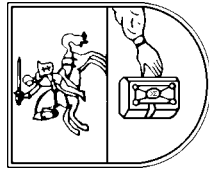


**VILNIAUS UNIVERSITETAS**  
MATEMATIKOS FAKULTETAS



**VILNIUS UNIVERSITY**  
FACULTY OF MATHEMATICS

Research  
and  
Publications  
Report  
  
1998

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1. **R. Garunkštis,** Value-distribution of the Lerch zeta-function. Scientific supervisor prof. A. Laurinćikas.

## PUBLICATIONS

*Abbreviations:*

*LMR* *Lietuvos Matematikos Rinkinys*

*LMJ* *Lithuanian Mathematical Journal\**

*NAMC* *Nonlinear Analysis: Modelling and Control, ISSN 1392-5133* (Vilnius)

*ProcLMS-98*

*Proceedings of XXXVIII Conference of Lithuanian Mathematical Society* (a special supplement of *Lietuvos Matematikos Rinkinys*), Technika, Vilnius, 1998.

*Vilnius-98*

*Proc. 22nd European Meeting of Statisticians, 7th Vilnius Conference on Probability Theory and Mathematical Statistics, August 12-18, 1998, Vilnius, Lithuania, VSP/TEV, Utrecht/Vilnius, 1999.*

### Appeared in 1998

1. **V. Bagdonavičius\*\*** and M. Nikulin, Additive and multiplicative semiparametric models in accelerated life testing and survival analysis, *Queens Papers on Pure and Applied Mathematics*, Kingston, Ontario, Canada, 1998, **108**, p. 1-110.
2. **V. Bagdonavičius** and M. Nikulin, Estimation in generalized proportional hazards model, *CR l'Académie des Sciences de Paris*, 1998, **326**, Serie I, p. 1415-1420.
3. **V. Bagdonavičius**, V. Nikoulina, and M. Nikulin, Bolshev's method of confidence limit construction, *Questiio*, 1998, **21**(3), p. 549-562.
4. **R. Baronas**, **F. Ivanauskas**, and J. Kulys, Modelling of a microreactor on heterogeneous surface and an influence of geometry to microreactor operation, *NAMC*, Vilnius, 1998, **3**, p. 19-30.
5. **R. Baronas**, P. Hammer, and **R. Vaicekauskas**, An intelligent cheques processing using reader-sorter, *Organisational structures, management, simulation of business sectors and systems*, Eds. H. Pranevičius and B. Rapp. *The International Federation of Operational*

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\* *Lithuanian Mathematical Journal* is a completely English version (published in USA by Plenum Publishing Corporation) of *Lietuvos Matematikos Rinkinys*; in the latter, articles are in Russian (about 60%), in English (40%), and, episodically, in French and German.

\*\* Boldface print is used for emphasizing the names of the faculty members.

6. R. Buzelis, A. Dementjev, **F. Ivanauskas**, E. Kosenko, E. Murauskas, and **R. Vaicekauskas**, Application efficiency and quality alternation of short pulses amplified in the Nd: YAG amplifier in the saturation mode, *Lith. Physics J.*, 1998, **38**(4), p. 339–354 (Russian).
7. R. Buzelis, **R. Vaicekauskas**, A. Dementjev, **F. Ivanauskas**, and M. Radavičius, Laser beam quality parameters measurement using CCD Cameras, *Lith. Physics J.*, 1998, **38**(2), p. 177–183 (Russian).
8. F. Coquet, **V. Mackevičius**, and J. Mémin, Stability in ID of martingales and backward equations under perturbation of filtrations, *Stochastic Process. Appl.*, 1998, **75**(2), p. 235–248.
9. **V. Čekanavičius**, On signed normal-Poisson approximations, *Prob. Th. Rel. Fields*, 1998, **111**, p. 565–583.
10. **V. Čekanavičius**, Poisson approximations for sequences of random variables, *Statist. Prob. Letters*, 1998, **28**, p. 33–39.
11. **V. Čekanavičius** and **P. Vaitkus**, On centred Poisson approximation, *LMR*, 1998, **38**(4), p. 512–529 (Russian); *LMJ*, 1998, **38**(4), p. 391–404.
12. **V. Čekanavičius** and **P. Vaitkus**, On large deviations for the negative binomial law, *ProcLMS-98*, 1998, p. 523–529.
13. **V. Čekanavičius**, Bergström expansion for mixtures of lattice distributions, *ProcLMS-98*, 1998, p. 492–496.
14. **V. Čekanavičius** and **J. Kruopis**, On compound Poisson approximations, *ProcLMS-98*, 1998, p. 508–513.
15. **R. Čiegis** and V. Starikovičius, LU factorization parallel algorithm, *ProcLMS-98*, 1998, p. 384–389 (Lithuanian).
16. **R. Čiegis** and O. Štikonienė, Semiimplicit schemes for nonlinear Schrödinger type equations, In: *Proc. VI Intern. Conf. NSEC-6, Palanga, Lithuania, 1997*, Navier-Stokes Equations and Related Nonlinear Problems, Eds. H. Amann, G.P. Galdi, **K. Pileckas**, and V. A. Solonnikov, TEV/VSP, Vilnius/Utrecht, 1998, p. 53–68.
17. **V. Čyras**, Data dependence in nested loops in the structural blanks approach to programming with recurrences, *Informatika* (Vilnius), 1998, **9**(1), p. 21–50.
18. **V. Čyras**, What is the true worth of a TEMPUS project?, *Proc. Conf. "Organisational Structures, Management, Simulation of Business Sectors and Systems," September 10–12, 1998*, Kaunas, p. 156–160.

