

## LASHA EPHRE MIDZE

### Curriculum Vitae

Division of Science and Mathematics  
New York University Abu Dhabi  
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Abu Dhabi, United Arab Emirates

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### CURRENT POSITION

Research Associate, New York University Abu Dhabi, UAE

2014-present

### RESEARCH AREAS

Operator Theory, Real and Complex Analysis, Harmonic Analysis, Ergodic Theory

### PATENTS

2016, "Matrix spectral factorization for data compression, filtering, wireless communications, and radar systems"; Patent No.: US 9,318,232 B2; Date: Apr. 19, 2016; Inventors: A. Ephremides (MD), G. Janashia, L. Ephremidze, and E. Lagvilava; Assignee: University of Maryland, College Park, MD  
<https://www.google.com/patents/US9318232>

2019, "Multivariate matrix spectral factorization" Non-Provisional Patent Application No. 62/553,685 filed on Sept. 1 in the United States of America by NYU. Inventors: L. Ephremidze, I. Spitkovsky

**Professional Membership:** AMS

**Programming Languages:** MATLAB

### EDUCATION

2003, Doctor of Sciences (Habilitation), A. Razmadze Mathematical Institute, Tbilisi, Georgia, Thesis: "*Some Problems of Fourier and Ergodic Operator Theories*".

1993, Candidate of Sciences (Ph.D.), A. Razmadze Mathematical Institute. Tbilisi, Georgia, Thesis: "*Metric properties of dynamical systems*".

1987, MSc in Mathematics with Distinction, Tbilisi State University.

### PREVIOUS APPOINTMENTS

2009-2014, Associate Professor at Faculty of Exact and Natural Sciences of I. Javakhishvili Tbilisi State University, Georgia

2013-2014, Lecturer at Free University of Tbilisi, Georgia

2008-2010, Full Professor at International Black Sea University

1995-2000, 2002-2004, Lecturer at International Black Sea University

2005-2007, Japan Society for the Promotion of Science Postdoctoral Fellow, Tokai University, Japan

2004-2005, Matsumae International Foundation Fellow, Okayama University, Okayama, Japan

2000-2002, Visiting Senior Research Fellow at Prague Mathematical Institute

1993-1995, Lecturer at Georgian Technical University  
1987-present, Researcher of A. Razmadze Mathematical Institute

## TEACHING EXPERIENCE

2016-2017, Division of Science and Mathematics, NYUAD. Freshmen course: *Calculus with Applications*, Sophomore course: *Multivariate Calculus*  
2009-2014, Mathematics Department, I. Javakhishvili Tbilisi State University. Freshmen course: *Calculus*; Sophomore courses: *Measure Theory and Integration*, *Complex Analysis*; MSc courses: *Introduction to Wavelets*, *Theory of Hardy Spaces* (in Georgian).  
2013-14, Department of Science, Free University of Tbilisi. Freshmen course: *Linear Algebra*; Sophomore courses: *Complex Analysis*, *Differential Equations* (in Georgian).  
1995-2000, 2002-2004, 2007-2009. International Black Sea University. Freshmen courses: *Calculus*, *Linear Algebra*, *Discrete Mathematics*; Freshmen courses: *Probability Theory*, *Statistics*, *Differential Equations*; MSc course: *Mathematical modelling* (in English).  
2006-2007, Tokai University, Ph.D. courses: *Estimation Theory of Gaussian Random Processes*, *Wiener Processes and Stochastic Integrals* (in English).  
2001, Charles University in Prague, Faculty of Mathematics and Physics, Department of Probability and Statistics. MSc Course: *Ergodic Theory and Information* (in English).  
1993-1995, Georgian Technical University, Faculty of Applied Mathematics. Freshmen courses: *Mathematical Analysis*, *Linear Algebra*; Sophomore course: *Complex Analysis*; Junior Course: *Functional Analysis* (in Georgian).

