix, *Dokl. Akad. Nauk SSSR* **218** (1974), 46–49. **MR 52 # 767** (English translation in *Soviet Math. Dokl.* **15** (1974), no. 5, 1267–1271).
3. The Riemann boundary value problem with a Hermitian matrix, *Dokl. Akad. Nauk SSSR* **221** (1975), no. 6, 1280–1283. (with *A.M.Nikolaichuk*). **MR 53 # 8444** (English translation in *Soviet Math. Dokl.* (1975), no. 6, 533–536).
4. Factorization of Hermitian matrix-valued functions, and its applications to boundary value problems, *Ukrain. Mat. Zh.* **27** (1975), no. 6, 767–779 (with *A.M.Nikolaichuk*). **MR 53 # 13591** (English translation in *Ukrainian Math. J.* **30** (1975)).
5. The problem of the factorization of measurable matrix-valued functions, *Dokl. Akad. Nauk SSSR* **227** (1976), no. 3, 576–579. **MR 54 # 10017** (English translation in *Soviet. Math. Dokl.* **17** (1976), no. 2, 481–485).
6. The partial indices of continuous matrix-valued functions, *Dokl. Akad. Nauk SSSR* **229** (1976), no. 5, 1059–1062. **MR 55 # 13278** (English translation in *Soviet Math. Dokl.* **17** (1976), no. 4, 1155–1159).
7. The multipliers that do not influence factorizability, *Dokl. Akad. Nauk SSSR* **231** (1976), no. 6, 1300–1303. **MR 55 # 6232** (English translation in *Soviet Math. Dokl.* **17** (1976), no. 6, 1733–1738).
8. The factorization of matrix-valued functions on the unit circle, *Dokl. Akad. Nauk SSSR* **234** (1977), no. 2, 287–290 (with *M.G.Krein*). **MR 56 # 1118** (English translation in *Soviet Math. Dokl.* **18** (1977), no. 3, 641–645).
9. The factorization of matrix valued functions whose Hausdorff set lies inside an angle, *Soobshch. Akad Nauk Gruzin. SSR* **86** (1977), no. 3, 561–564. **MR 57 # 6456**.
10. Factorization of  $\alpha$ -sectorial matrix valued functions on the unit circle, *Operators in Banach spaces. Mat. Issled.* **47** (1978), 41–63 (with *M.G.Krein*). **MR 81d:47017**.
11. The block structure of  $J$ -unitary operators, *Teor. Funktsii, Funktsional. Anal. i Prilozhen.* **30** (1978), 129–138. **MR 80a:47056**.
12. On the factorability of measurable matrix-valued functions, *Dokl. Akad. Nauk SSSR* **240** (1978), no. 3, 541–544. **MR 58 # 12489** (English translation in *Soviet Math. Dokl.* **19** (1978), no. 3, 647–651).

13. On the theory of the generalized Riemann boundary value problem in the classes  $L_p$ , *Ukrain. Mat. Zh.* **31** (1979), no. 1, 63–73. **MR 81e:30053** (English translation in *Ukrainian Math. J.* **31** (1979), 47–57).
14. The block structure of  $J$ -unitary operators. II, *Teor. Funktsii, Funktsional. Anal. i Prilozhen.* **31** (1979), 150–157. **MR 80h:47046**.
15. On the problem of forming of water resources economical estimate, in: *Economics of the World Ocean* (1979), Kiev, Economical Institute, Ukrainian Academy of Sciences (with *G.S.Litvinchuk, A.N.Bukreev*).
16. Multipliers that do not effect factorizability, *Mat. Zametki*, **27** (1980), no. 2, 291–299. **MR 82g:42008** (English translation in *Math. Notes* **27** (1980), 145–149).
17. Sharp estimates of the defect numbers of a generalized Riemann boundary value problem and some problems on approximation by rational functions with partially fixed poles, *Uspehi Mat. Nauk* **36** (1981), no. 4 (with *G.S.Litvinchuk*).
18. Some estimates for partial indices of measurable matrix-valued functions, *Mat. Sb.* **111** (**153**) (1980), no. 2, 227–248. **MR 81k:45004** (English translation in *Math. USSR Sbornik* **39** (1981), no. 2, 207–226).
19. Block operators and related questions of the theory of factorization of matrix-valued functions, *Dokl. Akad. Nauk SSSR* **254** (1980), no. 4, 816–820. **MR 81k:47024** (English translation in *Soviet Math. Dokl.* **22** (1980), no. 2, 471–475).
20. Exact estimates of defect numbers of the generalized Riemann boundary value problem, *Dokl. Akad. Nauk SSSR* **255** (1980), no. 5, 1042–1046 (with *G.S.Litvinchuk*). **MR 82b:30051** (English translation in *Soviet Math. Dokl.* **22** (1980), no. 3, 781–785).
21. Factorization of measurable matrix-valued functions and related problems in the theory of systems of singular integral equations and the vector Riemann boundary value problem. I, *Differentsial'nye Uravnenia* **17** (1981), no. 4, 697–709. **MR 82j:30067** (English translation in *Differential equations* **17** (1981), 477–485).
22. On the algebra generated by two projections, *Dokl. Akad. Nauk Ukrain. SSR, Ser. A*, **8** (1981), 10–13 (with *N.L.Vasilevsky*). **MR 82k:47063**.
23. An effective method of factorization, *Ukrain. Mat. Zh.* **34** (1982), no. 1, 15–19 (with *V.N.Gavdzinsky*). **MR 83g:30049** (English translation in *Ukrainian Math. J.* **34** (1982), 13–16).

24. Sharp estimates of the defect numbers of a generalized Riemann boundary value problem, factorization of Hermitian matrix functions, and some problems on approximation of meromorphic functions, *Mat. Sb. (N.S.)* **117 (159)** (1982), no. 2, 196–215 (with *G.S.Litvinchuk*). **MR 83g:30050** (English translation in *Math. USSR Sbornik* **45** (1983), no. 2, 205–224).
25. Factorization of measurable matrix-valued functions and related problems in the theory of systems of singular integral equations and the vector Riemann boundary value problem. II, *Differentsial'nye Uravnenia* **18** (1982), no.3, 487–498. **MR 84j:30077** (English translation in *Differential Equations* **18** (1982), 373–382).
26. A criterion for the subnormalcy of operators in Hilbert space, *Funktsional. Anal. i Prilozhen.* **16** (1982), no. 2, 86–87. **MR 83i:47033** (English translation in *Functional Analysis and its Applications* **16** (1982), 148–150).
27. Some generalizations of Szegő's first limit theorem, *Anal. Math.* **9** (1983), no. 1, 23–41 (with *M.G.Krein*). **MR 84i:15017**.
28. On the Noethericity of some singular integral operators with matrix coefficients of class *SAP*, and systems of convolution equations on a finite interval associated with them, *Dokl. Akad. Nauk SSSR* **269** (1983), no. 3, 531–535 (with *Yu.I.Karlovich*). **MR 85d:47053** (English translation in *Soviet Math. Dokl.* **27** (1983), no. 2, 358–363).
29. On the application of some classes of integro-functional equations to the economical-ecological systems simulation, in: *Applications of mathematical methods in economical-ecological researches* (1983), Kiev, Economical Institute, Ukrainian Academy of Sciences (with *V.K.Bulitko, A.A.Karelin*).
30. On one model of the association structured by the parameter, the same edition (with *Yu.D.Latushkin*).
31. Factorization of certain classes of semi-almost-periodic matrix functions and its applications to systems of equations of convolution type, *Izv. Vyssh. Uchebn. Zaved. Mat.* **4** (1983), 88–94. **MR 85h:45009** (English translation in *Soviet Math. – Iz. VUZ* **27** (1983), 107–115).
32. Factorization of matrix functions belonging the classes  $\tilde{A}_n(p)$  and *TL*, *Ukrain. Mat. Zh.* **35** (1983), no.4, 455–460. **MR 84k:30045** (English translation in *Ukrainian Math. J.* **35** (1983), 383–388).
33. Block-Toeplitz matrices and associated properties of a Gaussian model on the half axis, *Teoret. Mat. Fiz.* **63** (1985), no. 1, 154–160 (with *A.L.Sakhnovich*). **MR 87a:82065** (English translation in *Theoretical & Mathematical Physics*).