19. Yu. Davydov, **V. Paulauskas**, and **A. Račkauskas**, More on  $p$ -stable convex sets in Banach spaces, *Pub. IRMA*, Lille, 1998, **45**(8).
20. **V. Dičiūnas**, Simply invertible matrices and fast prediction, *Informatika* (Vilnius), 1998 **9**(3), p. 315–324.
21. **A. Domarkas**, **G. Misevičius**, V. Pakalnytė, A. Pincevičius, and R. Rakauskas, The use of the computer algebra in the teaching process, *ProcLMS-98*, p. 239–245 (Lithuanian).
22. **A. Dubickas**, On algebraic numbers close to 1, *Bull. Australian Math. Soc.*, 1998, **58**, p. 423–434.
23. **A. Dubickas** and S. V. Konyagin, On the number of polynomials of bounded measure, *Acta Arithm.*, 1998, **86**(4), p. 325–342.
24. **A. Dubickas**, On the distribution of roots of polynomials in sectors. I, *LMR*, 1998, **38**(1), p. 34–58; *LMJ*, 1998, **38**(1), p. 27–45.
25. **A. Dubickas**, On the distribution of roots of polynomials in sectors. II, *LMR*, 1998, **38**(2), p. 151–168; *LMJ*, 1998, **38**(2), p. 115–128.
26. **A. Dubickas**, Multiplicative dependence of quadratic polynomials, *LMR*, 1998, **38**(3), p. 295–303; *LMJ*, 1998, **38**(3), p. 225–231.
27. **A. Dubickas**, A note on the multiplicative dependence of consecutive integers, *ProcLMS-98*, p. 21–23.
28. **A. Dubickas**, The mean values of logarithms of algebraic integers, *J. Number Th. Bordeaux*, 1998, **10**, p. 301–313.
29. **B. Grigelionis**, On mixed exponential processes and martingales, *LMR*, 1998, **38**(1), p. 59–74; *LMJ*, 1998, **38**(1), p. 46–58.
30. **F. Ivanauskas** and **T. Meškauskas**, Role of parabolic viscosity in numerical analysis of derivative nonlinear evolution equations, *NAMC*, 1998, **2**, p. 75–80.
31. **A. Juozapavičius**, Symbolic computations: systems and applications, *NAMC*, 1998, **3**, p. 59–72.
32. **A. Juozulynas** and **V. Paulauskas**, Some remarks on the rate of convergence to stable laws, *LMR*, 1998, **38**(4), p. 439–455 (Russian); *LMJ*, 1998, **38**(4), p. 335–347.
33. **A. Kačėnas**, One formula for the fourth shifted moment of the weighted Riemann zeta-function, *ProcLMS-98*, p. 24–28.
34. **A. Kačėnas** and **A. Laurinčikas**, On Dirichlet series related to certain cusp forms, *LMR*, 1998, **38**(1), p. 82–97 (Russian); *LMJ*, 1998, **38**(1), p. 64–76.
35. **A. Kačėnas**, **A. Laurinčikas**, and K. Matsumoto, On the universality of Dirichlet series of holomorphic cusp forms, *ProcLMS-98*, p. 29–34.

36. **K. Karčiauskas**, Smooth interpolation with biangle surface patches, *ProcLMS-98*, p. 153–158.
37. **K. Karčiauskas**,  $m$ -sided rational surface patches, *Mathematics of Surfaces VIII, Ed. R. Crips, Information Geometers*, 1998, p. 355–368.
38. **K. Karčiauskas** and **R. Krasauskas**, Rational biangle surface patches, *Proc. VI Intern. Conf. Central Europe on Computer Graphics and Visualization*, Pilzen, 1998, p. 165–170.
39. B. Kaulakys and **T. Meškauskas**, Modeling 1/f noise, *Phys. Rev. E.*, 1998, **58**(6), p. 7013–7019.
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56. **A. Bastys** and **R. Gaigalas**, Non-Gaussian  $1/f$  processes, p. 142–143.
57. **A. Bastys** and B. Kaulakys, Long-memory processes with  $1/f$  spectrum, p. 144.

