

DEPARTMENT OF NUCLEAR PHYSICS AND TECHNOLOGY

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Head of Department

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I. STAFF

Professors	Prof. Ing. Jozef Lipka, DrSc., Prof. Ing. Marcel Miglierini, DrSc., Prof. Ing. Vladimír Nečas, PhD., Prof. Ing. Jozef Sitek, DrSc., Prof. Ing. Vladimír Slugeň, PhD.
Associate Professors	Doc. Ing. Ján Haščík, PhD., Doc. Ing. Mária Pavlovič, PhD., Doc. Ing. Andrea Šagátová, PhD.
Assistant Professors	Ing. Róbert Hinca, PhD., Ing. Klement Vitázek, PhD.
Research Workers	Ing. Jarmila Degmová, PhD., Ing. Július Dekan, PhD., Ing. Gabriel Farkas, PhD., RNDr. Štefan Krnáč, PhD., Ing. Milan Pavúk, PhD., Ing. Martin Petriska, Ing. Milan Seberíni, PhD., Ing. Katarína Sedlačková, PhD., Ing. Stanislav Stanček, Ing. Ignác Tóth
Technical Staff	Eva Mániková (secretary), Peter Mikula, Andrea Podhájska
PhD. Students	Ing. Alica Bajusová, Ing. Štefan Čerba, Ing. Pavol Čudrnák, Ing. Peter Čudrnák, Ing. Tomáš Hatala, Ing. Tomáš Hrnčíř, Ing. Michal Pánik, Ing. Veronika Sabelová, Ing. Stanislav Sojak, Ing. Matúš Stacho, Ing. Jana Veterníková, Ing. Branislav Vrban, Ing. Matej Zachar

II. EQUIPMENT

II.1 Teaching and Research Laboratories

Nuclear Technologies Centre:

- Computer Laboratory
- Ion Beams Laboratory
- Laboratory of Low Level Radioactivity Measurement
- Laboratory of Mössbauer Spectroscopy
- Laboratory of Neutron Physics
- Laboratory of Optical Spectroscopy
- Laboratory of Positron Annihilation Spectroscopy
- Laboratory of Radioactive Isotopes
- Laboratory of Reactor Physics
- Laboratory of Semiconductor Detectors

II.2 Special Measuring Instruments and Computers

- Mössbauer Spectrometers - 4 units (77 - 1200 K)
- 1 MV Cascade Accelerator. Ion beam analyses: 2 MeV He²⁺ RBS with UHV target chamber, sample heating 300 - 1200 K, 1 MeV H⁺ PIXE; Ion beam modification: 10 keV - 1 MeV ion implantation, high dose ~ 10¹⁹ ions/cm²
- Life-Time and Angular Correlation Positron Annihilation Spectrometers
- Doppler Broadening Spectrometer
- Low-Background Chamber with HPGe Detector and Gamma Ray Spectrometer

- Department's LAN computer network
- 16 PC Cluster
- Amptek Experiment's XRF Kit
- KETEK SDD and AXAS-D Systems
- Supercomputer (48 core)

II.3 Special Software

- Particle Beam Optics Laboratory PBO Lab™ 2.1
- Transport
- Trace-3D
- Electrostatic Palette
- WinAGILE
- MATLAB R2006A
- SRIM
- MCNP-4C2, MCNP 5
- VISED
- SCALE 4.4a, SCALE 6
- GENIE 2000
- GoldSim
- CONFIT
- Field Precision - STATIC FIELD ANALYSIS TOOLKIT (TK 0300)
- Visiplan Suite 4.0 3D ALARA planning tool

III. TEACHING

III.1 Undergraduate Study (Bc.)

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

Nuclear Installations	(4th sem., 3-2h)	V. Nečas, J. Haščík, V. Slugeň
Sources of Radiation	(6th sem., 2-3h)	M. Miglierini
Nuclear Installations	(6th sem., 20 h)	J. Sitek
Environmentalistics	(6th sem., 3-2h)	J. Sitek, J. Degmová

III.2 Graduate Study (Ing.)