34. Factorization of almost periodic matrix functions and Fredholm theory of Toeplitz operators with semi almost periodic matrix symbols, in *Linear and Complex Analysis problem book: 199 research problems, Lecture Notes in Math.* **1043**, Springer–Verlag (1984), 279–282 (problem 5.9) (with *Yu.I.Karlovich*).
35. Some problems connected with the Szegö limit theorems, the same edition, 285–288 (problem 5.11) (with *M.G.Krein*).
36. The Riemann boundary value problem whose matrix coefficient admits infinite partial indices, *Izv. Vyssh. Uchebn. Zaved. Mat.* **6** (1985), 45–53 (with *S.I.Yatsko*).  
**MR 87b:30068** (English translation in *Soviet Mathematics (Iz. VUZ)* **29** (1985), 55–65).
37. Szegö limit theorems in the case of a matrix locally sectorial symbol, *Dokl. Akad. Nauk SSSR* **284** (1985), no.1, 61–65. **MR 87b:47027** (English translation in *Soviet Math. Dokl.* **32** (1985), no. 2, 393–396).
38. Factorization of triangular matrix functions with the diagonal elements from class  $SAP_{\Gamma}$ , *Memoirs of the anniversary seminar on boundary value problems devoted to F.Gahov* (1985), Minsk, Byelorussian State University, 188–192.
39. On the theory of a boundary value problem of Nikolai Vekua, *Trudy Tbiliss. Univ. Mat. Mekh. Astronom.* **19-20** (1986), 163–188 (with *Yu.D.Latushkin, G.S.Litvinchuk*).  
**MR 88f:30068**.
40. Factorization of almost periodic matrices and the Noether theory of systems of Wiener-Hopf equations with semi-almost-periodic presymbols. *Reports of the extended sessions of a seminar of the I.N.Vekua Institute of Applied Mathematics* **1**, no. 1, 106–109, Tbilis. Gos.Univ., Tbilisi, 1985 (with *Yu.I.Karlovich, G.S.Litvinchuk*).  
See **MR 87i:00014**.
41. Vector Riemann boundary value problem in the discontinuous case, The same edition, 191–194.
42. Generalized factorization of matrix-functions and the Riemann boundary value problem with infinite partial indices, *Dokl. Akad. Nauk SSSR* **286** (1986), no. 3, 559–562.  
**MR 88d:30052** (English translation in *Soviet Math. Dokl.* **33** (1986), no. 1, 145–149).
43. On the theory of systems of equations of convolution type with semi-almost-periodic symbols in spaces of Bessel potentials, *Dokl. Akad. Nauk SSSR* **286** (1986), no. 4, 799–803 (with *Yu.I.Karlovich*). **MR 87f:46066** (English translation in *Soviet Math. Dokl.* **33** (1986), no. 1, 145–149).
44. Asymptotic behavior of the determinants of block Toeplitz matrices in the locally sectorial case, *Zap. Nauch. sem. Leningrad. Otdel. Mat. Inst. Steklov (LOMI)* **149** (1986), 76–92. **MR 87m:47069** (English translation in *Journal of Soviet Mathematics* **42**, no. 2 (1988), 1591–1603).

45. Singular integral operators with a piecewise sectorial matrix symbol, *Soobshch. Akad. Nauk Gruzin. SSR* **121** (1986), no. 2, 249–252. **MR 87k:45009**.
46. Partial indices of triangular matrices of order higher than two, *Ukrain. Mat. Zh.* **39** (1987), no. 6, 751–756 (with *P.M.Tishin*). **MR 89a:15014** (English translation in *Ukrainian Math. J.* **39** (1987), 611–615).
47. The vector Riemann boundary value problem with infinite deficient numbers and the factorization of matrix-functions connected with it, *Mat. Sb. (N.S.)* **135 (177)** (1988), no. 4, 533–550. **MR 89j:30058** (English translation in *Math. USSR - Sb.* **63** (1989), no. 2, 521–538).
48. Factorization of new classes of almost-periodic matrix functions, *Reports of the extended sessions of a seminar of the I.N.Vekua Institute of Applied Mathematics* **3**, no. 1, 170–173 (with *P.M.Tishin*), Tbilis.Gos.Univ., Tbilisi, 1989.
49. Factorization of measurable matrix-functions in classes  $L_{p,\rho}$  with power weight, *Izv. Vyssh. Uchebn. Zaved. Mat.* **5** (1988), 62–70. **MR 89k:30050** (English translation in *Soviet Math. (Iz. VUZ)* **32** (1988), no. 5, 78–88).
50. On the efficient factorization of matrix-functions, *Izv. Vyssh. Uchebn. Zaved. Mat.* **4** (1989), 17–24 (with *A.M.Tashbaev*). **MR 90i: 30071** (English translation in *Soviet Math. (Iz. VUZ)* **33** (1989), 85–93).
51. Factorization of almost-periodic matrix-functions and Noether theory of certain classes of convolution type equations, *Izv. akad. Nauk SSSR, Ser. Mat.* **53** (1989), 276–308 (with *Yu.I.Karlovich*). **MR 90 f:47034** (English translation in *Mathematics of the USSR Izvestiya* **34** (1990), no. 2, 281–316).
52. On the factorization of almost-periodic matrix-functions, *Mat. Zametki* **45** (1989), no. 6, 74–82. **MR 90 k:47033** (English translation in *Math. Notes* **45** (1989), no. 5–6, 482–488).
53. Factorization of Hermitian matrix-functions and classification of shifts in a space with indefinite metric, *Ukrain. Mat. Zh.* **41** (1989), no. 10, 1388–1391. **MR 90 k:47036**. (English translation in *Ukrain. Math. J.* (1989), 1195–1197).
54. Factorization of piecewise constant matrix functions with 3 points of discontinuity in  $L_{p,\rho}$  classes and its applications, *Dokl. Akad. Nauk SSSR* **307** (1989), no. 2, 291–296 (with *A.M.Tashbaev*). **MR 90 k:47057** (English translation in *Soviet Math. Dokl.* **40** (1990), no. 1, 80–85).
55. Toeplitz operators with piecewise quasisectorial symbols, *Bull. London Math. Soc.* **22** (1990), 281–286 (with *A.Böttcher, B.Silbermann*). **MR 90 m:47042**.

56. A Gohberg-Krupnik-Sarason symbol calculus for algebras of Toeplitz, Hankel, Cauchy, and Carleman operators, *Operator Theory: Advances and Applications* **48** (1990), 189–234 (with *A.Böttcher, S.Roch, B.Silbermann*). **MR 93m 47029**.
57. Toeplitz operators with *PQC* symbols on weighted Hardy spaces, *Journal of Functional Analysis* **97** (1991), 194–214 (with *A.Böttcher*). **MR 92 k:47046**.
58. Factorization of certain piecewise constant matrix functions and its applications, *Mathematische Nachrichten* **151** (1991), 241–261 (with *A.M.Tashbaev*). **MR 92i:47061**.
59. Spectral assignment of Hilbert space operators, *Houston Journal of Mathematics* **17** (1991), no. 4, 501–523 (with *L.Gurvits, L.Rodman*). **MR 93c:47004**.
60. Singular integral operators with *PC* symbols on the spaces with general weights, *Journal of Functional Analysis* **105** (1992), no. 1, 129–143. **MR 93d:47057**.
61. Linear maps preserving regional eigenvalue location, *Linear and Multilinear Algebra* **32** (1992), 253–264 (with *Ch.Johnson, C.K.Li, S.Pierce, L.Rodman*). **MR 94i:15008**.
62. Wiener-Hopf integral operators with *PC* symbols on spaces with Muckenhoupt weight, *Revista Matemática Iberoamericana* **9** (1993), no. 2, 257–279 (with *A.Böttcher*). **MR 94e:45004**.
63. On a theorem of Rooney concerning the spectrum of the singular integral operator, *Zeitschrift für Analysis und ihre Anwendungen* **12** (1993), 93–96 (with *A.Böttcher*). **MR 94h:47093**.
64. The Carathéodory–Toeplitz problem for almost periodic functions, *Journal of Functional Analysis* **114** (1993), 281–293 (with *H.J.Woerdeman*). **MR 94f:47020**.
65. On convolution equations with semi-almost periodic symbols on a finite interval, *Integral Equations and Operator Theory* **16** (1993), 530–538 (with *A.B.Kuijper*). **MR 94c:47041**.
66. Factorization of operators with angularly constrained spectra, *Operator Theory: Advances and Applications* **62** (1993), 125–143 (with *Ch.R.Johnson*). **MR 95e:47005**.
67. Generalized Abel integral operators on the spaces with Rooney weights, *Zeitschrift für Analysis und ihre Anwendungen* **12** (1993), no. 4, 655–661 (with *F.Penzel*). **MR 95e:45003**.
68. Banach algebras of singular integral operators with piecewise continuous coefficients. General contour and weight, *Integral Equations and Operator Theory* **17** (1993), no. 3, 322–337 (with *I.Gohberg and N.Krupnik*). **MR 94f:47057**.