58. **M. Bloznelis**, Second order approximation to the Student test, p. 152.
59. F. Coquet, **V. Mackevičius**, and J. Mémin, Stability in  $\mathbb{D}$  of martingales and backward equations under discretization of filtration, p. 183.
60. **V. Čekanavičius**, On some alternatives to the normal approximation, p. 174–175.
61. **A. Dubickas**, Distribution of roots of a polynomial, p. 193.
62. **R. Garunkštis**, Value-distribution of the Lerch zeta-function, p. 211.
63. **B. Grigelionis**, Mixed exponential processes as semimartingales, p. 232.
64. **A. Juozulynas** and **V. Paulauskas**, Some remarks on the rate of convergence to stable laws, p. 258.
65. **A. Kačėnas**, The shifted mean value of the Riemann zeta-function, p. 259.
66. B. Kaulakys and **T. Meškauskas**, On the generation and origin of  $1/f$  noise, p. 265.
67. **A. Laurinčikas**, Value-distribution of general Dirichlet series, p. 293.
68. **R. Leipus** and **A. Račkauskas**, Modelling discrete-time security market by squared binomial tree, p. 300.
69. **R. Leipus**, M. C. Viano, and G. Oppenheim, Long-memory discrete and continuous time processes: modelisation and simulation, p. 446–447.
70. **A. Mačiulis**, Non-uniform estimate in the central limit theorem for additive functions, p. 314.
71. **E. Manstavičius**, On the role of probabilistic number theory in the discrete probability theory, p. 63–64.
72. **V. Paulauskas** and S. T. Rachev, Limit theorems for stable Paretian models in econometrics, p. 73.
73. **A. Račkauskas** and Ch. Suquet, Central limit theorem in Hölder spaces, p. 383–384.
74. **V. Stakėnas**, On the large prime factors of Farey fractions, p. 421.
75. **G. Stepanauskas**, Correlation of multiplicative functions, p. 422.
76. **J. Šiaulys**, The convergence to the Poisson law in number theory, p. 416.

*Other conference reports*

77. **A. Apynis**, **E. Gaigalas**, and **E. Stankus**, Development of entrance examination in mathematics at Vilnius University, *Intern. Conf. "Teaching mathematics: retrospective and perspective," Šiauliai, 1998*, p. 86–93 (L).

78. **A. Apynis** and **E. Stankus**, The problems of teaching mathematics in economics higher schools and colleges, *Conf. "Mathematics and Mathematical Modeling," April 9–10, 1998*, Kaunas, **1**, p. 77–80 (L).
79. **A. Bastys**, Parametrization of orthogonal and biorthogonal wavelets, *Conf. Approximation Methods and Orthogonal Expansions, Kääriku, Estonia, May 29–31, 1998*, p. 7.
80. **M. Bloznelis**, A higher order asymptotics of finite population statistic, *Conf. Prague Stochastics'98*, p. 8.
81. **J. Blužas**, **R. Vaišnys**, **A. Matiukas**, **I. Blužaitė**, **J. Brazdžionytė**, **M. Skučas**, **T. Meškauskas**, and **M. Tamošiūnaitė**, Sudden death, atrial fibrillation and chaos, In: *4th Biennial Intern. Symp. "Aritmija Lietuva'98, Heart Arrhythmias Around the Baltic Sea," Kaunas, Lithuania, September 25–26, 1998*, Lith. J. Cardiology, **5** Suppl. A, 1998, p. 16–17.
82. **A. Dubickas**, On the distribution of roots of polynomials in sectors, *Conf. Diophantine approximation at CIRM, 17–23 May, 1998, Marseille–Luminy, France, 1998*.
83. **A. Dubickas**, Polynomials vanishing at 1 with high multiplicity and Tarry's problem, *ICM 98, Intern. Congr. of Mathematicians, August 18–27, 1998, Berlin*, Berlin, 1998, p. 35.
84. **R. Eidukevičius** and **D. Characiejus**, Mathematical modelling of interaction of two tumors, *5th Intern. Conf. Mathematical Population Dynamics, Zakopane, Poland, June 21–26, 1998* (E).
85. **R. Eidukevičius**, On Mathematical modelling in oncology, *3rd Intern. Meeting "Matematica e Ambiente," Naples, Italy, October 19–22, 1998* (E).
86. **F. Ivanauskas** and **V. Mackevičius**, The influence of identical noise on nonlinear system and accuracy of calculations, *Third Intern. Conf. Math. Modelling and Analysis, October 8–9, 1998, Riga–Jurmala, Latvia*, p. 11–12.
87. **F. Ivanauskas** and **M. Radžiūnas**, Stability conditions of finite difference schemes for evolution equations, *Third Intern. Conf. Math. Modelling and analysis, October 8–9, 1998, Riga–Jurmala, Latvia*, p. 13.
88. **A. Glemža** and **S. Ragaišis**, Integration scripts in telemarketing information acquisition system, *Organisational structures, management, simulation of business sectors and systems*, Eds. **H. Pranevičius** and **B. Rapp**. *The Intern. Federation of Operational Research Societies Special Conf. (SPC8)*, Kaunas, Technologija, 1998.