## AWARDS

1987, Gold medal of the Georgian Academy of Sciences  
1986, Gold medal for the best research paper in a competition of SU university students

## GRANTS

2019-2021 Shota Rustaveli National Science Foundation grant (Contract No. FR-18-2499)  
2019-2021 Shota Rustaveli National Science Foundation grant (Contract No. DI-18-118)  
2013-2015 Shota Rustaveli National Science Foundation grant (Contract No. 31/47).  
2012-2014 Shota Rustaveli National Science Foundation grant (Contract No. D/13-23).  
2010-2012, GNSF grant/ST09/23-3-100  
2008-2010, GNSF grant/ST07/3-169  
2007-2008, INTAS grant Nr 06-1000017-8792  
2004, CNR-NATO grant of Italy No. 217.35 S.  
1997-2006, Grant No. 1.1 of the Georgian Academy of Sciences  
1998-2000, 2004-2005 Grants of the President of Georgia

## MEMBER OF EDITORIAL BOARD

Georgian Journal of Mathematics; Transactions of A. Razmadze Mathematical Institute

## ORGANIZATION OF CONFERENCES AND WORKSHOPS

2015, Georgian-Swedish Conference in Analysis and Dynamical Systems, Tbilisi, Georgia, 15-22 July  
2013, IEEE First International Black Sea Conference on Communications and Networking, Batumi, Georgia, 3-5 July  
2008, International Workshop in Variable Exponents and Related Topics, Tbilisi, Georgia, 2-5 Sept.  
2008, Workshop in Function Spaces, Differential Operators and Nonlinear Analysis, Helsinki, 22-24 August

## TALKS AT INTERNATIONAL CONFERENCES

2019, "On Janashia-Lagvilava method of matrix spectral factorization" - Factorisation of matrix functions: new techniques applications, 12-16 Aug., Isaac Newton Institute for Mathematical Sciences, Cambridge, UK. <https://www.newton.ac.uk/seminar/20190813100011001>  
2017, "On multivariate matrix spectral factorization algorithm" - VIII Annual International Conference of Georgian Mathematical Union, 4-8 Sept., Batumi, Georgia (Plenary speaker).  
2015, "Rank-deficient spectral factorization and wavelets completion problem", International Workshop on Operator Theory and its Applications, IWOTA-2015, 6-10 July, Tbilisi, Georgia.  
2014, "New algorithms for matrix spectral factorization and wavelet construction"- The International Congress of Mathematicians, 13-21 August, Seoul, Korea.  
2013, "Numerical comparison of different algorithms for construction of wavelet matrices" – IEEE First International Black Sea Conference on Communications and Networking, July 3-5, 2013, Batumi, Georgia.  
2011, "Matrix spectral factorization and wavelets" – International Conference on Continuum Mechanics and Related Problems of Analysis, 9-14 September, Tbilisi, Georgia  
2008, "On parameterization of compact wavelets" – FSDONA-Workshop, Helsinki, 22-24 August  
2008, "On parameterization of the wavelet matrices" – Function Spaces and Application, 7-11 July, Fryeburg, Germany  
2007, "A new efficient matrix spectral factorization algorithm" – SICE Annual Conference 2007, 17-20 September, Kasagawa University, Japan,  
2007, "On the estimation of the convergence rate in the Janashia-Lagvilava spectral factorization algorithm" – Conference in Harmonic Analysis and Applications, 2-4 September, Hokkaido University, Japan  
2007, "On the uniqueness of maximal operators" – Conference in Harmonic Analysis and Nonlinear Partial Differential Equations, 9-11 July, Kyoto University, Japan,  
2007, "The John-Nirenberg inequality for ergodic systems" - Meeting of the Mathematical Society of Japan, 20-23 September, Sendai, Japan  
2006, "On the uniqueness of maximal functions of Borel measures" - Meeting of the Mathematical Society of Japan, 20-23 September, Osaka, Japan  
2005, "On the generalization of the Riesz-Zygmund theorem for the ergodic Hilbert transform." - Meeting of the Mathematical Society of Japan, 27-30 March, Tokyo, Japan  
2002, "On the decreasing rearrangement of the ergodic maximal function" - Spring School on Nonlinear Analysis, 17-22 July, Prague, Czech Republic  
2002, "On the generalization of the Stein-Weiss theorem for the ergodic transformations" - The 26th