69. Toeplitz operators with semi-almost periodic symbols on spaces with Muckenhoupt weight, *Integral Equations and Operator Theory* **18** (1994), 261–276 (with *A. Böttcher, Yu. Karlovich*). **MR 95e:47034**.
70. Pseudodifferential operators with heavy spectrum, *Integral Equations and Operator Theory* **19** (1994), 251–269 (with *A. Böttcher*). **MR 95d:47067**.
71. Inequalities involving the numerical radius *Linear and Multilinear Algebra* **37** (1994), 13–24 (with *Ch. R. Johnson, S. Gottlieb*). **MR 95k:15037**.
72. Boundary value problems for functions analytic on multiply connected domains on spaces with a general weight, *Operator Theory: Advances and Applications* (1994), 350–360 (with *D. Kurtz and Yu. Latushkin*). **MR 96c:30038**.
73. Spectral assignment problems, *Linear and Complex Analysis Problem Book 3, Part I. Lecture Notes in Mathematics* **1573** (1994), 223–225 (with *L. Rodman*).
74. Once more on algebras generated by two projections, *Linear Algebra and Its Applications* **208/209** (1994), 377–395. **MR 95e:46071**.
75. (Semi-)Fredholmness of convolution operators on the spaces of Bessel potentials, *Operator Theory: Advances and Applications* **71** (1994), 122–152 (with *Yu. Karlovich*). **MR 95h:47034**.
76. Factorization of almost periodic matrix functions, *Journal of Mathematical Analysis and Applications* **193** (1995), 209–232 (with *Yu. Karlovich*). **MR 96m:47047**.
77. Almost periodic factorization: An analogue of Chebotarev’s algorithm *Contemporary Math.* **189** (1995), 327–352 (with *Yu. Karlovich*). **MR 96h:47024**.
78. Norms of the singular integral operator with Cauchy kernel along certain contours, *Integral Equations and Operator Theory* **24** (1996), 68–80 (with *I. Feldman, N. Krupnik*). **MR 96j:47046**.
79. Sampling and interpolating for a lacunary spectrum, *Proceedings of the Royal Society of Edinburgh*, **126A** (1996), 77–87 (with *Yu. Lyubarski*). **MR 97b:41004**.
80. Banach algebras generated by  $N$  idempotents and applications, *Operator Theory: Advances and Applications* **90** (1996), 19–54 (with *A. Böttcher, I. Gohberg, Yu. Karlovich, N. Krupnik, S. Roch, and B. Silbermann*). **MR 97h:46078** (featured review).
81. Semi-Fredholm properties of certain singular integral operators, *Operator Theory: Advances and Applications* **90** (1996), 264–287 (with *Yu. Karlovich*). **MR 97k:47046**.
82. Positive extensions of matrix functions of two variables with support in an infinite band, *C. R. Acad. Sci. Paris* **323**, no. 8 (1996), 859–863 (with *M. Bakonyi, L. Rodman and H. Woerdeman*). **MR 97i:47023**.

83. Spectral factorization of measurable rectangular matrix functions and the vector-valued Riemann problem, *Revista Matemática Iberoamericana* **12**, no. 3 (1996), 669–696 (with *M. Rakowski*) **MR 98a:15030**.
84. The numerical range of  $3 \times 3$  matrices, *Linear Algebra and Applications* **252** (1997), 115–139 (with *D. Keeler, L. Rodman*). **MR 97k:15062**.
85. On normal solvability of the Riemann problem with singular coefficient, *Proceedings of the AMS* **125** (1997), 815–826 (with *M. Rakowski*). **MR 97e:47026**.
86. Riemann boundary value problem in the spaces with singular weight, *Russian Acad. Sci. Dokl. Math.* **353** (1997), no. 6, 717–719 (with *F. Soria, K. Kazarian*). **MR 98j:30046**.
87. Nonlinear transmission problems, *Mem. Differential Equations Math. Phys.* **12** (1997), 223–230 (with *E. Wegert, G. Khimshiashvili*). **MR 99g:47058**.
88. Equality of higher numerical ranges of matrices and a conjecture of Kippenhahn on hermitian pencils, *Linear Algebra and Applications* **270** (1998), 323–349 (with *C.K. Li, S. Shukla*). **MR 98k:15040**.
89. On a new algorithm for almost periodic factorization, *Operator Theory: Advances and Applications* **103** (1998), 53–74 (with *M. A. Bastos, Yu. Karlovich and P. Tishin*). **MR 99g:47034** (featured review).
90. Carathéodory-Toeplitz and Nehari problems for matrix valued almost periodic functions, *Transactions of the American Mathematical Society* **350** (1998), 2185–2227 (with *L. Rodman and H. Woerdeman*). **MR 98h:47023**.
91. On semi-Fredholmness of singular integral operators with matrix semi-almost periodic coefficients, *Russian Acad. Sci. Dokl. Math.* **57**, no. 2 (1998), 176–178 (with *Yu. Karlovich*). **MR 99k:47119**.
92. New cases of almost periodic factorization of triangular matrix functions, *Michigan Mathematical Journal* **45** (1998), 73–102 (with *D. Quint and L. Rodman*). **MR 99c:47020**.
93. Almost periodic factorization: Applicability of the division algorithm, *Advances in Mathematical Sciences* **184** (1998), 97–109 (with *M. Gelfand*). **MR 2000k:47019**.
94. Almost periodic factorization and Corona theorem, *Indiana University Mathematical Journal* **47**, no. 4 (1998), 1243–1256 (with *L. Rodman*). **MR 2000d:47037**.
95. Sarason interpolation and Toeplitz corona theorem for almost periodic matrix functions, *Integral Equations and Operator Theory* **32** (1998), 243–281 (with *J. A. Ball, Yu. I. Karlovich and L. Rodman*). **MR 99k:47033**.

96. On totally real non-compact manifolds globally foliated by analytic discs, *Partial Differential and Integral Equations* (1999), 107–123 (with *E. Wegert and G. Khimchiachvili*). **MR 2000b:32077**.
97. Positive matrix functions on the bitorus with prescribed Fourier coefficients in a band, *Journal of Fourier Analysis and Applications* **5** (1999), 789–812 (with *M. Bakonyi, L. Rodman and H. Woerdeman*). **MR 2001c:42015**.
98. Almost periodic factorization of block triangular matrix functions revisited, *Linear Algebra and Applications* **293** (1999), 199–232 (with *Yu. Karlovich and R. Walker*). **MR 2000e:47035**.
99. Local spectra and index of singular integral operators with piecewise continuous coefficients on composed curves, *Math. Nachr.* **206** (1999), 5–83 (with *C. J. Bishop, A. Böttcher and Yu. Karlovich*). **MR 2000i:47090**.
100. Almost periodic factorization of certain block triangular matrix functions, *Mathematics of Computation* **69** (2000), no. 231, 1053–1070 (with *D. Yong*). **MR 2000j:65038**.
101. Matrix functions with arbitrarily prescribed left and right partial indices, *Integral Equations and Operator Theory* **36** (2000), 71–91 (with *A. Böttcher and S. M. Grudsky*). **MR 2000j:47033**.
102. On the non-round points of the boundary of the numerical range, *Linear and Multilinear Algebra* **47** (2000), 29–34. **MR 2001a:15030**.
103. On the Fredholm indices of associated systems of Wiener-Hopf equations, *Journal of Integral Equations and Applications* **12** (2000), 1–29 (with *A. Böttcher and S. M. Grudsky*). **MR 2001c:47052**.
104. The spectrum is discontinuous on the manifold of Toeplitz operators, *Arch. Math.* **75** (2000), 46–52 (with *A. Böttcher and S. M. Grudsky*). **MR 2001c:47034**.
105. On eigenvalues and boundary curvature of the numerical range, *Linear Algebra and Applications* **322** (2001), 129–140 (with *L. Caston, M. Savova and N. Zobin*). **MR 2001k:47009**.
106. Toeplitz operators with frequency modulated semi-almost periodic symbols, *Journal of Fourier Analysis and Applications* **7** (2001), 523–535 (with *A. Böttcher and S. M. Grudsky*) **MR 2002e:47029**.
107. On  $\rho$ -contractive  $2 \times 2$  matrices and their infinite dimensional generalizations, *Linear Algebra and Applications* **325** (2001), 177–189 (with *K. Okubo*) **MR 2003a:47011**.
108. Toeplitz operators with semi-almost periodic matrix symbols on Hardy spaces, *Acta Appl. Math.* **65** (2001), Nos. 1–3, 115–136 (with *A. Böttcher and Yu. Karlovich*) **MR 2002h:47041**.