89. **K. Karčiauskas** and **R. Krasauskas**, Rational biangle surface patches, *6th Intern. Conf. in Central Europe on Computer Graphics and Visualization, Plzen, 1998*.
90. **K. Karčiauskas**,  $m$ -Sided Rational Surface Patches, *8-th IMA Conf. Math. of Surfaces, Birmingham, August 31–September 2, 1998*.
91. **R. Kašuba**, Olympiad-type and non-formal learning, **2**, KTU, 1998, p. 16–17 (L).
92. **R. Kašuba**, Concerning so-called non-contact exams and communication, **2**, KTU, 1998, p. 18–19 (L).
93. P. Kokoszka and **R. Leipus**, Covariance structure and change-point problem for non-negative ARCH processes, *Prague Stochastics, 1998*, p. 321–324.
94. **R. Krasauskas**, New applications of real toric varieties in CAGD, *Intern. Conf. "Freiformkurven und Freiformflaechen," Oberwolfach, June 7–13, 1998*.
95. **J. Kubilius**, Recent progress in probabilistic number theory, *Intern. Conf. "Asymptotical methods in probability theory and mathematical statistics," June 22–27, 1998, Sankt Petersburg, Russia (N)*.
96. **R. Kudžma**, Geometry in mathematical analysis, *Intern. Conf. "Teaching mathematics: retrospective and perspective," Šiauliai, 1998*, p. 99–101 (E).
97. **R. Kudžma**, Group projects in university education, *Conf. "Mathematics and Mathematical Modeling," April 9–10, 1998, Kaunas, 1*, p. 9–10 (L).
98. **K. Lapin**, Configuration of Structured Graphical Documents, In: *Nordic Baltic Summer School "Intelligent Design, Manufacturing and Management," June 8–13, Riga, 1998*.
99. **K. Lapin**, Configuration of Structured Graphical Documents in the Document Preparation System SyntheCAD, *Intern. Conf. (SPC8) "Organisational Structures, Management, Simulation of Business Sectors and Systems," Kaunas, Lithuania, 10–12 September, 1998*.
100. **A. Laurinčikas**, A limit theorem in the theory of finite Abelian groups, *Proc. of the Intern. Conf. "Numbers, Functions, Equations'98", May 31–June 6, 1998, Noszvaj (Hungary), Pécs, 1998*, p. 115–116.
101. **A. Laurinčikas**, Value-distribution theorems on Lerch zeta-functions, *Intern. Congr. of Mathematicians, August 18–27, 1998, Berlin, Berlin, 1998*, p. 40–41.
102. **A. Laurinčikas**, Voronoi's summation formulae, *Voronoi Conf. Analytic Number Th. Space Tilings, September 7–14, 1998, Kyiv, Ukraine*,

- Kyiv, 1998, p. 30–31.
103. **R. Leipus**, Detesting long memory by rescaled variance test, *XLXème Rencontre Franco-Belge de Statist. Théorèmes Limites et Longue Mémoire et Statistiques*, 1998.
  104. **E. Manstavičius**, On the value distribution of maps defined on a symmetric group, *Proc. of the Intern. Conf. “Numbers, Functions, Equations’98”, May 31–June 6, 1998, Noszvaj, Hungary, Pécs, 1998*, p. 121–122.
  105. **M. Meilūnas**, On the identification of one minimal mathematical blood sugar regulation model, *Third Intern. Conf. Math. Modelling and Analysis, October 8–9, 1998, Riga–Jurmala, Latvia*, p. 20.
  106. **G. Misevičius**, The remainder term in generalized theorem of Fortet–Kac, *Proc. of the Intern. Conf. “Numbers, Functions, Equations’98”, May 31–June 6, 1998, Noszvaj, Hungary, Pécs, 1998*, p. 126.
  107. **A. Mitašiūnas** and **S. Ragaišis**, Linear billets optimisation, *Proc. Conf. “Integrated Systems of Design and Manufacturing,” Kaunas, 1998*.
  108. **K. Pileckas**, Asymptotics of solutions of the nonlinear stationary Navier-Stokes system in an exterior domain, *Conf. “Hyperbolic equations,” March 4–6, 1998, Osaka, Japan (N)*.
  109. **K. Pileckas**, The scientific contribution of professor V.A. Solonnikov, “Navier-Stokes equations,” *Conf. dedicated to Prof. V. A. Solonnikov’s 65th anniversary, June 22–26, 1998, Oberwolf, Germany (N)*.
  110. **K. Pileckas**, Stokes and Navier-Stokes problems in a layer-like domain, “Navier-Stokes equations,” *Conf. dedicated to Prof. V. A. Solonnikov’s 65th anniversary, June 22–26, 1998, Oberwolf, Germany (N)*.
  111. **M. Radžiūnas** and **J. Sieber**, Numerical simulation of self-pulsating semiconductor lasers, *SCEE Workshop “Scientific Computing in Electrical Engineering,” September 30–October 2, 1998, WIAS, Berlin, Germany*, p. 42.
  112. **K. Serbenta** and **J. Degutis**, Trauma employees influences: classification, modelling and analysis, *Conf. “Natural and Nuclear Anomalies and Life Protection,” Vilnius, 1998*, p. 39 (L).
  113. **V. Skakauskas**, On the age-space structure of an autosomal diploid population dynamics model, *MMA–98, Third Intern. Conf. Math. Modelling and Analysis, October 8–9, Riga–Jurmala, Latvia, 1998*, p. 27.
  114. **V. Skakauskas**, Solvability and asymptotic behavior of a population problem taking into account random mating and females pregnancy, *Fifth Intern. Conf. Mathematical Population Dynamics and Intern.*

*Workshop on Spatially Heterogeneous Problems in Ecology and Epidemiology: Models vs. Poluted Environment Data, Zakopane, Poland, June 21–26, 1998*, p. 167.

