

DEPARTMENT OF MATHEMATICS

<http://matika.elf.stuba.sk/KMAT>

Head of Department

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I. STAFF

Professors	Prof. RNDr. Igor Bock, PhD., Prof. RNDr. Zdenka Riečanová, PhD.
Associate Professors	Doc. RNDr. Jana Galanová, PhD., Doc. RNDr. Lubomír Marko, PhD., Doc. RNDr. Vladimír Olejček, PhD., Doc. RNDr. Boris Rudolf, PhD., Doc. RNDr. Ladislav Satko, PhD., Doc. RNDr. Peter Volauf, PhD., Doc. RNDr. Michal Zajac, PhD.
Assistant Professors	RNDr. Igor Brilla, PhD., RNDr. Karla Čipková, PhD., RNDr. Mária Kečkemétyová, PhD., RNDr. Hana Lichardová, PhD., RNDr. Ivica Marínová, PhD., Mgr. Dávid Pancza, PhD., RNDr. Elena Pastuchová, PhD., Mgr. Marcel Polakovič, PhD.
Research Worker	RNDr. Anton Galan
PhD. Students	Mgr. Viktória Rozborová, Mgr. Tomáš Žilka
Technical Staff	Gabriela Grúňová (secretary)

II. EQUIPMENT

None

III. TEACHING

III.1 Undergraduate Study (Bc.)

Subject, semester, hours per week for lectures and for seminars or practical exercises, name of the lecturer:

Calculus I	(1st sem., 4-2h)	M. Kečkemétyová B. Rudolf L. Satko
Logic Systems	(1st sem., 4-1h)	V. Čerňanová V. Olejček M. Polakovič
Calculus II	(2nd sem., 4-2h)	I. Brilla B. Rudolf L. Satko
Linear Algebra I	(1st sem., 2-2h)	M. Zajac
Calculus III	(3rd sem., 3-2h)	L. Marko

Ordinary Differential Equations	(3rd sem., 2-2h)	I. Marko
Discrete Mathematics and Logic	(3rd sem., 3-2h)	I. Marínová
Numerical and Statistical Computations	(3rd sem., 3-2h)	P. Volauf
Numerical and Statistical Computations	(4th sem., 3-2h)	V. Olejček
Statistical Methods in Informatics	(4th sem., 2-2h)	E. Pastuchová
Partial Differential Equations	(4th sem., 2-2h)	I. Bock
Probability and Statistics	(4th sem., 2-2h)	P. Volauf
Linear Algebra and Linear Programming	(6th sem., 2-2h)	M. Zajac
Discrete Mathematics	(6th sem., 3-2h)	J. Galanová

III.2 Graduate Study (Ing.)

Coding Theory	(1st sem., 3-1h)	K. Čipková
Differential Systems and Stability	(1st sem., 2-2h)	I. Bock
Partial Differential Equations	(1st sem., 3-1h)	I. Bock
Mathematical Logic	(1st sem., 3-1h)	J. Galanová
Functional Analysis I	(1st sem., 2-2h)	M. Zajac
Differential and Difference Systems	(1st sem., 2-2h)	B. Rudolf
Numerical Solutions of Differential Equations	(2nd sem., 2-0h)	I. Bock
Graph Theory	(2nd sem., 3-1h)	J. Galanová
Stochastic Models	(2nd sem., 2-2h)	V. Olejček

III.3 Undergraduate Study (Bc. Distance Education Method)

Mathematics I	(1st year)	I. Marko
Logic Systems	(1st year)	D. Pancza
Mathematics II	(1st year)	I. Brilla
Mathematics III	(2nd year)	I. Marko P. Volauf
Mathematics IV	(2nd year)	V. Olejček

III.4 Graduate Study (Ing. Distance Education Method)

Mathematics	(1st year)	I. Bock
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IV. RESEARCH PROJECTS

- The Analysis of Quasistatic Dynamic Contact Problems of Mechanics. VEGA 1/0021/10 (I. Bock)
- Probabilistic and Algebraic Uncertainty Methods for Quantum Structures. APVV-0071-06 (A. Dvurečenskij, MU SAV; deputy Z. Riečanová)
- Joint States and Conditioning. APVV-0375-06 (R. Mesiar, SvF STU; deputy Z. Riečanová)

