

Alexander Guterman

Curriculum Vitae

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PERSONAL INFORMATION

- Birth** July 22, 1975 (Moscow, Russia)
Citizenship Israel, Russia
Family status wife Elena Kreines and our children Lazar', 2001, Grigorii, 2003, Galina, 2010, Serafima, 2016
Languages Russian (native), English (fluent), Hebrew (intermediate)

EDUCATION AND ACADEMIC QUALIFICATION

- 2009 **Doctoral Degree (habilitation)**, *Lomonosov Moscow State University*, Moscow, Russia.
2001 **Ph.D. Degree**, *Lomonosov Moscow State University*, Moscow, Russia.
1998 **M.Sc. Degree**, *Lomonosov Moscow State University*, Moscow, Russia.
Postgraduate study
Oct 1998 – **Lomonosov Moscow State University**, *Department of Mechanics and Mathematics, Faculty of Higher Algebra*, Moscow, Russia.
May 2001
Undergraduate study
Sept 1993 – **Lomonosov Moscow State University**, *Department of Mechanics and Mathematics*, Moscow, Russia, the Gold Medal and the Diploma with Honours in Mathematics.
Jun 1998

RESEARCH INTERESTS

linear algebra and its applications, rings and algebras

EMPLOYMENT HISTORY

Permanent full-time position

- Since Oct. 2022 **Full Professor**, *Department of Mathematics*, Bar-Ilan University, Israel.
Since 2010 **Full Professor**, *Algebra, Department of Mathematics and Mechanics*, Lomonosov Moscow State University, Moscow, Russia, *on leave*.
2007-2010 **Associate Professor**, *Algebra, Department of Mathematics and Mechanics*, Lomonosov Moscow State University, Moscow, Russia.
2001-2007 **Assistant Professor**, *Algebra, Department of Mathematics and Mechanics*, Lomonosov Moscow State University, Moscow, Russia.

Long-term positions

- 2020-2022 **Head of Research Group**, *Moscow Center of Fundamental and Applied Mathematics*, Lomonosov Moscow State University, Moscow, Russia.
2017-2022 **Senior Scientific Researcher**, *The Laboratory of Advanced Combinatorics and Network Applications*, Moscow Institute of Physics and Technology, Moscow, Russia.
Since 2016 **Senior Scientific Researcher**, *Independent University of Moscow*, Moscow Center of Continuous Mathematical Education, Moscow, Russia.

2014-2018 **Invited Professor**, *HSE/NES Program in Economics*, New Economic School, Moscow, Russia.
2007-2021 **Senior Scientific Researcher**, *BaseTech LLC*, Moscow, Russia.