109. Multiblock problems for almost periodic matrix functions of several variables, *New York J. Math.* **7** (2001), 117–148 (with *L. Rodman and H. J. Woerdeman*) **MR2002h:42013**.
110. Factorization of almost periodic matrix functions of several variables and Toeplitz operators, *Operator Theory: Advances and Applications* **122** (2001), 385–416 (with *L. Rodman and H. J. Woerdeman*) **MR 2002f:47063**.
111. Factorization of piecewise constant matrix functions and systems of linear differential equations, *Algebra and Analysis* **13** (2001), 56–123 (with *T. Ehrhardt*).
112. Positive eigenvalues and two-letter generalized words, *Electronic Journal of Linear Algebra* **9** (2002), 21–26 (with *C. Hillar and C. R. Johnson*) **MR 2002k:15020**.
113. Fredholmness and invertibility of Toeplitz operators with matrix almost periodic symbols, *Proceedings of the AMS* **130** (2002), 1365–1370 (with *L. Rodman and H. J. Woerdeman*) **MR 2002k:47059**.
114. Birkhoff’s theorem and convex hulls of Coxeter groups, *Linear Algebra and Applications* **347** (2002), 219–231 (with *N. McCarthy, D. Ogilvie and N. Zobin*). **MR 2003g:51012**.
115. Contractive extension problems for matrix valued almost periodic functions of several variables, *Journal of Operator Theory* **47** (2002), 3–35 (with *L. Rodman and H. J. Woerdeman*). **MR 2003k:42025**.
116. Abstract band method via factorization, positive and band extensions of multivariable almost periodic matrix functions, and spectral estimation, *Memoirs of the Amer. Math. Soc.* **762** (2002), 71 pp. (with *L. Rodman and H. J. Woerdeman*). **MR 2003h:47029**.
117. Convex hulls of Coxeter groups, *Functions Spaces, Interpolation Spaces and Related Problems in Analysis, De Gruyter* (2002), 213–240 (with *J. Brandman, J. Fowler, B. Lins and N. Zobin*). **MR 2003j:51009**.
118. Toeplitz Corona Problem for Algebras of Almost Periodic Functions, *Operator Theory: Advances and Applications* **135** (2002), 25–37 (with *J. Ball and L. Rodman*). **MR 2003i:42014**.
119. On the essential spectrum of Toeplitz operators with semi-almost periodic symbols, *Operator Theory: Advances and Applications* **142** (2003), 59–77 (with *A. Böttcher and S. Grudsky*). **MR 2006i:47048**.
120. On numerical ranges and roots, *J. Math. Anal. Appl.* **282** (2003), 329–340 (with *C. K. Li and L. Rodman*). **MR 2004g:47009**.
121. Block Toeplitz operators with frequency modulated semi-almost periodic symbols, *International Journal of Mathematics and Mathematical Sciences* **34** (2003), 2157–2176 (with *A. Böttcher and S. Grudsky*). **MR 2004d:47060**.

122. An overview of matrix factorization theory and operator applications *Operator Theory: Advances and Applications* **141** (2003), 1–102 (with *I. Gohberg and M. A. Kaashoek*). **MR 2004j:47034**.
123. On the algebra generated by a poly-Bergman projection and a composition operator *Factorization, Singular Operators, and Related Problems*. Kluwer (2003), 273–289 (with *J. Ramirez*). **MR 2004g:47093**.
124.  $C^*$ -algebra of singular integral operators with semi-almost periodic coefficients, *Journal of Functional Analysis* **204** (2003), 445–484 (with *A. Böttcher and Yu. Karlovich*). **MR 2004j:47057**.
125. Noncanonical factorizations of almost periodic multivariable matrix functions, *Operator Theory: Advances and Applications* **142** (2003), 311–344 (with *L. Rodman and H. J. Woerdeman*). **MR2006d:47034**.
126. Finite reflection groups and linear preserver problems, *Rocky Mountain Journal of Mathematics* **34** (2004), 225–251 (with *C.K. Li and N. Zobin*).
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129. On flat portions on the boundary of the numerical range, *Linear Algebra and Applications* **390** (2004), 75–109 (with *E. Brown*). **MR 2005g:15044**.
130.  $3 \times 3$  matrices with a flat portion on the boundary of the numerical range, *Linear Algebra and Applications* **397** (2005), 193–207 (with *L. Rodman*). **MR 2005i:15047**.
131. Shift techniques and canonical factorizations in the solution of M/G/1-type Markov chains, *Stochastic Models* **21** (2005), 279–302 (with *D. Bini and B. Meini*). **MR 2006a:60133**.
132. Analytic roots of invertible matrix functions, *Electronic Journal of Linear Algebra* **13** (2005), 187–196 (with *L. Rodman*). **MR 2006g:47022**.
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134. Factorization of matrix functions with subgroup supported Fourier coefficients, *J. Math. Anal. Appl.* **323** (2006), 604–613 (with *L. Rodman*). **MR 2009b:43015**.

135. On polynomials in two projections, *Electronic J. Linear Algebra* **15** (2006), 154–158. **MR 2007b:47006**.
136. Sets of matrices with given joint numerical range, *Linear Algebra and Applications* **419** (2006), 569–585 (with *N. Krupnik*). **MR 2008c:15045**.
137. Factorization in weighted Wiener matrix algebras on linearly ordered Abelian groups, *Integral Equations and Operator Theory* **58** (2007), 65–86 (with *T. Ehrhardt, C. van der Mee and L. Rodman*). **MR 2008b:46075**.
138. On generalized numerical ranges of quadratic operators, *Operator Theory: Advances and Applications* **179** (2007), 241–256 (with *L. Rodman*). **MR 2009d:47007**.
139. On the numerical range behavior under the generalized Aluthge transform, *Linear and Multilinear Algebra* **56** (2008), 163–177 (with *D. Rose*). **MR 2009b:15073**.
140. Spectral dominance and commuting chains, *Proceedings of the AMS* **136** (2008), 2019–2029 (with *B. Hoai and C. R. Johnson*). **MR 2009f:47025**.
141. On the stabilization of the Aluthge sequence, *International Journal of Information and System Sciences* **4** (2008), 178–189 (with *D. Rose*). **MR 2009d:15066**.
142. Spectral factorization, unstable canonical factorization, and open factorization problems in control theory, *Operator Theory: Advances and Applications* **181** (2008), 321–346 (with *K. M. Mikkola*).
143. On the norms of singular integral operators on contours with intersections, *Complex Analysis and Operator Theory* **2** (2008), 617–626 (with *N. Ya. Krupnik*).
144. On the spectra of some Toeplitz and Wiener-Hopf operators with almost periodic matrix symbols, *Operators and Matrices* **2** (2008), 371–383 (with *A. Isgur*). **MR 2009g:47077**.
145. Algebras of almost periodic functions with Bohr-Fourier spectrum in a semigroup: Hermite property and its applications, *Journal of Functional Analysis* **255** (2008), 3188–3207 (with *L. Rodman*). **MR 2009k:46088**.
146. Almost periodic factorization of some triangular matrix functions, *Operator Theory: Advances and Applications* **190** (2009), 171–190 (with *C. Câmara and Yu. I. Karlovich*).
147. Almost periodic factorization of  $2 \times 2$  triangular matrix functions: New cases of off diagonal spectrum, *Operator Theory: Advances and Applications*, to appear (with *A. Rastogi and L. Rodman*).
148. Drazin inversion in the von Neumann algebra generated by two orthogonal projections, *J. Math. Anal. Appl.* **358** (2009), 403–409 (with *A. Böttcher*).