Nuclear Physics and Technology	(1st sem., 2-2h)	J. Lipka
Team Projects 1	(1st sem., 0-4h)	M. Pavlovič
Team Projects 1 (AI)	(1st sem., 0-3h)	K. Vitázek
Team Projects 2 (TLK)	(2nd sem., 0-4h)	K. Vitázek
Theory of Nuclear Reactors	(2nd sem., 2-2h)	J. Haščík
Material of Nuclear Power Plants	(2nd sem., 2-2h)	V. Nečas
Atomic and Molecular Spectroscopy	(2nd sem., 2-2h)	M. Miglierini
Experimental Reactor Techniques	(2nd sem., 2-2h)	J. Haščík
Dosimetry and Radiation Protection	(2nd sem., 2-2h)	R. Hince
Methods of Nuclear Physics	(3rd sem., 2-2h)	J. Sitek

Operation of Nuclear Power Plants	(3rd sem., 2-2h)	V. Slugeň
Decommissioning of Nuclear Power Plants	(3rd sem., 2-2h)	V. Nečas
Safety and Reliability of Power Engineering Installations	(4th sem., 2-2h)	V. Slugeň
Safety and Reliability of Power Engineering Installations	(4th sem., 20h)	V. Slugeň
Nuclear Electronics	(1st sem., 2-1h)	J. Sitek
Team Projects 1 (EE)	(1st sem., 0-4h)	R. Hinca, J. Haščík, G. Farkas

IV. RESEARCH PROJECTS

- Materials of Alternative Nuclear Fuel Cycles and Decommissioned NPP, VEGA 1/0685/09 (V. Nečas)
- Semiconductor Detectors for Hot Plasma Diagnostics VEGA 2/0192/10 (V. Nečas)
- Research and Development of Methods for Increasing the Effectiveness and Safety of Nuclear Installations Decommissioning, APVV-0761-07 (V. Nečas)
- Conditional Release of Materials from Decommissioning (CONRELMAT), Incentives MŠ SR N° CD-2009-36909/39460-1:11 (V. Nečas)
- Depth Profiling Radiation Induced Defect Concentration in DEMO Structural Materials Using Pulsed Low Energy Positron System (PLEPS). 7th Framework Project of the European Atomic Energy Community No FU70-Euratom.CU (2007-2011) (V. Slugeň)
- Nondestructive of Microstructural Changes in Ion Implanted Model Alloys (SMORE). IAEA Research No 14991/RO (V. Slugeň)
- Nuclear Installation Material Study in Extreme Radiation Load Condition, VEGA 1/0129/09 (V. Slugeň)
- Enhancement of Education Process for Graduates Focused on Working Positions with Impact on Increase of NPP Safe Operation and Decommissioning, KEGA 3/7241/09 (R. Hinca)
- Structural and Magnetic Changes of Disordered and Nanocrystalline Alloys, VEGA 1/0606/09 (J. Sitek)
- Irradiation Tests of Magnetic Alloy and Organic Insulator Materials. Bilateral Agreement STU-GSI Darmstadt (M. Pavlovič)
- Training Schemes on Nuclear Safety Culture for Managers (TRASNUSAFE) 7th Framework Project of the European Atomic Energy Community No249674 (2010-2014) (V. Slugeň)
- Hyperfine Interactions in Fe-Based Amorphous and Nanocrystalline Alloys. VEGA 1/0033/10 (M. Miglierini)
- Structural Modification of Amorphous and Nanocrystalline Fe-Based Alloys. Bilateral Project SK-PL-0013-09 (M. Miglierini)
- Nanoalloys as Advanced Materials: From Structure to Properties and Applications (Nanoalloy). Cost Action MP 0903 (M. Miglierini)
- EUJEP 2010-2013 (J. Haščík)
- ENEN Cooperation with Russian in Nuclear Education, Training and Knowledge Management (J. Haščík)