Summer Symposium in Real Analysis, 25-29 June, Lexington, USA  
2001, "A new multivariate spectral factorization algorithm" - First SIAM-EMS Conference, Applied Mathematics in our Changing World, 2-6 September, Berlin, Germany  
1990, "On the ergodic maximal function"- Summer school on dynamical systems, 1-15 August, Samos, Greece.  
1989, "On the convergence of Fourier series in the norm" - Function theory seminar, 22 October-9 November Banach Center, Poland  
1989, "On the ergodic maximal equality" - The fifth international conference on probability theory and statistics, 26 June-1 July, Vilnius, Lithuania

### IMPORTANT SEMINAR TALKS

2019, "Matrix spectral factorization and wavelets" – Department of Electrical and Computer Engineering, Technical University of Munich, Germany, 30 Aug.  
2015, "Matrix spectral factorization and wavelets" – Division of Science and Mathematics, New York University Abu Dhabi, 19 April  
2014, "New algorithms for wavelet matrix construction"- Department of Electrical & Computer Engineering, Polytechnic Institute of New York University, 12 March  
2007, "A new efficient matrix spectral factorization algorithm"- Department of Information Physics and Computing, University of Tokyo, 12 October  
2007, "A new effective multidimensional spectral factorization algorithm"- Norbert Wiener Center Seminar, University of Maryland, <http://norbertwiener.umd.edu/seminars/abstracts06-07/abstract15.html>  
2007, "Spectral factorization and its applications" – Department of Electrical Engineering, Tokai University, Japan, 5 February  
2006, "On factorization of positive definite matrix-functions" – Department of Mathematics, Hokkaido University, Japan, 13 February  
2004, "On the ergodic maximal function"- Department of Mathematics, St. Andrews University, Scotland, UK, 27 February  
2001, "A new method of factorization of positive definite matrix-functions" – Department of Mathematics, Lancaster University, UK, 13 July  
2000, "Prediction theory of stationary random processes" – Department of Mathematics, University of Sussex, UK, 28 April

### SHORT SCIENTIFIC VISITS

2019, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK. 5-30 Aug.  
2014, Polytechnic Institute of New York University, USA, 7-15 March,  
2008, Institute for Systems Research, University of Maryland, USA, 11 – 29 April  
2007, Meijo University, Nagoya, Japan, 18 May (*seminar talk*)  
2007, Institute for Systems Research, University of Maryland, USA, 15 February – 12 March  
<http://www.ece.umd.edu/events/index.php?mode=4&id=1544>  
2006, Athens Information Technology Institute, Greece, 16 June (*seminar talk*)  
2004, University of Bologna, Italy, 1 May – 30 June  
2004, St. Andrews University, Scotland, 15 February – 15 march

2001, Lancaster University, UK, 13 July (*seminar talk*)  
2000, University of Sussex, UK, 15 April – 15 May

## ADVISING EXPERIENCE

### Master Thesis:

2013, Nika Salia (currently, PhD candidate at Central European University, Hungary) “*Numerical Comparison of Different Algorithms for Construction of Wavelet Matrices*”  
2013, Beka Ergemlidze (currently, PhD candidate at Central European University, Hungary)  
“*A new method of construction of wavelet matrices*”  
2014, Giorgi Rukhaia (currently, MSc student of mathematics at University of Bonn) “*On a spectral factorization algorithm for polynomial matrix functions*”