149. Connectedness of spectra of Toeplitz operators on Hardy spaces with Muckenhoupt weights over Carleson curves, *Integral Equations and Operator Theory*, to appear (with *A. Karlovich*).
150. Matrices with normal defect one, *Operators and Matrices* **3**, (2009), 401–438 (with *D.Kalyuznyi-Verbovetsky and H. Woerdeman*).
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## Books

153. Factorization of matrix functions, Manuscript no. 2410-84, VINITI, 1984, 460 pp. (with *G.S.Litvinchuk*).
154. Factorization of almost periodic matrix functions and (semi)Fredholmness of some classes of convolution type equations, Manuscript no. 4421-85, VINITI 1985, 137 pp. (with *Yu.I.Karlovich*).
155. Factorization of Measurable Matrix Functions, *Mathematical Research* **37**, Akademie-Verlag, Berlin & *Operator Theory: Advances and Applications* **25**, Birkhäuser-Verlag, Basel-Boston, 1987, 372 pp. (with *G.S.Litvinchuk*). **MR 89e:47022 & 90g:47030**.
156. Convolution Operators and Factorization of Almost Periodic Matrix Functions, Birkhäuser-Verlag, Basel-Boston, 2002, 462 pp. (with *A. Böttcher and Yu. I. Karlovich*) **MR 2003c:47047**.

## Conference proceedings

157. Theorems on stability and estimates of partial indices of Riemann boundary value problem and their applications, *Proceedings of the 4th Republican Conference of Byelorussian mathematicians*, Minsk, 1975.
158. The stability of the generalized Riemann boundary value problem, *Proceedings of the 2nd Republican Symposium on Differential and Integral equations*, Odessa, 1978 (with *G.S.Litvinchuk*).
159. Some peculiarities of forming of water resources economical estimate, *Proceedings of the Republican Conference “Application of mathematical methods in economical and ecological researches of water environment”* (with *A.N.Bukreev*), Odessa, 1979 .
160. On the simulation of the optimization problem of freight ship’s treatment, the same *Proceedings* (with *G.A.Besfamilny*).

161. One model of separable programming in the problem of fleet's and port's resources distribution, *Proceedings of the 1st All-Union Conference "Management of production and automatized systems of management"*, Moscow, 1980 (with *G.A.Besfamilny*).
162. A criterion for the subnormality of operators, *Proceedings of the 15th Voronezh winter mathematical school*, Manuscript no. 5691–81, deposited at VINITI 12/16/81, 103–104.
163. The Noether theory of the systems of convolution type equations in spaces of Bessel potentials, *Proceedings of the 3rd Republican Symposium on differential and integral equations*, Odessa (1982), 194–195.
164. Noethericity,  $n$ - and  $d$ -normality of singular integral operators with matrix coefficients admitting the discontinuities of semi-almost-periodic type, *Proceedings of the 7th All-Union school on the operator theory in functional spaces*, Minsk (1982) (with *Yu.I.Karlovich*).
165. Singular integral operators with matrix coefficients of class  $SAP$  and their applications to the systems of convolution type equations on a finite interval, *Proceedings of the Conference "High speed hydrodynamics and boundary value problems"*, Krasnodar (1982) (with *Yu.I.Karlovich*).
166. Applications of integral and functional equations in problems of economical-ecological systems simulation, *Proceedings of the Republican Conference "Integral equations in applied simulation"*, Kiev (1983) (with *V.K.Bulitko, A.A.Karelin*).
167. Model of "predator-victim" type of the association structured by the parameter, *Proceedings of the Republican Conference "Theory and practise of imitating simulation of compound systems"*, Odessa (1983) (with *Yu.D.Latushkin*).
168. Singular integral equations with piecewise-sectorial matrix coefficients, *Proceedings of the 8th All-Union school on the operator theory in functional spaces*, Riga (1983).
169. On the solvability of generalized Carlemann boundary value problem, *Proceedings of the regional scientific Conference*, Kuibyshev (1984), 67–68 (with *Yu.D.Latushkin, G.S.Litvinchuk*).
170. On the factorization of almost-periodic matrix-functions, *Proceedings of the 11th All-Union school on the operator theory in functional spaces*, Cheljabinsk (1986), 115.
171. New applications of the Factorization method in integral equations, *Proceedings of the 9th Soviet-Czechoslovak Conference "Applications of functional methods in mathematical physics"*, Donetsk (1986), 90 (with *G.S.Litvinchuk*).
172. On the factorization of measurable matrix functions in  $L_{p,\rho}$  classes with power weight, *Proceedings of the 3rd All-Union Symposium "Method of discrete singularities in the problems of mathematical physics"*, Kharkov (1987), 156–158.

173. On operators from the algebra generated by two orthoprojections, *Proceedings of the 12th All-Union school on the operator theory in functional spaces*, Tambov (1987), 86.
174. On some systems of singular integral equations which are solvable in an explicit form, *Proceedings of the Republican Conference on differential and integral equations and their applications*, Odessa (1987), 99–100 (with *A.M.Tashbaev*).
175. Factorization of piecewise constant  $2 \times 2$ -matrices and its applications, *Proceedings of the 13th All-Union school on the operator theory in functional spaces*, Kuibyshev (1988), 176–177 (with *A.M.Tashbaev*).
176. On the stability of finite section method for some singular integral equations in  $Fl_p$ , *Proceedings of the 4th All-Union Symposium "Methods of discrete singularities in the problems of mathematical physics"*, Kharkov (1989), 253–256 (with *A.M.Tashbaev*).
177. Factorization of some block-triangular almost-periodical matrix functions, *Proceedings of the 14th All-Union school on the operator theory in functional spaces*, Novgorod (1989), 49 (with *P.M.Tishin*).
178. Singular integral operators in  $L_{p,\rho}$  spaces with the Muckenhoupt weight, *Proceedings of the regional Conference "Linear operators in functional spaces"*, Grozny (1989), 155–156.
179. Matrix Riemann-Hilbert boundary value problem and its application in the kinetic theory, *Proceedings of the 4th International Conference on the differential equations and applications*, Ruse, Bulgaria (1989), 433–443 (with *A.V.Latyshev*).
180. On convergence of approximate solutions for one class of singular integral operators, *Proceedings of the All-Union school on Approximation Theory* (1989), 96–98 (with *G.S.Litvinchuk, A.M.Tashbaev*).
181. Toeplitz operators with  $PC$  symbols in weighted spaces, *Abstracts of papers presented to the American Mathematical Society* **12** (1991), no. 1, 123.
182. Analytic solution of the model Boltzmann equation with the collision operator of compound type, *Modern mathematical methods in transport theory, Proc. 11th Int. Conf. Symp.*, Blacksburg/VA (USA) 1989, *Operator Theory: Advances and Applications* **51** (1991), 189–199 (with *A.V.Latyshev, M.N.Gajdukov*).
183. Positive extensions of almost periodic functions, *Abstracts of papers presented to the American Mathematical Society* **14** (1993), no. 3, 364 (with *H.Woerdeman*).
184. Fredholmness of singular integral operators and related properties of Hunt-Muckenhoupt-Wheeden weights, *Abstracts of papers presented to the American Mathematical Society* **15** (1994), no. 2, 316 (with *I.Gohberg and N.Krupnik*).

185. Semi-Fredholmness of Toeplitz operators with (semi) almost periodic matrix symbols, *Abstracts of papers presented to the American Mathematical Society* **15** (1994), no. 6, 555 (with *Yu. Karlovich*).
186. Banach algebras generated by  $N$  idempotents and applications, *Abstracts of papers presented to the American Mathematical Society* **18** (1997), no. 1, 112 (with *A. Böttcher, I. Gohberg, Yu. Karlovich, N. Krupnik, S. Roch, and B. Silbermann*).

### Research reports from contract work

187. Improvement of the economic machinery of sea transport, *Scientific Report* (1980), Economical Institute, Ukrainian Academy of Sciences (with *G.A.Besfamilny*).
188. On the methodology of economical estimate and quality control of water resources, *Scientific Report* (1980), Economical Institute, Ukrainian Academy of Sciences (with *G.S.Litvinchuk, Yu.I.Karlovich*).
189. Analysis and optimization of the interaction in the “fleet-port” system, *Scientific Report* (1982), Economics and Ecology of the World Ocean Branch of the Marine Hydrophysical Institute, Ukrainian Academy of Sciences (with *G.A.Besfamilny*).
190. Mathematical models of economical-ecological processes, Manuscript no. 5505–86, deposited at VINITI 07/28/86, 93 pp. (with *V.K.Bulitko, Yu.D.Latushkin*).