115. **G. Stepanauskas**, On the correlation of multiplicative functions, *Proc. Intern. Conf. "Numbers, Functions, Equations'98," May 31–June 6, 1998, Noszvaj, Hungary, Pécs, 1998*, p. 141.
116. **A. Svirskas** and J. Sakalauskaitė, Object Web at work: applying object oriented approach and modern distributed technologies in creation of collaborative, Internet/Intranet-ready business information systems (Part I), *Organisational structures, management, simulation of business sectors and systems, Eds. H. Pranevičius and B. Rapp. Intern. Federation of Operational Research Societies Special Conf. (SPC8), Kaunas, Technologija, 1998*, p. 194–200.
117. **A. Svirskas**, J. Sakalauskaitė, and R. Slivinskienė, Object Web at work: applying object oriented approach and modern distributed technologies in creation of collaborative, Internet/Intranet-ready business information systems (Part II), *ibidem*, p. 200–205.
118. **A. Zabulionis**, New results from international TIMSS study, *Conf. "Mathematics and Math. Modeling," April 9–10, 1998, Kaunas, 1*, p. 5–8 (L).

#### Books and textbooks\*

1. **V. Bagdonavičius** and M. Nikulin, *Eléments de Probabilités et Processus Aléatoires, Université Bordeaux 2, 1998* (French).
2. **G. Bareikis** and **J. Šiaulys**, *The Products of Independent Random Variables, Vilnius University Press, 1998*, 130 p.
3. **R. Eidukevičius**, D. Juknevičienė, N. Kosareva, and S. Pamerneckis, *Mathematical Statistics in History, Vilnius University Press, 1998*, 280 p.
4. **R. Grigutis**, *Finite Algebraic Structures, Vilnius University Press, 1998*, 140 p.
5. **P. Katauskis**, *Financial Mathematics, 2nd edition, Lith. Banking, Insurance and Finance Institute, 1998*, 182 p.
6. **V. Kazakevičius**, *Numbers, Vilnius University Press, 1998*, 114 p.
7. **J. Kubilius**, *Limit Theorems, Vilnius University Press, 1998*, 192 p.
8. **R. Lapinskas**, *A Short Course of Mathematical Demography, Vilnius University Press, 1998*, 100 p.

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\* Lithuanian, unless indicated otherwise.



9. **V. Mackevičius**, Integral and Measure, *TEV*, Vilnius, 1998, 240 p.
10. **E. Misevičius**, Mathematical Analysis, Part I, *TEV*, Vilnius, 1998, 360 p.
11. **F. Mišeikis**, Statistics and Econometry, 2nd printing, *Technika*, Vilnius, 1998, 275 p.
12. **A. Mitašiūnas**, Software Process Models, Part I, *Vilnius University Press*, 1998, 152 p.
13. **A. Plikusas**, Elements of Combinatorics, Probability Theory, and Statistics (a textbook for secondary school), 2nd edition, *Šviesa*, Kaunas, 1998.
14. **P. Vaškas**, Nontraditional Geometry, *Šviesa*, Kaunas, 1998, 300 p., to appear.

#### Other publications (Lithuanian)

*Abbreviation:*

$\alpha + \omega$  *Journal of Mathematics: Alpha plus Omega*, Ed. **V. Stakėnas**, 1998.

1. **A. Apynis**, Kelios mintys pradėjus darbą,  $\alpha + \omega$ , **2(6)**, p. 70–71.
2. **A. Bastys**, Decartian coordinates, functions, and signals,  $\alpha + \omega$ , **1(5)**, p. 5–34.
3. **H. Jasiūnas**, Prelate Juozas Prunskis, *Lith. Catholic Acad. of Sciences*, Vilnius, 1998, 32 p.
4. **H. Jasiūnas**, Juozas Kubilius, *Lith. Museum of Mathematics*, 1998, 32 p.
5. **H. Jasiūnas**, The school of young mathematicians of Lithuania starts again,  $\alpha + \omega$ , **2(6)**, p. 72–76.
6. **R. Kašuba**, Some thoughts after 48th Lithunian shool mathematical olympiad,  $\alpha + \omega$ , **1(5)**, p. 41–42.
7. **R. Kašuba**, In Mathematical olympiad,  $\alpha + \omega$ , **2(6)**, p. 36–38.
8. **R. Kašuba**, Inviting to the labyrinth of thinking, *Kompiuterija*, **5(9)**, 1998, p. 51.
9. **R. Kašuba**, Deeper to the jungle of thoughts, *Kompiuterija*, **6(10)**, 1998, p. 48.
10. **R. Kašuba**, Goals, points, and tables, *Kompiuterija*, **7(11)**, 1998, p. 48–49.
11. **R. Kašuba**, Again in the labyrinth of integers, *Kompiuterija*, **8(12)**, 1998, p. 48–49.