### Capstone Projects:

2013, Natalia Nebulishvili (currently, Graduate Student of Computer Science and Systems at University of Washington Tacoma) “*Maximal Functions and their Applications in Harmonic Analysis*”

## REFERENCES

Professor Anthony Ephremides  
Institute for Systems Research  
University of Maryland  
College Park, MD 20742  
(301) 405-3641  
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## LIST OF PUBLICATIONS

1. **L. Ephremidze**, E. Shargorodsky, and I. Spitkovsky, *Quantitative results on continuity of the spectral factorization mapping*, **J. Lond. Math. Soc. (2)**, DOI:10.1112/jlms.12258
2. **L. Ephremidze** and I. Spitkovsky, On a generalization of Smirnov's theorem with some applications, **Georgian Math. J.**, 25 (2018), 217-220, DOI: <https://doi.org/10.1515/gmj-2018-0021>
3. **L. Ephremidze**, F. Saied, and I. Spitkovsky, *On the algorithmization of Janashia-Lagvilava matrix spectral factorization method*, **IEEE Trans. Inform. Theory**, 64 (2018), 728-737 DOI: 10.1109/TIT.2017.2772877
4. **L. Ephremidze**, I. Selesnick, and I. Spitkovsky, *On non-optimal spectral factorizations*, **Georgian Math. J.**, 24 (2017), 517-522. DOI: <https://doi.org/10.1515/gmj-2017-0020>
5. **L. Ephremidze**, W. H. Gerstacker, and I. Spitkovsky, *On Robinson's Energy Delay Theorem*, **Trans. A. Razmadze Math. Inst.**, 171 (2017), 16-23.
6. **L. Ephremidze**, E. Shargorodsky, and I. Spitkovsky, *Quantitative results on continuity of the spectral factorization mapping in the scalar case*, **Bol. Soc. Mat. Mex.** 22 (2016), 517-527.
7. **L. Ephremidze** and I. Spitkovsky, *Matrix Spectral Factorization with Perturbed Data*, **Mem. Differential Equations Math. Phys.** 66 (2015), 65-82.
8. **L. Ephremidze**, E. Lagvilava, and I. Spitkovsky, *Rank-Deficient Spectral Factorization and Wavelets Completion Problem*, **Int. J. Wavelets Multiresolut. Inf. Process.**, 13 (2015), 240-248.
9. **L. Ephremidze**, N. Salia, I. Spitkovsky, *Some aspects of a novel matrix spectral factorization algorithm*, **Proc. A. Razmadze Math. Inst.** 166 (2014), 49-60.
10. **L. Ephremidze**, *An elementary proof of the polynomial matrix spectral factorization theorem*, **Proc. Roy. Soc. Edinburgh Sect. A**, 144 (2014), 747-751.
11. **L. Ephremidze** and E. Lagvilava, *On compact wavelet matrices of rank  $m$  and of order and degree  $N$* , **J. Fourier Anal. Appl.** 20 (2014), 401-420.
12. **L. Ephremidze**, A. Gamkrelidze and E. Lagvilava, *An approximation of Daubechies wavelet matrices by perfect reconstruction filter banks with rational coefficients*, **Adv. Comput. Math.** 38 (2013), 147-158.
13. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *Matrix spectral factorization and wavelets*, **Journal of Mathematical Sciences**, 195 (2013), 445-454.
14. **L. Ephremidze** and I. Spitkovsky, *A remark on a polynomial matrix factorization theorem*, **Georgian Math. J.** 19 (2012), 489-495.
15. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *On approximate spectral factorization of matrix functions*, **J. Fourier Anal. Appl.** 17 (2011), 976-990.