V. COOPERATION

V.1 Cooperation in Slovakia

- Mathematical Institute, Slovak Academy of Sciences, Bratislava
- Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava
- Department of Mathematics, Faculty of Civil Engineering, STU, Bratislava
- Department of Mathematics, Faculty of Mechanical Engineering, STU, Bratislava
- Institute of Information Engineering, Automation and Mathematics, Faculty of Chemical and Food Technology, STU, Bratislava
- Faculty of Informatics and Information Technology, STU, Bratislava
- Faculty of Natural Sciences, University of Transport and Communications, Žilina
- Faculty of Natural Sciences, Matej Bel University, Banská Bystrica

V.2 International Cooperation

- Abt. für Mathematik III, Universität Ulm, Germany
- Institut für Algebra und Computermathematik TU Vienna, Austria
- Department of Mathematics, FEE CTU, Prague, CzR
- Academy of Sciences of the Czech Republic, Prague, CzR
- Department of Mathematics, Faculty of Natural Sciences of MU, Brno, CzR
- Department of Mathematics, Univ. Louis Pasteur, Strasbourg, France
- Math. Institute, Polish Academy of Sciences, Warsaw, Poland
- Zhejiang University, Hangzhou, China

V.3 Membership in International Organizations and Societies

- ISIMM - International Society for the Interaction of Mechanics and Mathematics (I. Brilla)
- IQSA - International Quantum Structures Association (Z. Riečanová, V. Olejček, G. Jenča)
- Bernoulli Society (Z. Riečanová, V. Olejček)
- AMS - American Mathematical Society (I. Bock, V. Olejček, Z. Riečanová)
- IACM - International Association for Computational Mechanics (I. Brilla, L. Marko)
- Emmy Noether Society (Z. Riečanová, I. Marínová, E. Pastuchová, G. Jenča)
- GAMM - Gesellschaft für Angewandte Mathematik und Mechanik (I. Bock)
- ISSMO - Society for Structural and Multidisciplinary Optimization (I. Bock)
- SIAM - Society for Industrial and Applied Mathematics (V. Olejček, L. Satko)

VI. THESES

VI.1 Masters Theses

Masters theses supervised at the Department of Mathematics. The names of supervisors are in brackets.

none

VI.2 PhD Theses

none

VII. OTHER ACTIVITIES

- Department is a Coeditor of Tatra Mountains Mathematical Publications
- Member of Editorial Board of Tatra Mountains Mathematical Publications (Z. Riečanová)

- Members of Editorial Board of Mathematica Slovaca (M. Zajac, I. Bock)
- Reviewers for Mathematical Reviews (I. Bock, M. Zajac)
- Reviewers for Zentralblatt für Mathematik (I. Bock, M. Zajac)

The department supervises the postgraduate study in:

- Boolean Algebras and Boolean Functions
- Differential Equations in Mathematical Physics
- Functional Analysis
- Quantum Structures
- Ordinary Differential Equations and Variational Calculus