SHORT-TERM VISITING PROFESSORSHIP POSITIONS

1. Technion – Israel Institute of Technology, Haifa, Israel, July — September, 2022
2. Weizmann Institute of Science, Rehovot, Israel, March — June 2022
3. HKU, Hong-Kong, January 2019, June, November 2018, and August 2017
4. University of Oslo, Norway, Oslo, April 2019, October 2017 and October — November 2010
5. Seoul National University and the Sungkyunkwan University, Republic of Korea, March 2019
6. The program Nonlinear Algebra in Applications, Institute for Computational and Experimental Research in Mathematics, Brown University, Providence, USA, November 2019
7. Technical University of Berlin, Germany, November 2018
8. University of California, San Diego, USA, October 2018
9. New York University of Abu Dhabi, Abu Dhabi, UAE, May 2017
10. Shanghai University, Shanghai, China, June 2017, June-July, 2015
11. Leibniz Center for Informatics, Germany, Wadern, Schloss Dagstuhl, December, 2016
12. University of Granada, Spain, Granada, September, 2016
13. University of Copenhagen, Denmark, Copenhagen, June, 2016
14. University of Reykjavík, Reykjavík, Iceland, July, 2014
15. University of Klagenfurt, Klagenfurt, Austria, September, 2014
16. INRIA, Saclay, and Ecole Polytechnique, CMAP, France, Paris, April, October, 2014, July 2011, April 2010, and April, June — July, November, 2008
17. University of Valencia, Spain, July — August, 2013
18. University of San-Paolo, Brazil, May — June, 2013
19. Singapore University, Singapore, April 2013
20. University of Budapest, Hungary, June, 2013
21. University of Bonn, Germania, Bonn, April, 2012
22. Royal Holloway College, UK, Egham, London, April, 2012
23. University of Eindhoven, Netherlands, Eindhoven, February, 2012
24. University of Manchester, UK, Manchester, January, 2012
25. University of Ljubljana, Slovenia, May 2011, August, June 2010, August, 2008, June 2009
26. Hamilton Institute of Mathematics, Dublin, Ireland, September 2010
27. University of Tras-os-Montes and Alto Douro, Vila Real, Portugal, March and June 2010
28. University of Patras and the University of Athens, Greece, June-July 2009
29. University of Stockholm, Sweden, January — June 2007
30. INRIA, Rocquencourt, France, Paris, June — August 2006
31. London Mathematical Society Lecture Fellow at the University of Birmingham, UK, October 2005
32. University of Dortmund, Germany, Dortmund, June — August 2005 and September — December 2004
33. Bielefeld University, Germany, Bielefeld, July 2004
34. Porto University, Portugal, Porto, September 2003
35. Sung Kyun Kwan University and Pohang Institute of Science and Technology, Korea, Seoul, Pohang, January 2003
36. Summer student in the Weizmann Institute of Science under the grant of the Karyn Kupcinet International Fond, Rehovot, Israel, 1997

GRANTS

Principal Investigator (In total approximately €800 000)

- 2020-2022 **Grant of Moscow Center of Fundamental and Applied Mathematics**, €65 000, 17 members.
- 2017-2021 **RSF (Russian Science Foundation)**, *Grant 17-11-01124*, €450 000, 10 members.

- 2015-2017 **RFBR (Russian Foundation of Basic Researches)**, *Grant 15-01-01132*, €38 000, 10 members.
- 2016-2017 **RFBR**, *Grant 15-31-20329*, €22 000, 10 members.
- 2014-2015 **Grant MD-962.2014.1**, *Program for Young (under 40) Scientist with habilitation*, €60 000, 10 members.
- 2012-2014 **RFBR**, *Grant 12-01-00140*, €32 000, 10 members.
- 2012-2013 **Grant MD-2502.2012.1**, €60 000, 10 members.
- 2009-2010 **Grant MD-2535.2009.1**, €40 000, 8 members.
- 2007-2008 **Grant MK-2718.2007.1**, *Program for Young (under 37) Scientist with Ph.D. Degree*, €20 000, 8 members.
- 2007 **Wenner-Gren Foundation Grant**, *the Swedish Royal Academy of Sciences*, 100 000 SEK.
- 2005-2006 **Grant MK-1417.2005.1**, 4 members.
- 2005 **London Mathematical Society grant for young Russian mathematicians**.
- 2004 **Euler grant from DAAD**, *Germany*.
- 1999-2001 **Soros Science Education Program**, *Ph.D. Student Grant*, €1800.
- 1997-1998 **Soros Science Education Program**, *Student Grant*, €1000.
- 1997 **Grant of the Karyn Kupciner International Foundation**, *Weizmann Institute of Science, Rehovot, Israel*, €1800, 1 member.