### Other publications

191. Factorization of measurable matrix functions and its applications to boundary value problems for analytic functions, *Candidates dissertation* (1978), 160 pp., Byelorussian State University, Minsk.
192. Noethericity criterion for block-triangular operators and problems of the theory of matrix function factorization, Manuscript no. 2543-81, deposited at VINITI 05/28/81, 23 pp. Annotation in *Sibirsky Matem. Zh.* **23** (1982), no. 1.
193. Factorization of matrix functions and its applications, *Doctoral dissertation* (1987), 300 pp., Mathematical Institute, Georgian Academy of Sciences, Tbilisi.
194. Application of differential equations in some natural science problems, *Methodical Report* (1988), 25 pp. (with *A.N.Kvitko*), Odessa State Pedagogical Institute.
195. Factorization of some piecewise constant matrix functions and its applications, Manuscript no. 4726-B88, deposited at VINITI 06/15/88, 35 pp. (with *A.M.Tashbaev*).
196. Matrix Riemann-Hilbert boundary value problem in the problems of isothermal and thermal gas gliding, Manuscript no. 580-B89, deposited at VINITI 01/24/89, 3–42 (with *A.V.Latyshev*).

197. Generalized Abel integral operators on the spaces with Rooney weights, *Preprint 1514, Techn. Hochsch. Darmstadt, FB Mathematik* (1992), 7 pp. (with *F. Penzel*).
198. Pseudodifferential operators with heavy spectrum Preprint 246/7, Technische Universität Chemnitz (1993), 19 pp. (with *A. Böttcher*).
199. Singular integral operators on composed curves, *Preprint, Technische Universität Chemnitz-Zwickau* (1996), 78 pp. (with *C. Bishop, A. Böttcher, and Yu. Karlovich*).
200. On a new algorithm for almost periodic factorization, *Preprint 12/96, Instituto Superior Técnico, Departamento de Matemática* (1996), 21 pp. (with *M. A. Bastos, Yu. Karlovich and P. Tishin*).
201. Almost periodic factorization of block triangular matrix functions with a singular constant term in their off-diagonal block, *Technical Report 97-1, University of Washington, Department of Applied Mathematics* (1997), 47 pp. (with *D. Yong*).
202. On totally real non-compact manifolds globally foliated by analytic discs, *Preprint 97-08, Technische Universität Bergakademie Freiberg* (1997), 17 pp. (with *E. Wegert and G. Khimchiachvili*).
203. Almost periodic factorization of block triangular matrix functions revisited, *Preprint 28/98, Instituto Superior Técnico, Departamento de Matemática* (1998), 35 pp. (with *Yu. Karlovich and R. Walker*).
204. Two papers on inverse problems for the partial indices of matrix functions, *Preprint 98-34, Technische Universität Chemnitz, Fakultät für Mathematik* (1998), 41 pp. (with *A. Böttcher and S. M. Grudsky*).
205. Factorization of piecewise constant matrix functions and systems of linear differential equations, *Preprint 1999-048, MSRI*, 59 pp. (with *T. Ehrhardt*).
206. Toeplitz operators with semi-almost periodic matrix symbols on Hardy spaces, *Preprint # 276, Departamento de Matemáticas, CINVESTAV del I.P.N.* (2000), 23 pp. (with *A. Böttcher and Yu. Karlovich*).
207. Introduction. Special issue dedicated to Antonio Avantaggiati on the occasion of his 70th birthday, *Acta Appl. Math.* **65** (2001), Nos. 1–3, 1–7 (with *G. Bruno and A. Pankov*).
208. My Gohberg encounters, *Israel Gohberg and Friends. On the Occasion of his 80th Birthday*, Birkhäuser (2008), 321–322.
209. Drazin inversion in the von Neumann algebra generated by two orthogonal projections, *Preprint 2009–02, Technische Universität Chemnitz* (2009), 11 pp. (with *A. Böttcher*).

## Work in progress

- 210. Fredholm and spectral theory of new classes of Toeplitz operators.
- 211. Difference equations on finite intervals.
- 212. Various aspects of factorization theory on ordered groups (with *L. Rodman*).
- 213. Various aspects of the “Two projections theory” and its applications (with *A. Böttcher*).
- 214. Applications of almost periodic factorization in financial mathematics (with *S. Grudsky*).
- 215. Ratio field of values (with *C. R. Johnson*).

## Public presentations (from 1988)

1988

- January 21st Voronezh winter mathematical school, USSR
- February Conference on bounded value problems devoted to the memory of F.Gahov ,  
Odessa, USSR (plenary talk)
- June All-Union Conference on approximate solving of integral equations,  
Pushchino, USSR
- August International Conference on Operator Theory: Advances and Applications,  
Calgary, Alberta, Canada (plenary talk)
- September All-Union Conference on Integral Equations and Mathematical Analysis,  
Teberda, USSR
- October Technical University, Chemnitz, and Leipzig University, Germany (colloquium talks) ,  
13th All-Union school on the Operator Theory in Function Spaces,  
Kuibyshev, USSR

1989

- January 22nd Voronezh winter mathematical school, USSR
- February 2nd Conference on bounded value problems devoted to the memory of F.Gahov,  
Odessa, USSR
- March All-Union Conference on Complex Analysis and its applications,  
Chernogolovka, USSR (plenary talk)
- May Mathematical Institute, Polish Academy of Sciences, Krakow, Poland (series of lectures),
- October International seminar on Schur Analysis, Leipzig, Germany
- December Vienna University, Austria

1990

- April Conference on Function Spaces, South Illinois University, Edwardsville (plenary talk)  
College of William and Mary, Williamsburg, VA

May City College, City University of New York  
 October University of Maryland, College Park  
 November 2nd SIAM Conference on Linear Algebra in Signals, Systems & Control,  
 San Francisco, CA

1991

January Brigham Young University, Provo, Utah  
 Joint Mathematics Meeting of AMS, MAA, SIAM, San-Francisco, CA  
 7th Annual South-Eastern Analysis Meeting, University of North Carolina  
 at Charlotte

February Howard University, Washington, DC  
 March West Virginia University, Morgantown, WV  
 University of Toronto, Canada

April University of Oklahoma, Norman  
 May Carleton University, Ottawa, Canada  
 Canadian Operator Symposium, University of Montreal, Canada  
 Great Plains Operator Theory Symposium, Texas A&M University,  
 College Station, TX

September 4th SIAM Conference on Applied Linear Algebra, University of Minnesota, MN,  
 November Virginia Polytechnic Institute and State University, Blacksburg

1992

March 8th Annual South-Eastern Analysis Meeting, University of Tennessee, Knoxville  
 May Great Plains Operator Theory Symposium, University of Iowa, Iowa City  
 Instituto Superior Tecnico and Universidade de Lisboa,  
 Lisbon, Portugal

June Chemnitz Technical University, Germany  
 July Institute for Applied Analysis and Stochastics, Berlin, Germany  
 Technische Hochschule, Darmstadt, Germany  
 First European Congress of Mathematics, Paris, France  
 Workshop on Matrix Theory, University of Bielefeld, Germany

August 2nd Conference of the International Linear Algebra Society, Lisbon, Portugal  
 Workshop on Numerical Ranges and Numerical Radii, College of William and Mary

September Wabash Modern Analysis Conference, Indianapolis, IA (plenary talk)  
 Toeplitz and Wiener-Hopf Operators Conference, University of California,  
 Santa Cruz, CA

1993

March Old Dominion Operator Theory and Analysis Conference,  
 University of Richmond, VA  
 9th Annual South-Eastern Analysis Meeting, Memphis State University, TN

April 881st Meeting of the AMS, Howard University, Washington, D.C.