16. G. Janashia, E. Lagvilava, and **L. Ephremidze**, *A new method of matrix spectral factorization*, **IEEE Trans. Inform. Theory**, 57 (2011), 2318-2326.
17. **L. Ephremidze**, *On the Uniqueness Property of Various Maximal Operators*, **Research Institute of Math. Sci. (RIMS)**, Kyoto, B22, (2010), 137-144.
18. **L. Ephremidze** and E. Lagvilava, *Remark on outer analytic matrix-functions*, **Proc. A. Razmadze Math. Inst.** 152 (2010), 29-32.
19. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *A simple proof of matrix-valued Fejer-Riesz theorem*, **J. Fourier Anal. Appl.** 15 (2009), 124-127.
20. **L. Ephremidze** and N. Fujii, *The John-Nirenberg inequality for ergodic systems*, **Far East J. Dyn. Syst.** 11 (2009), 49-56.
21. **L. Ephremidze**, V. Kokilashvili, and S.G. Samko, *Fractional, maximal and singular operators in variable exponent Lorentz spaces*, **Fractional Calculus and Applied Analysis** 11 (2008), 407-420.
22. **L. Ephremidze** and N. Fujii, *On the uniqueness of the one-sided maximal functions of Borel measures*, **J. Math. Soc. Japan**, 60 (2008), 695-717.
23. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *An analytic proof of the matrix spectral factorization theorem*, **Georgian Math. J.** 15 (2008), 241-249.
24. **L. Ephremidze**, N. Fujii, and Y. Terasawa, *The Riesz "rising sun" lemma for arbitrary Borel measures with some applications* **J. Funct. Spaces Appl.** 5 (2007), 319-331.
25. **L. Ephremidze** and R. Sato, *On the generalization of the Riesz-Zygmund theorem for the ergodic Hilbert transform*, **Ergodic Theory Dynam. Systems**, 27 (2007), 113-122.
26. **L. Ephremidze** and R. Sato, *A weighted ergodic maximal equality for nonsingular semiflows*, **Colloq. Math.** 103 (2005), 207-213.
27. **L. Ephremidze**, *On the uniqueness of the two-sided ergodic maximal function*, **Georgian Math. J.** 12 (2005), 45-52
28. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *A new computational algorithm of spectral factorization for polynomial matrix functions*, **Proc. A. Razmadze Math. Inst.** 136 (2004), 41-46.
29. **L. Ephremidze**, *The Stein-Weiss theorem for the ergodic Hilbert transform*, **Studia Math.** 165 (2004), 61-71.
30. **L. Ephremidze**, *A new proof of the Ergodic Maximal Equality*, **Real Anal. Exchange**, 29 (2003/04), 409-411.
31. **L. Ephremidze**, *The generalization of Stein-Weiss Theorem for the ergodic Hilbert transform*, **Studia Math.** 155 (2003), 67-75.

