DEPARTMENT OF MATHEMATICS
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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. Mgr. Gejza Jenča, PhD.,
	Doc. RNDr. Ľubomír Marko, PhD., Doc. RNDr. Vladimír Olejček, PhD.,
	Doc. RNDr. Ladislav Satko, PhD., Doc. RNDr. Peter Volauf, PhD.,
	Doc. RNDr. Michal Zajac, PhD., Doc. RNDr. Igor Zuzčák, PhD.
	RNDr. Igor Brilla, PhD., RNDr. Karla Čipková, PhD.,
	RNDr. Peter Kaprálik, 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., RNDr. Boris Rudolf, PhD.
Research Worker	RNDr. Anton Galan
Technical Staff	Gabriela Grúňová (secretary)
PhD. Student	Mgr. Katarína Mosná

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 lecturer

Calculus I	(1st sem., 4-1h)	M. Kečkemétyová
		Z. Riečanová
		L. Satko
		I. Zuzčák
Logic Systems	(1st sem., 4-1h)	J. Galanová
		V. Olejček
		M. Polakovič
		I. Zuzčák
Calculus II	(2nd sem., 4-1h)	Z. Riečanová
		B. Rudolf
		L. Satko
		I. Zuzčák

Linear Algebra I	(1st sem., 2-2h)	M. Zajac
Linear Algebra II	(2nd sem., 2-2h)	M. Zajac
Calculus II	(2nd sem., 3-3h)	I. Bock
Calculus III	(3rd sem., 3-2h)	Ľ. Marko
Numerical and Statistical Computations	(3rd sem. 3-2h)	P. Volauf
Discrete Mathematics and Logic	(3rd sem. 3-2h)	G. Jenča
Numerical and Statistical Computations	(4th sem. 3-2h)	V. Olejček
Statistical Methods in Informatics	(4th sem. 2-2h)	E. Pastuchová
Ordinary Differential Equations	(3rd sem. 2-2h)	Ľ. Marko
Partial Differential Equations	(4th sem. 2-2h)	I. Bock
Matrix Algorithms	(4th sem. 2-2h)	P. Volauf
Probability and Statistics	(4th sem., 2-2h)	P. Volauf
Operational Systems	(5th sem. 2-2h)	G. Jenča
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 and Difference Equations	(1st sem., 2-2h)	B. Rudolf
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
Probability and Statistics	(1st sem., 3-1h)	I. Marinová
Theory of Fuzzy Systems	(1st sem., 3-1h)	P. Volauf
Functional Analysis I	(1st sem., 2-2h)	M. Zajac
Algebra	(2nd sem. 2-2h)	G. Jenča
Graph Theory	(2nd sem., 3-1h)	J. Galanová
Differential and Difference Systems	(2nd sem., 2-2h)	I. Bock
Stochastic Models	(2nd sem., 2-2h)	V. Olejček
Functional Analysis II	(2nd sem., 2-2h)	M. Zajac

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

Mathematics I	(1st year)	Ľ. Marko
Logic Systems	(1st year)	D. Pancza
Mathematics II	(1st year)	I. Brilla
Mathematics III	(2nd year)	Ľ. Marko
Mathematics IV	(2nd year)	Ľ. Marko
Mathematics V	(3rd year)	I. Brilla

Mathematics VI	(3rd year)	J. Galanová

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

Mathematics	(1st year)	I. Bock

IV. RESEARCH PROJECTS

- Study of algebraic and topological properties of quantum structures and their sets of states. G 1/3025/06, Z. Riečanová
- Quantum logics and effect algebras with applications in quantum computing. APVV(SK-CN-01706), Z. Riečanová
- Probabilistic and algebraic uncertainty methods for quantum structures APVV-0071-06 (A.Dvurečenskij, MU SAV; deputy Z. Riečanová)
- The analysis of dynamical mathematical models of elastic and viscoelastic structures acting under contact conditions. G 1/4214/07, I. Bock

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
- Military Academy, Liptovský Mikuláš
- Faculty of Natural Sciences, University of Transport and Communications, Žilina

V.2 International Cooperation

- Abt. für Mathematik III, Universitaet 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
- Department of Mathematics, Brunel University, Uxbridge, UK

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, Ľ.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

VII. OTHER ACTIVITIES

- Organizing of the conference in applied mathematics ISCAM'2007, April 20-21, 2007, Bratislava
- Department is a coeditor of Tatra Mountains Mathematical Publications
- Z. Riečanová: member of editorial board of Tatra Mountains Mathematical Publications
- M. Zajac, I. Bock: members of editorial board of Mathematica Slovaca
- I. Bock, M. Zajac: reviewers for Mathematical Reviews
- I. Bock, M. Zajac: reviewers for Zentralblatt für Mathematik