- October Northeastern Operator Algebra/Operator Theory Meeting  
West Chester University, PA  
Functional Analysis on the Eve of the Twenty-first Century, Rutgers University,  
New Brunswick, NJ
- 1994
- January International Conference on Harmonic Analysis and Operator Theory  
Caracas, Venezuela (plenary talk)  
International Meeting on Singular Integral and Pseudo-Differential Operators  
and their Applications, Oberwolfach, Germany
- March 891st Meeting of the AMS, Kansas State University  
SUNY at Buffalo, Buffalo, NY
- April Third Old Dominion Operator Theory and Analysis Conference,  
University of Richmond, VA
- May Second Conference on Function Spaces, South Illinois University,  
Edwardsville  
Banach International Mathematical Center, Warsaw, Poland  
Chemnitz Technical University, Germany  
Mining Academy of Freiberg , Germany
- June The Interaction between Functional Analysis, Harmonic Analysis,  
and Probability, University of Missouri at Columbia  
18th Symposium on Real Analysis, University of Virginia, Charlottesville
- July Instituto Superior Tecnico, Lisbon, Portugal
- August 2nd Workshop on “Numerical ranges and numerical radii”,  
University of Coimbra, Portugal
- October The legacy of Norbert Wiener: A centennial symposium, MIT, Cambridge, MA
- November 896th Meeting of the AMS, University of Richmond, VA  
Universidad Autonoma, Madrid, Spain
- December International Conference on Operator Theory for Complex and  
Hypercomplex Analysis, Mexico City, Mexico
- 1995
- March German-Israeli Workshop on Linear One-Dimensional  
Singular Integral Operators, Tel Aviv, Israel  
Bar-Ilan University, Ramat Gan, Israel
- April Conference on Mathematical Analysis and Automatic Control,  
University of Alabama, Tuscaloosa, AL
- May Instituto Superior Tecnico, Lisbon, Portugal  
University of Algarve, Faro, Portugal
- June NSF-CBMS Conference on Approximation Dynamics with Applications  
to Numerical Analysis, University of Missouri, Columbia, MO
- August International Workshop on Operator Theory and Applications,

- University of Regensburg, Germany
- October Wabash Modern Analysis Seminar, Crawfordsville, IN  
Indiana University, Bloomington, IN
- 1996
- March Minisymposium on Systems of Singular Integral Equations on Composed Curves,  
Technische Universität Chemnitz-Zwickau, Germany  
Hagen Universität, Hagen, Germany
- May 12th Annual South-Eastern Analysis Meeting, University of Richmond, VA  
Vrije Universiteit, Amsterdam, the Netherlands  
Delft Universitet of Technology, Delft, the Netherlands  
Technische Hochschule, Darmstadt, Germany
- June Great Plains Operator Theory Symposium, Arizona State University, Tempe, AZ  
International Workshop on Operator Theory and Applications,  
Indiana University, Bloomington, IN
- August 6th Conference of the International Linear Algebra Society,  
Chemnitz, Germany
- October University of Maryland, College Park
- December Conference on Modern Banach Space Theory, Kent State University, OH
- 1997
- January 918th Joint Meeting of the AMS, MAA and SIAM, San Diego, CA
- March International Conference “Mathematics Today and Tomorrow”,  
University of Central Florida, Orlando
- May XIII South Eastern Analysis Meeting, University of Florida, Gainesville  
Workshop on Matrix and Group Theory, Universidade de Coimbra, Portugal  
Instituto Superior Tecnico, Lisbon, Portugal  
Universidade de Lisboa, Portugal
- June First International Congress of the ISAAC (International Society for Analysis,  
its Applications and Computation), University of Delaware, Newark
- 1998
- May International Conference “Fourier Analysis and Applications”,  
Kuwait University, Kuwait  
Universita degli Studi di Roma “La Sapienza”, Italy (series of lectures)  
Third Conference on Function Spaces, South Illinois University, Edwardsville
- June University of Namur, Belgium (series of lectures)  
Fourth Workshop on Numerical Ranges and Numerical Radii,  
University of Wisconsin - Madison  
7th Conference of the International Linear Algebra Society (ILAS)  
University of Wisconsin - Madison
- July International Workshop on Operator Theory and Applications

August University of Groningen, the Netherlands  
 International Congress of Mathematicians, Berlin, Germany  
 November Virginia Operator Theory and Complex Analysis Meeting,  
 University of Richmond (two plenary talks)

1999

January University of Toronto, Canada  
 March 940th Meeting of the AMS, University of Florida, Gainesville  
 International Conference on Recent Advances in Analytic  
 and Numerical Treatment of Operator Equations, Klaffenbach, Germany  
 May 15th Annual South-Eastern Analysis Meeting, Vanderbilt University, Nashville TN

2000

January Joint Mathematics Meeting of AMS, MAA, SIAM, Washington, D.C.  
 March XVI South Eastern Analysis Meeting, Charlottesville, VA  
 May University of Erlangen, Germany  
 Academy of Czech Republic, Prague  
 June International Workshop on Operator Theory and Applications,  
 Bordeaux, France  
 5th International Workshop on the Numerical Ranges, Nafplio, Greece  
 September International Workshop on Operator Theory and Applications  
 Summer School on Factorization and Integrable Systems  
 University of Algarve, Faro, Portugal  
 December North-South Analysis seminar at CINVESTAV, Mexico City, Mexico

2001

February Matrix Theory Seminar, University of Coimbra  
 March XVII South Eastern Analysis Meeting, University of Georgia, Athens, GA  
 April International Conference on Toeplitz Matrices in Honor of Bernd Silbermann,  
 Pobershau/Erzgebirge, Germany  
 June University of Algarve, Faro, Portugal  
 Instituto Superior Tecnico, Lisbon, Portugal  
 Computational methods and function theory, University of Aveiro, Portugal  
 July SIAM Conference on control and its applications, San Diego, CA  
 August Third International Congress of the ISAAC (International Society  
 for Analysis, its Applications and Computation), Berlin, Germany  
 October Trends in Banach spaces and Operator Theory, Memphis, TN  
 November Integrable Systems Seminar, Duke University, NC

2002

January International Conference on Factorization, Singular Operators  
 and Related Problems, Universidade da Madeira, Portugal

March XVIII South Eastern Analysis Meeting, University of North Carolina, Chapel Hill  
 University of Arkansas, Fayetteville (colloquium talk)  
 975th AMS Meeting, Georgia Tech, Atlanta, GA  
 Georgia State University, Atlanta (colloquium talk)

April University of Leeds, UK (colloquium talk)  
 Functional Analysis seminar, University of Newcastle, UK

May University of Sussex, UK  
 London Analysis seminar, UK  
 Yorkshire Functional Analysis group, UK

June 6th International Workshop on the Numerical Ranges, Auburn University, AL

August Bell Laboratories, Lucent Technologies, NJ

September San Francisco State University, CA (colloquium talk)

October Abò Akademie, Finland  
 Analysis Seminar, Michigan State University, East Lansing  
 Kent State University, OH (colloquium talk)

November 982nd Meeting of the AMS, University of Central Florida, Orlando  
 University of Bremen, Germany  
 Chemnitz Technical University, Germany

December Matrix Theory Seminar, University of Coimbra,  
 Instituto Superior Tecnico, Lisbon, Portugal

2003

January IUPUI, IN (colloquium talk)

February Seminar of the Numerical Analysis and Computational Mathematics Group,  
 University of Cagliari, Italy  
 Seminar of the Department of Mathematics, University of Pisa, Italy

March XIX South Eastern Analysis Meeting, University of Tennessee, Knoxville, TN

April Analysis Seminar, University of California, Berkeley  
 Cal Poly State University, San Luis Obispo (colloquium talk)  
 Operator Theory Seminar talk, Cal Poly State University, San Luis Obispo

May Universite Catholique de Louvain, Belgium  
 Vrije Universiteit, Amsterdam, the Netherlands  
 Third Conference of the European Research Network "Analysis and Operators"  
 Tenerife, Canary Islands, Spain  
 University of Namur, Belgium

August Fourth International Congress of the ISAAC (International Society  
 for Analysis, its Applications and Computation), Toronto, Canada

December International Conference on Matrix Analysis and Applications,  
 Nova Southeastern University, Fort Lauderdale, Florida

2004

February University of Virginia, Charlottesville (colloquium talk)  
 March Florida Atlantic University, Boca Raton (colloquium talk)  
 June University of Pisa, Italy (crash lecture course)  
 November Southern California Matrix Meeting, San Jose State University, CA