Co-principal Investigator (In total approximately €760 000)

- 2021-2023 **RSF**, *Grant 21-11-00283*, €260 000.
- 2016-2020 **RSF**, *Grant 16-11-10075*, €450 000.
- 2016-2018 **Slovenia-Russia grant**, *BI-RU/16-18-033*, €6 000 .
- 2014-2015 **Slovenia-Russia grant**, *BI-RU/14-15-022*, €6 000.
- 2012-2013 **Slovenia-Russia grant**, *BI-RU/12-13-012*, €6 000.
- 2010-2011 **Slovenia-Russia grant**, *BI-RU/10-11-010*, €6 000.
- 2006, 2008 **Grant of the French Academy of Sciences**, €12 000.
- 2003-2004 **INTAS 03-55-1919**, *European Young Scientist Grant*, €18 000.
- 2003 **KRF-2000-015-DP005**, *South Korea*.

Collaborator

- 2016-2018 **RFBR**, *Grant 16-01-00113*, €32 000 .
- 2014-2016 **RFBR**, *Grant 14-01-00452*, €32 000.
- 2013-2015 **RFBR**, *Grant 13-01-00303*, €32 000.
- 2008-2010 **RFBR**, *Grant 08-01-00693*, €35 000.
- 2003-2009 **Scientific Schools: 1983.2008.1, 5666.2006.1, 1910.2003.01**.
- 2002, 2006 **International Mathematical Union grant for the participation in ICM**.
- 2002 **Ministry of Sciences of Russia**, *2.19.2*.
- 1997-2007 **RFBR**, *05-01-01048, 02-01-00218, 02-01-10642, 02-01-06107, 00-15-96128, 97-07-90131*.

RESEARCH AND TEACHING AWARDS

- 2014/18/19/21 **1st Prize**, *the competition of scientists of Lomonosov Moscow State University*.
- 2016 **Pythagorean Day Prize for the best explanation**, *Lomonosov Moscow State University, Russia, Moscow*.
- 2014 **The best lecturer**, *HSE/NES Programme in Economics, Russia, Moscow*.
- 2014 **ILAS lecture**, *7th Linear Algebra Workshop, Slovenia, Ljubljana*.
- 2005 **Gold Medal of Academia Europaea**.

2003/04/06/08 **Award**, *Lomonosov Moscow State University for young (under 33) researches.*

1999–2001 **Ph.D. Student's Award**, *Moscow Government.*

1997, 1998 **Student's Award**, *Moscow Government.*

TEACHING EXPERIENCE

Courses developed and delivered

1. Introduction to Algebra (LMSU, Moscow, Russia, 2001 – 2021)
2. Linear Algebra (LMSU, 2008 – 2013, HSE, 2014 – 2018, Moscow, Russia)
3. Abstract Algebra (LMSU, Moscow, Russia, 2001 – 2021)
4. Linear Algebra and Analytical Geometry (branches of LMSU in Dushanbe, 2017, and Astana 2020 – 2021)
5. Algebraic Methods in Optimization and Economics (LMSU, Moscow, Russia, 2012 – 2021)
6. Ring Theory (LMSU, Moscow, Russia, 2000 – 2009)
7. Combinatorial Matrix Theory (LMSU, Moscow, Russia, 2010 – 2013)
8. Graphs and Matrices (LMSU, Moscow, Russia, 2014 – 2021, in English, Adygea State University, 2021)
9. Matrices and Graphs (in English, Bar-Ilan University, Israel, 2022)
10. Rings and Modules (LMSU, Moscow, Russia, 2000 – 2009)
11. Projectors and their Applications (University of Dortmund, Germany, 2004), in English

STUDENT SUPERVISION

Ph.D. students defended:

1. Olga Markova, 2009,
2. Yaroslav Shitov, 2012,
3. Mikhail Efimov, 2014,
4. Mikhail Budrevich, 2014,
5. Artem Maksaev, 2022,
6. Pavel Shteyner, 2022,
7. Constantin Taranin, 2022,
8. Svetlana Zhilina, 2022.

M.Sc. diploma: 25 defended at Lomonosov Moscow State University

M.Sc. students: 7 current at Lomonosov Moscow State University

B.Sc. diploma: 1 defended at Adygea State University

B.Sc. students current: 3 at Adygea State University and 3 at Moscow Institute of Physics and Technology

1-year research project (course work): more than 100 at Lomonosov Moscow State University, Adygea State University, Moscow Institute of Physics and Technology.