32. L. Ephremidze, *On the Ergodic Maximal Equality*, **Proc. A. Razmadze Math. Inst.** 132 (2003), 89-92.
33. L. Ephremidze, *On the uniqueness of the ergodic maximal function*, **Fund. Math.** 174 (2002), 217- 228.
34. L. Ephremidze, *On the uniqueness of maximal operators for ergodic flows*, **Rev. Mat. Complut.** 15 (2002), 75-84.
35. L. Ephremidze, *The rearrangement inequality for the ergodic maximal function*, **Georgian Math. J.** 8 (2001), 727-732.
36. G. Janashia, E. Lagvilava, and L. Ephremidze, *On approximate factorization of positive definite matrix functions*, **Uspekhi Mat. Nauk**, 54 (1999), 161-162 (in Russian). Translated as **Russian Math. Surveys**, 54 (1999), 1246-1247.
37. L. Ephremidze, *On approximate factorization of positive definite matrix functions of second order*, **Proc. A. Razmadze Math. Inst.** 120 (1999), 49-56.
38. L. Ephremidze, *On reverse weak  $(1,1)$  type inequalities for the maximal operators with respect to arbitrary measures*, **Real Anal. Exchange**, 24 (1998/9), No. 2, 761-764.
39. L. Ephremidze, G. Janashia, and E. Lagvilava, *On the factorization of unitary matrix-functions*, **Proc. A. Razmadze Math. Inst.** 116 (1998), 101-106.
40. L. Ephremidze, *On the integrability of the ergodic Hilbert transform for a class of functions with equal absolute values*, **Georgian Math. J.** 5 (1998), 101-106.
41. L. Ephremidze, *On approximate factorization of the spectral measures of stationary processes*, **Proc. A. Razmadze Math. Inst. Georgian Acad. Sci.** 114 (1997), 35-38.
42. L. Ephremidze, *Uniqueness theorem for maximal functions*, **Georgian Math. J.** 3 (1996), 49-52.
43. L. Ephremidze, *On a relationship between the integrabilities of various maximal functions*, **Georgian Math. J.** 2 (1995), 9-20.
44. L. Ephremidze, *On the integrability of the ergodic maximal function*, **Proc. A. Razmadze Math. Inst. Georgian Acad. Sci.** 102 (1993), 29-40.
45. L. Ephremidze, *A remark on a theorem of Atkinson*, **Proc. A. Razmadze Math. Inst. Georgian Acad. Sci.** 101 (1992), 39-45.
46. L. Ephremidze, *On the distribution function of the majorant of ergodic means*, **Studia Math.** 103 (1992), 1-15.
47. L. Ephremidze, *On the majorant of ergodic means (the continuous case)*, **Trudy Tbiliss. Mat. Inst. Razmadze Akad. Nauk Gruz. SSR** 98 (1990), 112-124 (in Russian).



48. **L. Ephremidze**, *On the majorant of ergodic means*, **Uspekhi Mat. Nauk**, 45 (1990), No. 2 (272), 223-224 (in Russian). Translated as **Russian Math. Surveys**, 45, (1990), 209-211.
49. **L. Ephremidze**, *On the convergence of Fourier-Walsh series in the space  $L$* , **Trudy Tbiliss. Mat. Inst. Razmadze Akad. Nauk Gruz. SSR**, 95 (1989), 71-80 (in Russian).
50. **L. Ephremidze**, *On the convergence of Fourier series in  $L$* , **Trudy Tbiliss. Mat. Inst. Razmadze Akad. Nauk Gruz. SSR**, 89 (1988), 83-94 (in Russian).

### Conference Papers

51. V. Baramidze, **L. Ephremidze**, and N. Tsimakuridze, *On numerical methods of scalar spectral factorization*, Tbilisi International Conference on Computer Science and Applied Mathematics, March 21-23, 2015, 4 pages, Tbilisi, Georgia (USB Disk).
52. N. Salia, A. Gamkrelidze, and **L. Ephremidze**, *Numerical comparison of different algorithms for construction of wavelet matrices*, IEEE First International Black Sea Conference on Communications and Networking, July 3-5, 2013, Batumi, Georgia, pp. 177-180, (USB Disk).
53. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *Matrix spectral factorization and wavelets*, Proc. Int. Conference, "Modern Algebra and its Applications", Sept.19-25, 2011, Batumi, Georgia, vol.2, pp. 15-26.
54. **L. Ephremidze** and N. Fujii, *On the estimation of the convergence rate in the Janashia-Lagvilava spectral factorization algorithm*, Proceedings of the Harmonic Analysis and its Applications at Sapporo 2007, Sept. 2-4, Hokkaido University, pp. 24-32.
55. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *A new efficient matrix spectral factorization algorithm*, SICE Annual Conference 2007, Sept. 17-20, Kagawa University, Japan, pp. 20-24 (CD-ROM).