V. COOPERATION

V.1 Cooperation in Slovakia

- DECOM a.s., Trnava

- DECONTA a.s., Trnava
- Faculty of Natural Science, Comenius University, Bratislava
- Geological Institute, Slovak Academy of Sciences, Bratislava
- Comenius University in Bratislava, Faculty of Natural Sciences, Department of Geology and Paleontology, Bratislava
- Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava
- Institute of Experimental Physics, Slovak Academy of Sciences, Košice
- Institute of Measurement Science, Slovak Academy of Sciences, Bratislava
- Institute of Physics, Slovak Academy of Sciences, Bratislava
- Institute of Informatics, Slovak Academy of Sciences, Bratislava
- Institute of Preventive and Clinical Medicine, Bratislava
- International Laser Centre, Bratislava
- University of P. J. Šafárik, Institute of Physical Sciences, Košice
- VUJE a.s., Trnava
- Nuclear Regulatory Authority of the Slovak Republic, Bratislava
- Relko Ltd., Bratislava
- Slovak Electric Ltd., Bratislava
- Nuclear Decommissioning Company, plc., (JAVYS) Bratislava
- Slovak Electric Ltd., Mochovce Nuclear Power Plant, Mochovce
- Slovak Electric Ltd., Bohunice Nuclear Power Plant, Jaslovské Bohunice
- Slovak Office for Normalization, Metrology and Testing, Bratislava
- Slovak Institute of Metrology, Bratislava
- BIONT Inc., Bratislava
- National Nuclear Fund of Slovak Republic, Bratislava

V.2 International Cooperation

- All-Russian Scientific Institute of Experimental Physics, Theoretical Physics Department, Sarov, Russia
- Atominstytut der Technischen Universität, Vienna, Austria
- Centro de Investigación y de Estudios Avanzados del IPN Unidad Saltillo, Mexico
- Department of Nuclear Reactors, Czech Technical University in Prague, CzR
- EFDA Close Support Unit, Garching, Germany
- Flerov Laboratory of Nuclear Reactions, Joint Institute of Nuclear Research, Dubna, Russia
- Forschungszentrum Jülich, Institute of Bio- and Nanosystems, Germany
- AREVA-NP, Erlangen, Germany
- GSI, Accelerator Department, Darmstadt, Germany
- Leibniz Institut für Festkörper- und Werkstoffforschung, Dresden, Germany
- Institute for Nuclear Research of the Russian Academy of Sciences, Neutron Research Department, Moscow, Russia
- Institute for Theoretical and Experimental Physics, High Energy Density in Matter Produced by Heavy Ion Beam Department, Moscow, Russia
- Institute for Energy, European Commission, JRC Petten
- Institute of Nuclear Techniques, Budapest University of Technology and Economics, Hungary
- Institute of Thin Films and Interfaces, Research Centre Jülich, Germany
- International Atomic Energy Agency, Vienna, Austria
- Laboratory of Nuclear Problems, Joint Institute of Nuclear Research, Dubna, Russia
- Leibniz Institute für Festkörperphysik, University Vienna, Austria
- Nuclear Research Institute, Řež, CzR
- Universität der Bundeswehr, München, Germany
- University of Gent, Belgium
- Palacky University, Olomouc, CzR
- Institute of Experimental and Applied Physics, Czech Technical University in Prague, CzR
- Institute of Inorganic Chemistry, Academy of Sciences of Czech Republic, Řež, CzR
- University of Applied Sciences, Wiener Neustadt, A-2700, Austria

- Aalto University School of Science and Technology, Finland
- Wroclaw University of Technology, Wroclaw, Poland