SERVICE TO THE PROFESSION

Editorial work

- Special Matrices, De Gruyter, Warsaw, Poland
- Southeast Asian Bulletin of Mathematics, Kunming, China
- Mathematics and Theoretical Computer Sciences, Kazan', Russia
- Fundamental and Applied Mathematics, Open Systems, Moscow, Russia
- Special volume of Linear Algebra and its Applications On Idempotent and Tropical Mathematics, 2010
- Scientific editor of the Russian translation of the book "Inverse Problems in Vibration" by G. Gladwell

Conference organization

- International Algebraic Conference dedicated to 90 anniversary of Algebra Faculty, MSU, 28.05-31.05.2019, Russia, Moscow, organizing committee, program committee
- International Algebraic Conference dedicated to 110 anniversary of Professor A.G. Kurosh, 23.05-25.05.2019, Russia, Moscow, organizing committee, program committee
- 4th International Conference Moscow Matrix Methods and Applications, Russia, Moscow, 24.08-28.08.2015,

- organizing committee, program committee
- International Conference Moscow Matrix Methods and Applications, Russia, Moscow, 21.06-25.06.2011, organizing committee, program committee
- International Algebraic conference dedicated to 70th birthday of Professor A. V. Mikhalev, Russia, Moscow, 15.11-18.11.2010, organizing committee
- Moscow-Rome school on Matrix Methods, Russia, Moscow, October 2010, organizing committee
- International Algebraic conference dedicated to 100 anniversary of Professor A. G. Kurosh, Russia, Moscow, 28.05-03.06.2008, organizing committee
- 2nd International Conference on Matrix Methods and Operator Equations, Russia, Moscow, 23-28.07.2007, organizing committee, program committee
- Computer Algebra and Informatics, Russia, Moscow, 09-11.11.2005, organizing and program committee
- International Algebraic Conference, Russia, Moscow, 26.05-02.06.2004, head of local organizing committee
- 12'th International Conference on Formal Power Series and Algebraic Combinatorics, Russia, Moscow, 26-30.06.00, organizing committee
- International Kurosh Algebraic Conference, Moscow, Russia, 24-31.05.98, organizing committee

The member of

- Moscow Mathematical Society since 2004
- International Linear Algebra Society since 2000
- European Mathematical Society since 2020
- Israel Mathematical Society since 2023

Doctoral examination committees

- Moscow Institute of Physics and Technology, Dolgoprudnii, Russia, 3 membership in a wide committee, 2 memberships in a narrow thematic committee,
- Moscow Pedagogical State University, Moscow, Russia, 1 membership,
- Institute of Computational Mathematics, Moscow, Russia, 2 membership (1 Ph.D. and 1 habilitation),
- Ural Federal University, Ekaterinburg, Russia, 3 membership,
- Kazan' Federal University, Kazan', Russia, constant membership,
- University of Rennes, France, 1 membership.

Outreach and other activity

- Organization of International Algebraic Olympiad for students, Lomonosov Moscow State University, Moscow, Russia, 2006 – 2020,
- Lecture for school children, Specialized science and learning boarding school, Moscow, Russia, 21.04.2021,
- Series of lectures at Maikop Summer School for advanced students of the secondary school and 1-2 year students, Maikop, Russia, July 2021,
- Series of lectures in Yaroslavl' State University for advanced students of the secondary school and 1-2 year students, Yaroslavl', Russia, November 2019, March 2020,
- Series of lectures for 8 – 12 year children, School 2, School 57, Moscow, Russia, 2000 – 2003, 2008 – 2010, and 2017.
- Member of hiring committee, Algebra group, Department of Mathematics and Mechanics, Lomonosov Moscow State University, Moscow, Russia
- Member of a policy working group for additional science funding
- Head of attestation committee for Ph.D. students, Lomonosov Moscow State University, Moscow, Russia