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.: Unilateral Dynamic Contact of von Kármán Plates with Singular Memory. In: Applications of Mathematics. - ISSN 0862-7940. - Vol. 52, No. 6 (2007), p. 515-527. (in English)

[2]   MOSNÁ, K.: Atomic Lattice Effect Algebras and Their Sub-Lattice Effect Algebras. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 58, No. 7/s (2007), p. 3-6. (in English)

[3]   OLEJČEK, V.: An Atomic MV-Effect Algebra with Non-Atomic Center. In: Kybernetika. - ISSN 0023-5954. - Vol. 43, No. 3 (2007), p. 343-346. (in English)

[4]   RIEČANOVÁ, Z.: States on Sharply Dominating Effect Algebras. In: Science in China A. - ISSN 1006-9283. - Vol. 37, No. 12 (2007), p. 1377-1384. (in Japanese)

VIII.2 Conference Proceedings

[1]   BOCK, I., KEČKEMÉTYOVÁ, M.: On a Pseudohyperbolic Initial-Boundary Value Problem for a Viscoelastic Plate Free on the Boundary. In: 6th Workshop on Functional Analysis and Its Applications in Mathematical Physics and Optimal Control. Nemecká, Slovak Republic, 10.-15.9.2007. - Bratislava: STU, 2007. - p. 9-12. (in English)

[2]   BOCK, I., JARUŠEK, J.: On the Dynamic Contact Problem for a von Kármán Plate Free on the Boundary. In: 6th Workshop on Functional Analysis and Its Applications in Mathematical Physics and Optimal Control. Nemecká, Slovak Republic, 10.-15.9.2007. - Bratislava: STU, 2007. - p. 3-8. (in English)

[3]   BRILLA, I.: Numerical Analysis of Inverse Problems for Plane Orthotropic Solids. In: Computación Aplicada a la Industria de Procesos: 8. Congreso Interamericano de CAIP.

Asunción, Paraguay, July 2007. - ISBN 978-956-310-528-5. - p. 125-128. (in English)

[4]   BRILLA, I.: Numerical Solution of Boundary Inverse Conductivity Problems. In: Proceedings of ICCB ´2007. III International Congress on Computational Bioengineering: Caracas, Venezuela, 17.-19.9.2007. - Karakas: INABIO, 2007. - ISBN 978-980-6939-10-3. - p. 123-128. (in English)

[5]   BRILLA, I.: Numerical Solution of Boundary Inverse Problems for Orthotropic Solids. In: 4. Congreso Internacional y 2. Nacional de Métodos Numéricos en Ingeniería y Ciencias Aplicadas. Morelia, México, 17.-19.1.2007. - ISBN 978-84-96736-08-5. - CD-Rom. (in English)

[6]   MARKO, Ľ.: Nonlinear Bifurcation Problems with Odd Number of Solutions. In: 6th Workshop on Functional Analysis and its Applications in Mathematical Physics and Optimal Control: Proceedings. Nemecká, Slovak Republic, 10.-15.9.2007. - Bratislava: STU, 2007. - p. 43-47. (in English)

[7]   RUDOLF, B.: A Note on Tricomi Equation. In: 6th Workshop on Functional Analysis and its Applications in Mathematical Physics and Optimal Control: Proceedings. Nemecká, Slovak Republic, 10.-15.9.2007. - Bratislava: STU, 2007. - p. 50-52. (in English)

[8]   VOLAUF, P.: A Note on Dependence Concepts for Bivatiate Distributions. In: Aplimat 2007. Part I: 6th International Conference. - Bratislava, Slovak Republic, 6.-9.2.2007. - Bratislava: SjF STU, 2007. - ISBN 978-80-969562-4-1. - p. 479-484. (in English)

VIII.3 Book

[1]   MARKO, Ľ., ZÁHONOVÁ, V.: M ePortal - How Do It. - Bratislava: SjF STU, 2007. - 114 p. - ISBN 80-969562-0-5. (in Slovak)

VIII.4 Part of book

[1]   POLAKOVIČ, M.: Hamiltonian Formalism - A Useful Approach in Mathematical Physics. In: Begabtenförderung im MINT-Bereich. Mathematik, Informatik, Naturwissenschaften, Technik: Band 16. - Ulm: Aegis, 2007. - ISBN 978-3-87005-071-9. - p. 39-48. (in English)

VIII.5 Textbook

[1]   KAPRÁLIK, P., GALANOVÁ, J., POLAKOVIČ, M.: Logical Systems. – Bratislava: STU, 2007. – 167 p. - ISBN 978-80-227-2589-7. (in Slovak)