V.3 Membership in Slovak Organizations and Societies

- Board of Nuclear Safety SE-EBO (J. Haščík)
- Board of Nuclear Safety SE-EMO (V. Slugeň)
- Board of Nuclear Safety JAVYS (V. Nečas)
- Council of Nuclear Regulatory Authority of the Slovak Republic (V. Nečas, V. Slugeň)
- Co-ordination Board for Cooperation with JINR Dubna (V. Nečas)
- Scientific Council of FEI SUT (V. Nečas)
- Scientific Council of Slovak Institute of Metrology (J. Lipka, V. Nečas)
- Slovak Nuclear Forum (J. Lipka – vice-president)
- Slovak Nuclear Society (V. Slugeň - chairman, J. Degmová, J. Haščík, R. Hincá, Š. Krnáč, G. Farkas, K. Vitázek, J. Lipka, M. Miglierini, V. Nečas, M. Petriska, J. Sitek, A. Šagátová, M. Seberini, M. Pavlovič)
- Slovak Physical Society (M. Miglierini, V. Nečas, J. Sitek, V. Slugeň, M. Pavlovič)
- Slovak Spectroscopic Society (M. Miglierini - president, J. Degmová, J. Haščík, Š. Krnáč, J. Lipka, M. Seberini, J. Sitek, V. Slugeň, I. Tóth, members)
- State Examination Committee for the Verification of Operating Staff of Nuclear Installations Specific Abilities (J. Haščík, V. Slugeň)
- Slovak National Nuclear Found (V. Slugeň, vice-chairman)

V.4 Membership in International Organizations and Societies

- European Nuclear Society (V. Slugeň, President)
- ENEN Association (M. Miglierini, J. Haščík, V. Slugeň)
- European Physical Education Network (V. Slugeň)
- German Nuclear Society (V. Slugeň)
- International Board on the Applications of the Mössbauer Effect "IBAME" (M. Miglierini)
- International Journal of Nuclear Energy Science and Technology, Member of the Editorial Board (V. Nečas)
- International Journal of Nuclear Knowledge Management, Member of the Editorial Board (J. Lipka, V. Slugeň)
- OECD/NEA Bank's Computer Program Service (J. Lipka -Liaison Officer)
- Science and Technology Advisory Committee of EU - Area Nuclear Fusion (V. Slugeň)
- The Research Board of Advisors of the American Biographical Institute (M. Pavlovič)
- The Advisory Council of the International Biographical Centre Cambridge (M. Pavlovič)
- The Scientific Board of Nuclear Research Institute Řež, plc, CZR (V. Slugeň)
- The High Scientific Council at European Nuclear Society (V. Slugeň)
- International Jordan Journal of Physics, Member of the International Advisory Board (J. Lipka)
- Evaluator of EC 7th Framework Projects – Area Reactor Systems (V. Slugeň)

V.5 Contracts

- Periodical Training of Supervising Physicists of the NPP Bohunice, JAVYS and Mochovce on the Experimental Nuclear Reactors. Contract with NPP Bohunice, Mochovce and JAVYS, Jaslovské Bohunice (J. Haščík)
- Post-gradual Requalification Training Course: Safety Aspects of Nuclear Installations Operation. Contract with SE, a. s. (J. Haščík, R. Hincá, J. Lipka, V. Nečas, V. Slugeň)
- Computer Simulation of Neutron Physical Characteristics of VVER-440 Reactors and their Experimental Validation. Contract with SE, a. s. (V. Slugeň, J. Haščík, G. Farkas, S. Michálek, M. Petriska, A. Balga, K. Vitázek, R. Hincá, Š. Krnáč, M. Stacho, I. Neuhold, T. Melo, A. Vanková)
- Evaluation of the Technical Concept of the Slovak Cyclotron Centre, Contract with Turner & Townsend GmbH, Munich, Germany (M. Pavlovič)

- Distant Teaching of Radiation and Nuclear Physics at the University of Applied Sciences Wiener Neustadt, Austria (M. Pavlovič)
- Radiation Degradation Assessment of NPP Materials, Contract with SE a. s. (V. Slugeň, J. Haščík, J. Degmová, K. Vitázek, R. Hinca, Š. Krnáč, G. Farkas, M. Petriska, J. Dekan, M. Stacho, S. Sojak, J. Veterníková)

VI. THESES

VI. 1 Masters Theses

Masters theses supervised at the Department of Nuclear Physics and Technology. The names of supervisors are in brackets.