SCIENTIFIC PROFILES

[MathSciNet](#) Author ID: 663252

[Scopus](#) Author ID: 55998356200

[WebOfScience](#) Researcher ID: P-9031-2016

[ORCID](#) 0000-0002-6163-1442

INVITED TALKS AT THE CONFERENCES

1. V International Workshop on Non-Associative Algebras in Vitória, Vitória, Brazil, 12-16.12.2022
2. 14th Brauer Group Meeting, Tel-Aviv, Israel, 27.06-01.07.2022
3. George Shabat 70 Conference, Moscow, Russia + ZOOM, 21-22.06.2022
4. International Conference on Semigroups, Algebra, and Operator theory (ICSAOT-22), Cochin, Kerala, India, 28-31.03.2022
5. Lobachevskii readings, Kazan, Russia, 1-4.12.2021
6. Autumn mathematical readings in Adygeya, Maikop, Russia, 13-15.10.2021
7. Non-associative Algebras and their Applications, Antananarivo, Madagascar, 30.08-10.09.2021
8. International Conference in Algebra, Analyses, and Geometry, Kazan, Russia, 23-27 August 2021
9. 2nd Zagreb Workshop on Operator Theory, Zagreb, Croatia, 29-30 June 2020
10. International Conference on Semigroups Algebras and Applications, Cochin University of Science and Technology, Kochi, Kerala, India, 09-12 December 2019
11. International Conference on Mathematics: Pure, Applied and Computation, University Malaya and Shibaura Institute of Technology, Surabaya, Indonesia, 17-20 October 2019
12. Homological algebra, ring theory, and Hochschild cohomologies, Saint Petersburg, Russia, 28-30.10.2019
13. 6th International Workshop Syntax and Semantics of Logical Systems, Hanh, Mongolia, 11-16.08.2019
14. Semigroups and Groups, Automata, Logics, Cremona, Italy, 10-13 June 2019
15. International Conference on Linear Algebra and Matrix Theory, University College Dublin, Ireland, 05.2019
16. Preserver Weekend in Szeged, University of Szeged, Szeged, Hungary, April 2019
17. Researches on isometries as preserver problems and related topics, RIMS Workshop, University of Kyoto, Japan, January 2019
18. Classical and Functional Analysis, Buşteni, Romania, August 2018
19. Modern Algebra and Analysis and their Applications, Sarajevo, Bosnia and Herzegovina, September 2018
20. A Tropical Panorama, Max Planck Institute for Mathematics in the Sciences, Germany, Leipzig, July, 2018
21. International Kurosh Conference, Russia, Moscow, May 2018
22. Emil Artin International Conference, Armenia, Yerevan, May 2018
23. 3'rd International Congress on Algebra and Combinatorics, Hong Kong, August, 2017
24. 8'th Linear Algebra Workshop, Slovenia, Ljubljana, June 2017
25. International Conference in Algebra, Analysis and Geometry, Russia, Kazan', June, 2016
26. Modern Mathematics in Armenia, Armenia, Yerevan, June, 2016
27. Conference on Tropical Algebra and Geometry, Israel, Tel-Aviv, December, 2015
28. Limitations of Convex Programming: Lower Bounds on Extended Formulations and Factorization Ranks, Schloss Dagstuhl — Leibniz Center for Informatics, Wadern, Germany, February, 2015
29. 7'th Linear Algebra Workshop, Slovenia, Ljubljana, June 2014, ILAS lecture
30. Algebra and Mathematical Logic: Theory and Applications, Russia, Kazan', June 2014
31. International Algebraic Conference in Tula, Russia, Tula, April, 2014
32. Mathematics in Armenia, Armenia, Yerevan, 2013
33. International Conference Future Directions in Tropical Mathematics, UK, Manchester, January, 2012
34. International Conference in Algebra, Georgia, Batumi, September 2011
35. International Conference Moscow Matrix Methods and Applications, Russia, Moscow, June 2011
36. 6'th Linear Algebra Workshop, Slovenia, Kranska Gora, May 2011
37. International Algebraic Conference dedicated to 70th birthday of professor A.V. Mikhalev, Russia, Moscow, November 2010
38. Rome-Moscow School on Matrix Methods, Russia, Moscow, September 2010
39. Fundamental Structures in Algebra, Romania, Constanta, April 2010
40. Conference on Operator Theory and Operator Algebras, Japan, Nara, November 2009
41. International Algebraic conference dedicated to 100 anniversary of Professor A.G. Kurosh, Russia, Moscow, May 2008
42. 5'th Linear Algebra Workshop, Slovenia, Kranska Gora, June 2008
43. International Workshop "Idempotent and Tropical Mathematics and Problems of Mathematical Physics", Russia, Moscow, August 2007