12. **R. Kašuba**, Basketball, football, Carlson, and plain of chocolate, *Kompiuterija*, **9**(13), 1998, p. 48–49.
13. **J. Kubilius**, Problems of research and studies in Lithuania, *LRS stenogramos*, October, 1998.
14. **R. Lapinskas**, As the world turns. . . ,  $\alpha + \omega$ , **2**(6), p. 42–43.
15. **A. Laurinčikas**, International congresses of mathematicians,  $\alpha + \omega$ , **2**(6), p. 31–35.
16. **E. Manstavičius**, The Vilnius symposium of mathematicians of the world: the meeting of colleagues and rivals in the section on probabilistic number theory, *Langas* (a supplement of *Mokslo Lietuva*), 1998, **15**(173), p. 4.
17. **V. Paulauskas**, The international conference on probability theory in Vilnius,  $\alpha + \omega$ , **2**(6), p. 39–41.
18. **V. Paulauskas**, J. W. Lindeberg and the central limit theorem,  $\alpha + \omega$ , **2**(6), p. 63–66.
19. **V. Stakėnas**, A half-century theory,  $\alpha + \omega$ , **2**(6), p. 15–30.
20. **G. Stepanauskas**, The Fibonacci numbers,  $\alpha + \omega$ , **2**(6), p. 78–84.
21. **V. Tumasonis**, LST 1564-1. Information technology – 8-bit single-byte character coding, Part 1: Graphic character set for DOS environment, 15 pages.
22. **V. Tumasonis**, LST 1564-2. Information technology – 8-bit single-byte character coding, Part 2: Lithuanian accented letter and phonetic character set for DOS environment, 15 pages.
23. **A. Zabulionis**, A sad story about one math problem, *Mokykla*, Vilnius, 1998(4–5), p. 36–37.
24. **A. Zabulionis** and **V. Čekanavičius**, Statistical problems in educational studies, *Ugdymo problemos*, Vilnius, 1998, **30**(3), p. 129–137.

#### Other lectures and reports

1. **A. Juozulynas**, Convergence and the rate of convergence to stable laws, *Bielefeld university*, December 8.
2. **F. Ivanauskas**, **M. Radžiūnas**, Stability conditions of finite difference schemes for evolution equations, *Mannheim University*, November 24.
3. **F. Ivanauskas**, Convergence and stability of difference schemes for nonlinear Schrodinger, Kuramoto–Tsuzuki, and reaction-diffusion type systems, *Mannheim University*, November 24.

4. **K. Karčiauskas**, New constructions of  $m$ -sided surface patches, *Cambridge University, Department of Applied Mathematics and Theoretical Physics, September 2*.
5. **R. Krasauskas**, Toric approach to free-form surface modeling, *Cambridge University, Department of Applied Mathematics and Theoretical Physics, September 29*.
6. **A. Laurinčikas**, On zeros of the Matsumoto zeta-function, *Number Theory Seminar, V.A. Steklov Institute of Mathematics of the Russian Academy of Sciences, April 24*.
7. **A. Laurinčikas**, On the universality of Dirichlet series of certain cusp forms, *Number Theory Seminar, V. A. Steklov Institute of Mathematics of the Russian Academy of Sciences, April 24*.
8. **A. Mačiulis**, On the Erdős–Kac theorem, *University of Colorado at Boulder, February 24*.
9. **A. Mačiulis**, On mean values of multiplicative functions. I, *University of Colorado at Boulder, April 7*.
10. **A. Mačiulis**, On mean values of multiplicative functions. II. *University of Colorado at Boulder, April 14*.
11. **E. Manstavičius**, From the probabilistic number theory to the theory of random permutations, *University of Illinois, Urbana Champaign, February 27*.
12. **V. Paulauskas**, Maximum likelihood estimators in regression models with heavy-tailed innovations, *University of South California, Los Angeles, USA, February 20*.
13. **V. Paulauskas**, On the central limit theorem in the Skorohod space and some random compact sets, *Paris 6, France, November 10*.
14. **V. Paulauskas**, Statistical inference for cointegrated processes with infinite variance innovations, *Université de Lille, France, November 18*.
15. **V. Paulauskas**, Limit theorems for cointegrated processes with infinite variance innovations, *Université de Lille, France, November 23*.
16. **V. Paulauskas**, Limit theorems for cointegrated processes with infinite variance innovations, *Université de Strasbourg, France), November 26*.
17. **V. Paulauskas**, Statistical inference in regression with heavy-tailed variables, *Karlsruhe University, Germany, December 9*.
18. **K. Pileckas**, Asymptotics of solutions of the nonlinear stationary Navier-Stokes system in an exterior domain, *Conference “Hyperbolic equations,” Osaka, Japan, March 4–6*.
19. **A. Plikusas**, Asymptotic properties of the nonlinear transformations of the Poisson process, *University Umea, Sweden, November*.

20. **A. Plikusas**, Higher education and research system in Lithuania, University Umea, Sweden, December.
21. **A. Račkauskas**, Central limit theorem in Hölder spaces, *Bielefeld university*, January.
22. **A. Račkauskas**, Adaptive choice of bootstrap sample size, *Bielefeld university*, Oktober.
23. **M. Radžiūnas**, A short course on delay differential equations: theory and computation, *Katholieke Universiteit Leuven, Belgium*, December 7–8.
24. **V. Stakėnas**, Sieve results for Farey fractions, *Universität Frankfurt am Main*, November 6.
25. **V. Stakėnas**, Multiplicative functions of Farey fractions, *Universität Frankfurt am Main*, November 13.
26. **V. Stakėnas**, The Poisson-Dirichlet distribution in number theory, *Universität Frankfurt am Main*, November 20.
27. **J. Šiaulys**, The convergence to the Poisson law in number theory, *Number Theory seminar, Institute of Mathematics of the Hungarian Academy of Sciences*, November 17.