### Abstracts and Short Communications

56. **L. Ephremidze**, T. J. Sargent, and I. Spitkovsky, *Wiener-Granger causality conjecture on sampling*, UAE Math Day 2019, Book of Abstracts, p. 51.
57. **L. Ephremidze** and I. Spitkovsky, *On multivariable matrix spectral factorization algorithm*, VIII Annual International Conference of Georgian Mathematical Union, Book of Abstracts, 2017, p. 36.
58. **L. Ephremidze**, G. Janashia, V. Jandieri, and E. Lagvilava, *New algorithms for matrix spectral factorization and wavelet construction*, International Congress of Mathematicians, Seoul, 2014, Abstracts of talks, p. 370

59. V. Baramidze, **L. Ephremidze**, C. Mert, and N. Salia, *Application of a displacement structure for acceleration of novel matrix spectral factorization algorithm*, Journal of Technical Science and Technologies, 3 (2014), 25-29.
60. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *On spectral factorization of matrix functions*, Rep. Sem. Appl. Math. Inst. 25 (2011), 34-38.
61. **L. Ephremidze** and E. Lagvilava, *On parametrization of compact wavelet matrices*, Bull. Georgian Acad. Sci. 2(4) (2008), 23-28.
62. **L. Ephremidze** and N. Fujii, *The John-Nirenberg inequality for ergodic systems*, Annual Meeting of Mathematical Society of Japan, Sendai, September, 2007, Session of real analysis, Abstracts of talks, 7-8.
63. **L. Ephremidze** and N. Fujii, *On the generalizations of the Riesz "rising sun" lemma*, Real Analysis Symposium, October 27-29, 2006, Hirosaki University Press, 65-68.
64. **L. Ephremidze** and N. Fujii, *On the uniqueness of maximal functions of Borel measures*, Annual Meeting of Mathematical Society of Japan, Osaka, Sept. 2006, Session of real analysis, Abstracts of talks, 11-12.
65. **L. Ephremidze** and T. Sobukawa, *On the boundedness of the ergodic Hilbert transform in Lorentz spaces*, Proc. A. Razmadze Math. Inst. 140 (2006), 160-161.
66. **L. Ephremidze** and R. Sato *On the generalization of the Riesz-Zygmund theorem for the ergodic Hilbert transform*, Annual Meeting of Mathematical Society of Japan, Tokyo, March 2005, Session of real analysis, Abstracts of talks, 23-24.
67. **L. Ephremidze**, *On a relationship between the integrabilities of various ergodic maximal functions*, Proc. A. Razmadze Math. Inst. 132 (2003), 141-142.
68. **L. Ephremidze**, G. Janashia, and E. Lagvilava, *A new multivariate spectral factorization algorithm*, First SIAM-EMS Conference "Applied Mathematics in our Changing World", Abstracts, Berlin, 2001, p.61.
69. **L. Ephremidze**, *On reverse weak (1.1) inequalities for the maximal operators with respect to arbitrary measures*, Proc. A. Razmadze Math. Inst. 117 (1998), 119-120.
70. **L. Ephremidze**, *On a relationship between the integrabilities of various maximal functions*, Rep. Sem. Appl. Math. Inst. 9 (1994), No. 1-3, 22-23.
71. **L. Ephremidze**, *A new proof of a theorem of Atkinson*, Rep. Sem. Appl. Math. Inst. 7 (1992), 63-64.

72. **L. Ephremidze**, *On the integrability of the ergodic maximal function*, Soobshch. Akad. Nauk Gruz. SSR 139 (1990), No. 1, 49-51.
73. **L. Ephremidze**, *On the distribution function of the majorant of ergodic means*, Seminar Inst. Prikl. Mat. Tbilis. Univ. 3 (1988), No. 2, 89-92 (in Russian).
74. **L. Ephremidze**, *On the convergence of Fourier-Walsh series in the space  $L$* , Soobshch. Acad. Nauk. Gruz. SSR, 130 (1988), No. 2, 249-251 (in Russian).
75. **L. Ephremidze**, *On the convergence of Fourier series in the space  $L$* , Soobshch. Acad. Nauk. Gruz. SSR, 126 (1988), No.3, 481-483 (in Russian).