44. 2nd International Conferences on Matrix Methods and Operator Equations, Russia, Moscow, July 2007
45. Quasideterminants and Universal Localization, CRM, Spain, Barcelona, February, 2007
46. International Conference on Group Theory and Universal Algebras, Israel, Jerusalem, December 2005
47. International Workshop on Non-Commutative Geometry, Belgium, Antwerpen, November 2004
48. International Algebraic Conference, Russia, Moscow, May 2004
49. XII Workshop on Matrices and Statistics, Germany, Dortmund, August 2003
50. 3'rd Linear Algebra Workshop, Slovenia, Bled, June 2002
51. Conference on Combinatorial Methods in P.I. Theory, Italy, Pantelleria, September 2001
52. International Workshop on Growth Phenomena in Associative and Lie Algebras, Israel, Rehovot, May 2000

INTELLECTUAL PROPERTY

- 2016 Program for assessing thematic similarity of collections of texts in natural languages according to collection models that determine the taxonomy of each of the collections, M.G. Kreines, S.N. Artamonov, A.A. Afonin, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2016612964
- 2016 Program for determining reference (comparable) values of bibliometric and scientometric indicators of the analyzed text, M.G. Kreines, S.N. Artamonov, A.A. Afonin, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2016611907
- 2016 Program for assessing the thematic similarity of collections of texts in natural languages according to the model that determines the taxonomy of a set of collections, M.G. Kreines, S.N. Artamonov, A.A. Afonin, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2016613091
- 2016 The program for constructing computational quality assessments (significance, informativeness and content independence), M.G. Kreines, A.A. Afonin, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2016611855
- 2016 The program for the construction and analysis of collections of scientific and technical documents used to build computational quality assessments (significance, informativeness and content independence) and to determine reference (comparable) values, M.G. Kreines, A.A. Afonin, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2016611854
- 2017 The program for visualizing the results of a comprehensive computational objective quality assessment for a collection of unstructured scientific and technical documents in natural languages, M.G. Kreines, A.A. Afonin, B.R. Bahadly, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2017614671
- 2017 Program for visualizing the results of a comprehensive computational objective quality assessment for a single unstructured scientific or technical document in a natural language, M.G. Kreines, A.A. Afonin, B.R. Bakhadly, P.A. Gudev, A.E. Guterman, E.M. Kreines, N.M. Novikova, Reg.num. 2017614893