## PARTICIPATION IN INTERNATIONAL PROJECTS

*TEMPUS-PHARE Structural Joint European project S JEP-09752-95 “Introduction of Courses in Information Systems.”*

Duration: three years (01.09.1995–31.08.1998).

Objective: Introduction of Master and Doctoral level courses in information systems and knowledge engineering.

Participating institutions:

Vilnius University, coordinator (Dr. **R. Kudžma**);  
 Vilnius Gediminas Technical University (Dr. O. Vasilecas);  
 Institute of Mathematics and Informatics, Vilnius (Dr. A. Čaplinskas);  
 University of Twente (UT), Enschede, the Netherlands (Prof. Nicolaas J.I. Mars);  
 Aalborg University (AU), Denmark, contractor (Dr. Jan Stage);  
 Technische Universität München (TUM), Germany (Prof. Eike Jessen).

Visits by staff in the frame of the Tempus project:

**V. Čyras** (project administrator), AU, 15.6–20.7.1998; TUM, 5.1–28.3.1998;  
**K. Lapin**, TUM, 1.2–28.3.1998;

**R. Kudžma**, AU, 7.7–21.7.1998.

Courses provided in Vilnius:

Silke Ekstein and Juliana Küster Filipe (Technische Universität Braunschweig), Information systems design, 3–10.5.1998;

Jesper Arent (AU), Capability maturity model, 13–17.5.1998.

Enn Tyugu and Vladimir Vlassov (Royal Institute of Technology, Stockholm), Network programming in Java, 19–24.5.1998.

*Other activities:*

**A. Apynis**. A member of Task Force (High Quality in College Education) in PHARE programme “Higher Education Reform Programme in Lithuania” (1997–1999).

**R. Kudžma**. Organiser of Advanced Actuarial Diploma Course for Lithuania, Latvia, and Estonia, September 1998–June 1999. Partners and supporters: Institute of Actuaries and Faculty of Actuaries, UK; Know How Fund.

**K. Liubinskas**. Local coordinator of EmNeT C COST 3B1 project.

## SCIENTIFIC CONTACTS\*

### Visits by staff

1. **V. Bagdonavičius**. Invited professor at Université de Bordeaux II (France), January 1–June 30. Lectures on mathematical statistics and probability theory; research work on various topics in mathematical statistics, reliability theory, and survival analysis.
2. **M. Bloznelis**. Bielefeld university, June 1–30.
3. **R. Eidukevičius**. Padova University, Italy, October–November (TEMPUS project).
4. **A. Juozapavičius**. Visiting professor at Norwegian University of Science and Technology, August–February.
5. **R. Krasauskas**. Cambridge University, Peterhouse, Department of Applied Mathematics and Theoretical Physics, UK.
6. **R. Leipus**. University of Liverpool, Great Britain, September 30–January 30.
7. **A. Mačiulis**. University of Colorado at Boulder, January 8–May 25.

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\* See also “Participation in international projects.”

8. **E. Manstavičius**. The Pennsylvania State University, Department of Statistics, February 4–March 5, joint research work with Prof. G. J. Babu (TWINNING program of NRC, USA).
9. **V. Paulauskas**. Lille University, November 2–31.
10. **A. Plikusas**. University Umea, Sweden, November 3–December 23.
11. **V. Stakėnas**. Universität Frankfurt am Main, November 1–December 2.
12. **J. Šiaulyš**. Institute of Mathematics of the Hungarian Academy of Sciences, November 9–20 (Agreement between Hungarian and Lithuanian Academies of Sciences).

#### Foreign visitors

1. Prof. G. J. Babu, The Pennsylvania State University, Department of Statistics, July 27–August 21, joint research work with prof. E. Manstavičius (TWINNING program of NRC, USA).
2. Prof. Aleksandr Barashkov, Moscow Energetic Institute, Russia, April 25–30.
3. Prof. J. Flachsmeyer, Greifswald Ernst-Moritz-Arndt-University, October 5–8. Lectures “On the work of Felix Hausdorff in topology” and “Paper folding in elementary geometry.”
4. Prof. P. Prokopovič, Technical University of Košice, Slovakia, September 20–27. A lecture on the education system in Slovakia.
5. Marie Claude Viano and Charles Suquet (CNRS project).
6. Marein Kotulski, Wroclav Technical University, Poland.
7. Joop Mijnhur, Leiden University, The Netherlands.

## GRANTS

Department of Probability Theory and Number Theory. Grant of Science Fund of Vilnius University.

Department of Differential Equations and Numerical Analysis. Grant of Science Fund of Vilnius University.