VIII. PUBLICATIONS

VIII.1 Journals

- [1] BOCK, I. - JARUŠEK, J.: Dynamic Contact Problem for a Bridge Modeled by a Viscoelastic Full von Kármán System. In: Zeitschrift für angewandte Mathematik und Physik - ZAMP. - ISSN 0044-2275. - Vol. 61 (2010), p. 865-876. (in English)
- [2] BRAČIČ, J. - MÜLLER, V. - ZAJAC, M.: Reflexivity and Hyperreflexivity of the Space of Locally Intertwining Operators. In: Journal of Operator Theory. - ISSN 0379-4024. - Vol. 63 (2010), p. 101-114. (in English)
- [3] KALINA, M. - PASEKA, J. - RIEČANOVÁ, Z.: Sharply Orthocomplete Effect Algebras. In: Acta Polytechnica. - ISSN 1210-2709. - Vol. 50, No. 5 (2010), p. 51-56. (in English)
- [4] MESIAR, R. - NÁNÁSIOVÁ, O. - PASEKA, J. - RIEČANOVÁ, Z.: Editorial: Quantum Structures, States and Related Topics. In: Kybernetika. - ISSN 0023-5954. - Vol. 46, No. 6 (2010), p. 931-934. (in English)
- [5] NÁNÁSIOVÁ, O. - PASTUCHOVÁ, E. - VÁCLAVÍKOVÁ, Š.: One Expression of Associative Coefficients. In: Forum Mathematicum Slovacum. - ISSN 1336-7420. - Vol. 6, No. 5 (2010), p. 176-179. (in English)
- [6] OLEJČEK, V.: Every Uniformly Archimedean Atomic MV-Effect Algebra is Sharply Dominating. In: Kybernetika. - ISSN 0023-5954. - Vol. 46, No. 6 (2010), p. 948-952. (in English)
- [7] PASEKA, J. - RIEČANOVÁ, Z. - WU, J.D.: Almost Orthogonality and Hausdorff Interval Topologies of Atomic Lattice Effect Algebras. In: Kybernetika. - ISSN 0023-5954. - Vol. 46, No. 6 (2010), p. 953-970. (in English)
- [8] PASEKA, J. - RIEČANOVÁ, Z.: Compactly Generated de Morgan Lattices, Basic Algebras and Effect Algebras. In: International Journal of Theoretical Physics. - ISSN 0020-7748. - Vol. 49, No. 12 (2010), p. 3216-3223. (in English)
- [9] RIEČANOVÁ, Z.: Archimedean Atomic Lattice Effect Algebras with Complete Lattice of Sharp Elements. In: Symmetry, Integrability and Geometry: Methods and Applications. - ISSN 1815-0659. - Vol. 6 (2010), Art. no.001. (in English)

VIII.2 Conference Proceedings

- [1] BOCK, I. - LOVIŠEK, J.: On Optimal Control Problem for Reissner-Mindlin Plates with Contact Conditions. In: New Trends in Statics and Dynamics of Buildings: 8th International Conference. Bratislava, Slovak Republic, 21.-22.10.2010. - Bratislava: STU, 2010. - ISBN 978-80-227-3373-1. - p. 21-24. (in English)

- [2] BOCK, I.: On the Dynamic Contact Problem for a Viscoelastic Plate. In: ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis (ESDA2010): Turkey, Istanbul, 12.-14.7.2010. - ASME, 2010. - ISBN 978-0-7918-3877-8. - CD-Rom. (in English)
- [3] BRILLA, I.: Numerical Solution of Boundary Inverse Problems for Plane Orthotropic Solids. In: PACAM XI. 11th Pan-American Congress of Applied Mechanics: Foz do Iguacu, Brazil, 4.-8.1.2010. - Sao Carlos: EESC, 2010. - ISBN 978-85-85205-98-0. - CD-Rom. (in English)
- [4] ČERŇANOVÁ, V.: Vector in Mathematics and in Physics. In: 42nd Conference of Slovak Mathematicians: Jasná pod Chopkom, Slovak Republic, 2.-5.12.2010. - Žilina: JSMF pri SAV, 2010. - ISBN 978-80-554-0288-8. - p. 28. (in Slovak)
- [5] DIBALA, M. - RUDOLF, B.: On the Critical Value of Damping Coefficient of the Pendulum with Constant Torque. In: ŠVOČ 2010: Proceedings of Selected Works. - Bratislava: FEI STU, 2010. - ISBN 978-80-227-3286-4. - CD-Rom. (in Slovak)
- [6] MARKO, Ľ. - ŽÁKOVÁ, K. - HUBA, M.: On-Line Reviving of the Course 'Introduction to Engineering Mathematics'. In: ICETA 2010: 8th International Conference on Emerging eLearning Technologies and Applications. Stará Lesná, Slovakia, 28.-29.10.2010. - Košice: Elfá, 2010. - ISBN 978-80-8086-166-7. - CD-Rom. (in English)
- [7] VÁCLAVÍKOVÁ, Š. - NÁNÁSIOVÁ, O. - PASTUCHOVÁ, E.: Classification of Association Coefficients and its Application. In: ISCAMI 2010: Book of Abstracts. Bratislava, Slovak Republic, 20.-23.5.2010. - Bratislava: STU, 2010. - p. 42. (in English)