- [1] Balázik, O.: Transition Period from Operation to Decommissioning of Nuclear Installations (V. Nečas, I. Reháč)
- [2] Čerba, Š.: Nuclear Energy in the Future Power Engineering of Slovakia (V. Nečas, P. Dařílek)
- [3] Horváth, R.: Radiation Protection in Nuclear Engineering (R. Hinca)
- [4] Javorník, A.: Exposure Components of the Environment and the Critical Groups of People due to Uranium Mining (R. Hinca, D. Nikodemová)
- [5] Krampl, M.: Determination of Fast Neutrons in the Plasmas by Semiconductor Detectors Based on Semi-Insulating GaAs (V. Nečas, B. Zařko)
- [6] Kubačka, J.: Dynamics of Hydrogen in the Containment of a Nuclear Unit during Severe Accidents (V. Slugeň, J. Jančovič)
- [7] Lúley, J.: Impact of Delayed Neutrons Parameters on Reactimeter Measurement on VVER 440 (J. Haščík, P. Páleník)
- [8] Michálek, M.: Possibilities of β_{eff} (effective delayed neutrons fraction) Determination on Pressurized Water Reactors (J. Haščík)
- [9] Molnár, T.: Study of the Influence of Annealing to Microstructure of Nuclear Power Plant Structural Materials with Application of Positron Annihilation Spectroscopy (V. Slugeň, S. Sojak)
- [10] Okkel, M.: Costs Aspects of Decommissioning of Nuclear Facilities (V. Nečas, I. Reháč)
- [11] Sabelová, V.: Safety Analysis of the Initiating Event 'Trip of Main Circulation Pumps at Mochovce NPP Unit 1' using conservative and best estimates approaches and uncertainty evaluation of base criterion parameter (V. Slugeň, T. Kliment)
- [12] Sačková, M.: Analysis of Temperature Field in the Fuel Rod (V. Nečas, B. Hatala)
- [13] Šalát, T.: Detector for Hot Plasmas Diagnostics Based on Semi-Insulating GaAs (V. Nečas, F. Dubecký, B. Zařko)
- [14] Šeliga, P.: Safety Analysis of Steam Generators VVER-440 (V. Slugeň)
- [15] Vrbán, B.: Monitoring of Nuclide Composition as a Function of Burn up and Fuel in Reactors VVER-440 Reactors (J. Haščík, G. Farkas)

VI.2 PhD Theses

- [1] Breza, J.: Innovative Nuclear Fuel Cycles and their Application in Light Water Reactors (V. Nečas)
- [2] Dekan, J.: Analysis of Archaeological Artifacts Using Analytical Techniques (M. Miglierini)
- [3] Michálek, S.: Methodology Development for Experimental Evaluation of Effective Delayed Neutron Fraction in Nuclear Reactors (J. Haščík)
- [4] Pavúk, M.: Structural Transformations in the NANOPERM-type Amorphous Alloys (M. Miglierini)
- [5] Zajac, R.: The Heavy Nuclides Transmutation in Thermal and Fast Reactors (V. Nečas)
- [6] Zajacová, Z.: Assessment of Radiological Risks at the ATLAS Experiment (M. Pavlovič, V. Hedberg, M. Silari)

- [7] Vittek, R.: Dependence of Hyperfine Interactions from Microstructure in Selected Nanocrystalline Alloys of NANOPERM (J. Sitek)

VII. OTHER ACTIVITIES

- Organization of the Postgraduate Study 'Nuclear Installation Operation Safety Aspects' for participants from different organizations. Organised for SE, a. s.
- Organization of students excursion to Atom Institute in Vienna
- Students Practical Exercises at the TRIGA Mark II Reactor in Atom Institute of the Austrian Universities, Vienna, Austria
- Students Practical Exercises at the Training Reactor of the Budapest University of Technology and Economics, Budapest, Hungary
- Students Practical Exercises at the Training Reactor of the Czech Technical University in Prague, Czech Republic
- Organization of French-Slovak Seminary 'Reactor generation 4', Demänová, 6 - 8 February 2010
- Organization of French-Slovak Summer School 'Reactor Generation 3', Kočovce, 13 - 17 September 2010
- Contribution to the '7th International Conference Secure Energy Supply 2010', Bratislava, 22 - 23 September 2010
- Organization of International Colloquium 'Mössbauer Spectrometry in Material Science' (MSMS 2010), Liptovský Ján, 31. 1.- 5. 2. 2010