1. **A. Ambrazevičius** and **A. Domarkas**. Lithuanian State Science and Studies Foundation grant to support writing the textbook *Equations of Mathematical Physics*, Part 2.
2. **G. Bareikis**. A grant from Konferenz der Deutschen Akademien der Wissenschaften für Mittel und Osteuropa for the research visit to the Paderborn University, April–September.
3. **A. Bastys**. NATO grant for summer school *Signal processing for Multimedia*, Juli 5–18, 1998, Tuscany (Italy).
4. **A. Bastys**. Lithuanian State Science and Studies Foundation mobility support for summer school *Signal processing for Multimedia*, July 5–18, Tuscany (Italy).
5. **M. Bloznelis**. Lithuanian Government Young Mathematicians stipend.
6. **M. Bloznelis**, Alexander von Humbolt Fund (Asymptotics of symmetric finite population statistics), 1998–1999.
7. **A. Dubickas**. A grant for participation and for travel expenses from the organizers of a conference on Diophantine approximation at CIRM, May 17–23, Marseille–Luminy, France.
8. **A. Dubickas**. A grant for participation from the organizers of ICM'98 (Intern. Congr. of Mathematicians), August 18–27, Berlin, Germany.
9. **E. Gaigalas**. Lithuanian State Science and Studies Foundation grant Nr. 98819 to support the project *Education of analyticians of nonlinear processes* (October, 1998–September, 2001).
10. **P. Golokvosčius**. Lithuanian State Science and Science Foundation grant to support writing the textbook *Differential Equations*.
11. **F. Ivanauskas**. Instruments and standard test procedures for laser beams and optic characterization, Project No. 1296 (CHOCLAB), coordinator A. Giesen (Stuttgart University).
12. **A. Juozapavičius**. The Fullbrite grant for research at the University of Delaware, USA, August 20, 1997–January 20, 1998.
13. **A. Juozapavičius**. Lithuanian State Science and Studies Foundation grant to support the research project *Nonlinear Processes*, September, 1998–August, 2001.
14. **A. Juozulynas**, DELTA Foundation scholarship (1998–1999).

15. **R. Krasauskas**. Open Society Fund–Lithuania grant for visiting Cambridge University (UK) in the framework of Cambridge Colleges Hospitality Scheme for Central and Eastern European Scholars. A grant for participation from the organizers in the conference “Freiformkurven und Freiformflächen,” Oberwolfach, June 7–13; a grant for travel expenses from Lithuanian State Commission of International Studies.
16. **K. Karčiauskas**. A grant for travel expenses to 8th IMA Conference on Mathematics of Surfaces, Birmingham, August 31–September 2, from Lithuanian State Commission of International Studies.
17. **R. Krasauskas, K. Karčiauskas, S. Zubė**. Lithuanian State Science and Studies Foundation grant No 98348 to support the research project “Applications of the theory of toric varieties to surface modeling.”
18. **R. Leipus**. EPSRS grant GR/L/78222 at the University of Liverpool.
19. **A. Laurinčikas**. A grant for participation from the organizers of ICM’98 (Intern. Congress of Mathematicians), August 18–27, Berlin, Germany.
20. **A. Laurinčikas, E. Manstavičius, A. Dubickas, A. Kačėnas, R. Garunkštis**. Lithuanian State Science and Studies Foundation grant Nr. 98256 to support the research project *Analytic and probabilistic methods in number theory*.
21. **V. Mackevičius**. Lithuanian State Science and Studies Foundation grant to support writing the textbook *Stochastic Analysis*.
22. **H. Markšaitis**. Lithuanian State Science and Studies Foundation grant to support writing the textbook *Algebra* for students of mathematics (1997–1998).
23. **V. Paulauskas**. Bilateral CNRS(France)–Lithuania grant No. 4714 “Limit theorems for stochastic processes constructed by dependent random variables” (1997–1998).
24. **A. Račkauskas, M. Bloznelis, A. Juozulynas**. Lithuanian State Science and Studies Foundation grant to support the research project *Asymptotic Analysis of Studentized statistics*.
25. **M. Radžiūnas**. Lithuanian Government Young Mathematicians stipend.
26. **V. Skakauskas**. Open Lithuanian Society Fund mobility support for 5th International Conference on Mathematical Biology in Zakopane, June 21–26.
27. **J. Šiaulys, V. Stakėnas**. Lithuanian State Science and Studies Foundation grant No. 98247 to support the research project *Research on metrical and statistical properties of Farey fractions*.



## APPENDIX

### Publications appeared in 1993–1997

#### Abbreviations:

*LMR* Lietuvos Matematikos Rinkinys

*LMJ* Lithuanian Mathematical Journal

*NAMC* Nonlinear Analysis: Modelling and Control (Vilnius)

*Vilnius-93*

*Sixth International Vilnius Conference on Probability Theory and Mathematical Statistics, June 28–July 3, 1993, Eds. B. Grigelionis, J. Kubilius, H. Pragarauskas, and V. Statulevičius, VSP/TEV, Utrecht/Vilnius, 1994.*

*ProcLMS-95*

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*Palanga-96*

*New Trends in Probability and Statistics. V. 4: Analytic and Probabilistic Methods in Number Theory. Proceedings of the Second International Conference in Honour of J. Kubilius, Palanga, Lithuania, September 23–27, 1996, Eds. A. Laurinčikas, E. Manstavičius, and V. Stakėnas, TEV/VSP, Vilnius/Utrecht, 1997.*

*MMCA-97*

*Proceedings of International Conference on Mathematical Modelling and Complex Analysis, Vilnius, June, 1997, Ed. R. Čiegis, Technika, Vilnius, 1997.*

*ProcLCS-97*

*Proceedings of VIII Conference of Lithuanian Computer Society, Birštonas, September 17–20, 1997.*

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