2005

April University of Central Florida, Orlando (colloquium talk)  
 XXI South Eastern Analysis Meeting, Washington and Lee University,  
 Lexington, VA  
 May New Perspectives for Boundary Value Problems and their Asymptotics  
 NSF-CBMS research conference, UTPA, Edinburg, TX  
 June 5th International Conference on Matrix Analytic Methods in Stochastic Models  
 Pisa, Italy (plenary talk)  
 July International Workshop on Operator Theory and Applications,  
 Storrs, CT (semi-plenary talk)  
 December Seminar talks, Universities of Minho, Porto, and Coimbra, Portugal

2006

February Special Semester on Gröbner Bases and Related Methods,  
 Radon Institute for Computational and Applied Mathematics, Linz, Austria  
 March XXII South Eastern Analysis Meeting, University of Florida, Gainesville, FL  
 University of Miami (colloquium talk)  
 July 8th Workshop on “Numerical ranges and numerical radii”,  
 University of Bremen, Germany  
 August International Workshop on Operator Theory and Applications,  
 Seoul National University, South Korea (plenary talk)  
 September International Workshop on Operator Algebras, Operator Theory and Applications,  
 Instituto Superior Tecnico, Lisbon, Portugal (plenary talk)  
 December 2nd International Workshop on Matrix Analysis and Applications  
 Nova Southeastern University, Fort Lauderdale, Florida

2007

January CINEVESTAV, Mexico City, Mexico (colloquium talk)  
 March University College, London (colloquium talk)  
 XXIII South Eastern Analysis Meeting, University of Richmond, VA  
 April 1027th AMS meeting, University of Arizona, Tucson  
 (invited special session talk)  
 May Drexel University (colloquium talk)  
 AMS-SMM Joint Meeting, Zacatecas, Mexico (invited special session talk)  
 June Instituto Superior Tecnico, Lisbon, Portugal  
 (Functional Analysis and Applications seminar)  
 July Cal Poly State University, San Luis Obispo (colloquium talk)

- September Workshop on the Riemann-Hilbert problem and Toeplitz operators,  
Heriot-Watt University, Edinburgh, Scotland (plenary talk)
- 2008
- January Instituto Superior Tecnico, Lisbon, Portugal  
(Functional Analysis and Applications seminar)
- April University of Alaska Fairbanks, AK (colloquium talk)
- May International Workshop on Analysis, Operator Theory and Applications  
Cancun, Mexico (plenary talk)  
6th International Conference on Differential Equations and Dynamical Systems  
Morgan State University, Baltimore, MD (invited special session talk)  
5th Linear Algebra Workshop, Kranjska Gora, Slovenia
- June 15th Conference of the International Linear Algebra Society (ILAS)  
Cancun, Mexico (plenary talk)
- July 9th International Workshop on the “Numerical Ranges and Numerical Radii”,  
The College of William and Mary
- September Brown University, Providence, RI (Analysis seminar)
- November Virginia Operator Theory and Complex Analysis Meeting,  
Virginia Commonwealth University, Richmond (plenary talk)  
Workshop on Toeplitz-like operators and related topics, CINVESTAV,  
Mexico City, Mexico (plenary talk)
- 2009
- January The University of Southern Mississippi, Hattiesburg, MS (colloquium talk)  
University of South Alabama, Mobile, AL (colloquium talk)
- February Drexel University, Philadelphia, PA (Analysis seminar)
- March University of Seville, Spain (Analysis seminar)  
University of Lisbon, Portugal (colloquium talk)  
Autonomous University of Madrid, Spain (Analysis seminar)
- April Instituto Superior Tecnico, Lisbon, Portugal  
(Seminar on Functional Analysis and Applications — two talks)  
Barcelona Analysis Seminar, Spain
- May University of Algarve, Faro, Portugal  
2nd Najman Conference on Spectral Problems for Operators and Matrices,  
Dubrovnik, Croatia  
Haifa Matrix Theory Conference, Israel  
Complex Analysis & Dynamical Systems IV, Nahariya, Israel  
Universite Pieree et Marie Curie – Paris 6 (Functional Analysis seminar)
- June University of Bordeaux, France  
University of Marseille, France (Analysis seminar)  
Meeting on Operators and Matrices, College of William & Mary, Williamsburg, VA

October      Functional Analysis Seminar, Oxford University, UK  
                London Analysis Seminar, University College London

2010

July            International Workshop on Operator Theory and Applications,  
                Berlin, Germany (semi-plenary talk — invitation accepted)

## Professional service

### College Committee service

College-wide: Library Policy Advisory Committee, Arts and Sciences Library Committee (1993 – 1997), Transportation Advisory Committee (Spring 2000 – Fall 2002).

Departmental: Graduate Studies Committee (1992–1993, 1996 – 2000), Library Representative (1993–1995, 1997 – 2002), Grants Opportunities Committee (Fall 1998 – 2000), Personnel Committee (Fall 1995, Fall 2000 – Spring 2002, Fall 2003 – Spring 2006, Fall 2007 – Spring 2008), Search Committee (Fall 2004 – Spring 2005, Fall 2007 – Spring 2008), Colloquium Committee (Fall 2003 – Spring 2008, Fall 2009 – present), Merit Evaluation Committee (Fall 1998 – Spring 2000, Fall 2006 – Spring 2007, Fall 2009 – present), Honors Committee (Fall 2007 – Spring 2008), Computer Committee (Fall 1999).

### Other professional service

**Editor** for the special issues of *Acta Appl. Math.* devoted to Antonio Avantaggiati (v. 65, nos. 1–3, 2001), *Complex Analysis and Operator Theory* dedicated to Georgii Semenovich Litvinchuk (v. 2, no. 2 and 4, 2008), *Linear Algebra and Applications* dedicated to Professor Friedland (in progress), IWOTA 2008 Proceedings (in progress).

**Reviewer** for *Mathematical Reviews*, **Referee** for journals in operator theory, integral equations, boundary value problems, matrix theory, control theory, including *Annals of Mathematics*, *Advances in Mathematics*, *Journal of the AMS*, *Transactions of the AMS*, *Proceedings of the AMS*, *Journal of the London Mathematical Society*, *Journal of the Australian Mathematical Society*, *Proceedings of the Royal Society of Edinburgh*, *Journal of Operator Theory*, *Journal of Functional Analysis and Applications*, *Journal of Mathematical Analysis and Applications*, *Journal of Inequalities and Applications*, *Journal of Physics A: Mathematical and Theoretical*, *Numerical Functional Analysis and Optimization*, *Michigan Mathematical Journal*, *Rocky Mountain J. Math.*, *Linear Algebra and its Applications*, *Linear and Multilinear Algebra*, *Electronic Journal of Linear Algebra*, *SIAM J. Control and Optimization*, *Aequationes Mathematicae*, *Integral Equations and Operator Theory*, *Journal of*

Integral Equations and Applications, Indiana Journal of Mathematics, Complex Analysis and Operator Theory, Operators and Matrices, Operator Theory: Advances and Applications, Canadian Mathematical Bulletin, International Journal of Mathematics and Mathematical Sciences, International Journal of Applied Mathematics and Computer Science, Automatica, Mathematische Nachrichten, St. Petersburg Math. J., Proceedings of the Armenian Academy of Sciences, CUBO.

Member of the Steering Committee, International Workshops on Operator Theory and its Applications (July 2008 – present)

Member of the Organizing Committee, Old Dominion Operator Theory and Analysis Conference (Williamsburg, VA, 1995).

Member of the NSF Operator Algebras/Operator Theory Panel (2000-2001).

Member of the Scientific Program Committee, International Conference “Factorization, singular operators and related problems” (Madeira, Portugal, January 2002)

Member of the Program Committee, International Workshop on Operator Theory and its Applications (Storrs, CT, July 2005)

Member of the Program Committee, International Workshop on Operator Theory and its Applications (Seoul, Korea, July–August 2006)

Member of the Scientific Program Committee, Summer School and a Workshop on Operator Algebras (Lisbon, Portugal, September 2006)

Special session organizer, Seventh Joint International Meeting of the AMS and the Sociedad Matematica Mexicana (Zacatecas, Mexico, May 2007)

Member of the Organizing Committee, The 19th International Workshop on Operator Theory and its Applications (Williamsburg, VA, 2008)

Special session organizer, The 20th International Workshop on Operator Theory and its Applications (Guanajuato, Mexico, September 2009)

Member of the Organizing Committee, International Linear Algebra Society Conference (Pisa, Italy, June 2010)