VIII. PUBLICATIONS

VIII.1 Journals

- [1] BEZÁK, P. - DANIŠKA, V. - REHÁK, I. - NEČAS, V.: Algoritmisation of Nuclear Installations Equipment Dismantling. In: Nuclear Engineering and Design. - ISSN 0029-5493. - Vol. 240 (2010), p. 4103-4110. (in English)
- [2] BREZA, J. - DAŘÍLEK, P. - NEČAS, V.: Study of Thorium Advanced Fuel Cycle Utilization in Light Water Reactor VVER-440. In: Annals of Nuclear Energy. - ISSN 0306-4549. - Vol. 37 (2010), p. 685-690. (in English)
- [3] BUTVIN, P. - BUTVINOVÁ, B. - SILVEYRA, J.M. - CHROMČÍKOVÁ, M. - JANIČKOVIČ, D. - SITEK, J. - ŠVEC, P. - VLASÁK, G.: Effects of Substitution of Mo for Nb on Less-Common Properties of Finemet Alloys. In: Journal of Magnetism and Magnetic Materials. - ISSN 0304-8853. - Vol. 322, Iss. 20 (2010), p. 3035-3040. (in English)
- [4] CHMIELEWSKA, E. - SABOVÁ, L. - SITEK, J. - GÁPLOVSKÁ, K. - MORVOVÁ, M.: Removal of Nitrates, Sulfate and Zn(II) Ions from Aqueous Solutions by Using Biopolymeric Alginate/Clinoptilolite Rich Tuff Pellets. In: Fresenius Environmental Bulletin: The International Journal for Rapid Communication and Updating in the Field of Biotic and Antibiotic Systems. - ISSN 1018-4619. - Vol. 19, No. 5 (2010), p. 884-891. (in English)
- [5] DEGMOVÁ, J. - DEBARBERIS, L. - KRŠJAK, V.: Model Materials for Reactor Pressure Vessel. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 1054-1056. (in English)
- [6] FARKAS, G. - SLUGEŇ, V. - HAŠČÍK, J.: Determination of Weighting Functions of Ex-Core Detectors for VVER-440 by Monte Carlo Method. In: Metrológia a skúšobníctvo. - ISSN 1335-2768. - Vol. 15, No. 2 (2010), p. 10-20. (in Slovak)