PUBLICATIONS

1. Linear operators preserving strong majorization of $(0,1)$ -matrices (with P. Shteyner) // *Linear Algebra and its Applications*, 2023, 658, 116-150
2. Roots and critical points of polynomials over Cayley-Dickson algebras (with A. Chapman, S. Vishkautsan, S. Zhilina) // *Communications in Algebra*, 2022, DOI: 10.1080/00927872.2022.2134885
3. Algebras of slowly growing length (with D.K. Kudryavtsev) // *International Journal of Algebra and Computation*, 2022, 32:7, 1307-1325
4. Birkhoff–James orthogonality: Characterizations, preservers, and orthogonality graphs (with Lj. Arambašić, B. Kuzma, S. Zhilina) // *In Operator and Norm Inequalities and Related Topics, Trends in Mathematics*, 255–302, Cham, Switzerland, 2022
5. What does Birkhoff–James orthogonality know about the norm? (with Lj. Arambašić, B. Kuzma, R. Rajić, S. Zhilina) // *Publ. Math. Debrecen*, to appear, 2022
6. Non-surjective linear transformations of tropical matrices preserving the cyclicity index (with E. Kreines, A. Vlasov) // *Kybernetika*, to appear, 2022
7. Values of the permanent function on multidimensional $(0,1)$ -matrices (with A. E. Guterman, I. M. Evseev, and A. A. Taranenko) // *Siberian Mathematical Journal*, 2022, 63:2, 262-276
8. Pairs of maps preserving singularity on subsets of matrix algebras (with A.M. Maksaev, V.V. Promyslov) // *Linear Algebra and its Applications*, 2022, 644, 1-27

9. On the lengths of group algebras of finite abelian groups in the semi-simple case (with M. Khrystik, O. Markova) // *Journal of Algebra and its Applications*, 2022, 2250140-2250153
10. On the lengths of group algebras of finite abelian groups in the modular case (with M. Khrystik, O. Markova) // *Journal of Algebra and its Applications*, 2022, 2250117-2250130
11. On the lengths of standard composition algebras (with S.A. Zhilina) // *Communications in Algebra*, 2022, 50:3, 1092-1105
12. Linear functions preserving Green's relations over fields (with M. Johnson, M. Kambites, A. Maksaev) // *Linear Algebra and its Applications*, 2021, 611, 310-333
13. Transformations of assembly number for 4-regular graphs (with E.M. Kreines, N.V. Ostroukhova) // *Zapiski POMI*, 2021, 504, 21-46
14. Linear converters of weak, directional and strong majorizations (with P. Shteyner) // *Linear Algebra and its Applications*, 2021, 613, 320-346
15. Length function and characteristic sequences of quadratic algebras (with D.K. Kudryavtsev) // *Journal of Algebra*, 2021, 579, 428-455
16. Integrability of diagonalizable matrices and a dual Schoenberg type inequality (with S. Danielyan, T.W. Ng) // *Journal of Mathematical Analysis and Applications*, 2021, 498:2, 124909, 22 pp
17. Converting immanants on skew-symmetric matrices (with M.A. Duffner, I.A. Spiridonov) // *Linear Algebra and its Applications*, 2021, 618, 76-96
18. Symmetrized Birkhoff-James orthogonality in arbitrary normed spaces (with Lj. Arambašić, B. Kuzma, R. Rajić, S. Zhilina) // *Journal of Mathematical Analysis and Applications*, 2021, 502:1, 125203, 16 pp
19. Operators preserving mutual strong Birkhoff-James orthogonality on $B(H)$ (with Lj. Arambašić, B. Kuzma, R. Rajić, S. Zhilina) // *Linear Algebra and its Applications*, 2021, 624, 27-43
20. Upper bounds on scrambling index for non-primitive digraphs (with A.M. Maksaev) // *Linear and Multilinear Algebra*, 2021, 69:11, 2143-2168
21. Linear transformations of tropical matrices preserving the cyclicity index (with E. Kreines, C. Thomassen) // *Special Matrices*, 2021, 9, 112-118
22. Linear immanant converters on skew-symmetric matrices of order 4 (with M.A. Duffner, I.A. Spiridonov) // *Journal of Mathematical Sciences*, 2021, 255:3, 242-253
23. Relation graphs of the sedenion algebra (with S.A. Zhilina) // *Journal of Mathematical Sciences*, 2021, 255:3, 254-270
24. Orthograph related to mutual strong Birkhoff-James orthogonality in C^* -algebras (with L. Arambašić, B. Kuzma, R. Rajić, S. Zhilina) // *Banach Journal of Mathematical Analysis*, 2020, 14:4, 1751 – 1772
25. The length of the group algebra of the group Q_8 (with O.V. Markova) // *New Trends in Algebras and Combinatorics* // *World Scientific Publ*, 2020, 105-133, doi: 10.1142/9789811215476_0010
26. Higher-distance commuting varieties (with M. Elyze, R. Morrison, K. Šivic) // *Linear and Multilinear Algebra*, 2020, doi: 10.1080/03081087.2020. 1834493
27. Characteristic sequences of non-associative algebras (with D.K. Kudryavtsev) // *Communications in Algebra*, 48(4), 2020, 1713-1725
28. Majorization for $(0,1)$ -matrices (with G. Dahl and P. Shteyner) // *Linear Algebra and Its Applications*, 585, 2020, 147-163
29. Orthogonality for $(0,-1)$ tropical normal matrices (with B. Bakhadly and M. J. de la Puente) // *Special Matrices*, 8, 2020, 40-60
30. Permanent Polya problem for additive surjective maps (with I.A. Spiridonov) // *Linear Algebra and Its Applications*, 599, 2020, 140-155
31. Upper bounds for the length of non-associative algebras (with D.K. Kudryavtsev) // *Journal of Algebra*, 544, 2020, 483-497
32. Linear transformations preserving majorizations for matrix tuples (with P. Shteyner) // *Vestnik St.Petersburg University, Mathematics*, 53(2), 2020, 136-144
33. 2-words, their graphs and matrices (with E.M. Kreines and N.V. Ostroukhova) // *Zapiski Nauch. Sem. POMI*, 482, 2019, 45-72
34. Graph characterization of fully indecomposable nonconvertible $(0,1)$ -matrices with minimal number of ones (with M. Budrevich, G. Dolinar, B. Kuzma) // *Ars Mathematica Contemporanea*, 17(1), 2019, 141-151
35. Kräuter conjecture on permanents is true (with M.V. Budrevich) // *Journal of Combinatorial Theory - Series*