- [7] GONZÁLEZ-ANGELES, A. - LIPKA, J. - GRUSKOVÁ, A. - SLÁMA, J. - JANČÁRIK, V. - SLUGEŇ, V.: Magnetic Comparison of BaCa and BaSr Substituted Hexaferrite Powders. In: Journal of Physics: Conference Series. - ISSN 1742-6588. - Vol. 217 (2010), Art. no. 012137. (in English)
- [8] GRUSKOVÁ, A. - SLÁMA, J. - UŠÁKOVÁ, M. - ŠOKA, M. - DOSOUDIL, R. - DEGMOVÁ, J.: Study of Magnetic and Structural Properties of Non-Stoichiometric NiZn Ferrites Prepared by Wet Method. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 780-781. (in English)
- [9] HAEHNEL, V. - FÄHLER, S. - SCHAAP, P. - MIGLIERINI, M. - MICKEL, C. - SCHULTZ, L. - SCHLÖRB, H.: Towards Smooth and Pure Iron Nanowires Grown by Electrodeposition in Self-Organized Alumina Membranes. In: Acta Materialia. - ISSN 1359-6454. - Vol. 58, Iss.8 (2010), p. 2330-2337. (in English)
- [10] HASIAK, M. - LUKIEWSKI, M. - MIGLIERINI, M. - KALETA, J.: Investigations and Applications of Nanoperm-Type Soft Magnetic Materials. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 829-831. (in English)
- [11] HATALA, T. - MIGLIERINI, M.: Transformation of Hyperfine Interactions in Co-Substituted Nanoperm-Type Alloys during Annealing. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 764-765. (in English)
- [12] LANČOK, A. - MIGLIERINI, M. - KOHOUT, J.: ^{57}Fe Mössbauer Spectroscopy e-Fe $_{2}\text{O}_3$ Nanoparticles. In: Fizika metallov i metallovedeniye. - ISSN 0015-3230. - Tom 109, No. 5 (2010), p. 562-571. (in Russian)
- [13] LANČOK, A. - MIGLIERINI, M. - KOHOUT, J.: ^{57}Fe Mössbauer Spectroscopy of Synthesized e-Fe $_{2}\text{O}_3$ Nanoparticles. In: The Physics of Metals and Metallography. - ISSN 0031-918X. - Vol. 109, No. 5 (2010), p. 524-533. (in English)
- [14] MICHÁLEK, S. - ŠTEVO, S. - FARKAS, G. - HAŠČÍK, J. - SLUGEŇ, V. - RATAJ, J.: Determination of the Effective Delayed Neutron Fraction for Training Reactor VR-1. In: Progress in Nuclear Energy. - ISSN 0149-1970. - Vol. 52 (2010), p. 735-742. (in English)
- [15] MIGLIERINI, M. - LANČOK, A. - PAVLOVIČ, M.: CEMS Studies of Structural Modifications of Metallic Glasses by Ion Bombardment. In: The Physics of Metals and Metallography. - ISSN 0031-918X. - Vol. 109, No. 5 (2010), p. 469-474. (in English)
- [16] MIGLIERINI, M.: Hyperfine Interactions and Crystallization Kinetics of Co-Substituted NANOPERM-Type Alloys. In: Journal of Physics: Conference Series. - ISSN 1742-6588. - Vol. 217 (2010), Art. no. 012092. (in English)
- [17] MIGLIERINI, M. - LANČOK, A. - PAVLOVIČ, M.: Ion Irradiation Studies of Structural Modifications of Metallic Glasses by Conversion Electron Mössbauer Spectroscopy. In: Fizika metallov i metallovedeniye. - ISSN 0015-3230. - Tom 109, No. (2010), p. 505-510. (in Russian)
- [18] MIGLIERINI, M. - LANČOK, A.: Magnetic Behaviour of Ferritin Nanoparticles. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 944-945. (in English)
- [19] MIGLIERINI, M. - ŠAFÁŘOVÁ, K.: Magnetic Features at the Surfaces of Nanocrystalline Ribbons. In: Acta Physica Polonica A. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 840-842. (in English)

- [20] MIKULICS, M. - ADAM, R. - SOFER, Z. - HARDTDEGEN, H. - STANČEK, S. - KNOBBE, J. - KOČAN, M. - STEJSKAL, J. - SEDMIDUBSKÝ, D. - PAVLOVIČ, M. - NEČAS, V. - GRÜTZMACHER, D. - MARSO, M.: Femtosecond and Highly Sensitive GaAs Metal/Semiconductor/Metal Photodetectors Grown on Aluminum Mirrors/Pseudo-Substrates. In: Semiconductor Science and Technology. - ISSN 0268-1242. - Vol. 25 (2010), Art. no. 175001. (in English)
- [21] PALEŇČÁR, R. - LIPKA, J.: The Topics of the Doctoral Thesis in the Field of Study: Metrology for the Academic Year 2010/2011. In: *Metrológia a skúšobníctvo*. - ISSN 1335-2768. - Roč. 15, č. 2 (2010), p. 50-57. (in Slovak)
- [22] PAVLOVIČ, M. - MIGLIERINI, M. - MUSTAFIN, E. - SEIDL, T. - ENSINGER, W. - STRAŠÍK, I. - ŠOKA, M.: Ion Irradiation Studies of Soft Magnetic Metallic Glasses. In: *Acta Physica Polonica A*. - ISSN 0587-4246. - Vol. 118, No. 5 (2010), p. 754-755. (in English)
- [23] SEEMANN, R. - PAVLOVIČ, M. - MURÍN, J.: Methodology for Assessment of Beam-Transport Accuracy at Rotating Ion-Therapy Gantries. Part IV. In: *Metrológia a skúšobníctvo*. - ISSN 1335-2768. - Vol. 15, No. 1 (2010), p. 3-11. (in English)
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