- A, 162, 2019, 306-343
36. Length realizability for pairs of quasi-commuting matrices (with O. Markova, V. Mehrmann) // *Linear Algebra and Its Applications*, 568, 2019, 135-154
 37. More on geometry of Krein space \mathcal{C} -numerical range (with R. Lemos and G. Soares) // *Applied Mathematics and Computation*, 352, 2019, 258-269
 38. Double centralizing theorem with respect to q -commutativity relation (with G. Dolinar, B. Kuzma, O. Markova) // *Journal of Algebra and its Applications*, 18(1), 2019, 1-15
 39. On Hartwig–Nambooripad orders (with X. Mary, P. Shteyner) // *Semigroup Forum*, 98(1), 2019, 64-74
 40. Additive maps preserving scrambling index are bijective (with A.M. Makshev) // *Acta Mathematica Hungarica*, 84(1-2), 2018, 19-38
 41. Majorization for matrix classes (with G. Dahl and P. Shteyner) // *Linear Algebra and Its Applications*, 555, 2018, 201-221
 42. Extremal generalized centralizers in matrix algebras (with G. Dolinar, B. Kuzma, O. Markova) // *Communications in Algebra*, 46(7), 2018, 3147-3154
 43. A resolution of Paz’s conjecture in the presence of a nonderogatory matrix (with T. Laffey, O. Markova, H. Šmigoc) // *Linear Algebra and Its Applications*, 543, 2018, 234-250
 44. Linear isomorphisms preserving Green’s relations for matrices over anti-negative semifields (with M. Johnson, M. Kambites) // *Linear Algebra and Its Applications*, 545, 2018, 1-14
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