

**DEPARTMENT OF NUCLEAR PHYSICS AND TECHNOLOGY**

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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.
Senior Scientists	RNDr. Štefan Krnáč, PhD., Ing. Milan Seberíni, PhD., Ing. Ignác Tóth
Research Workers	Ing. Jarmila Degmová, PhD., Ing. Gabriel Farkas, Ing. Martin Petriska, Ing. Stanislav Stanček
Technical Staff	Eva Mániková (secretary), Peter Mikula, Andrea Podhájska
PhD. Students	Ing. Peter Bezák, Ing. Juraj Breza, Ing. Július Dekan, Ing. Tomáš Kaňuch, Ing. Vladimír Kršjak, Ing. Milan Ladzianský, Ing. Svetozár Michálek, Ing. Marek Mikloš, Ing. František Ondra, Ing. Milan Pavúk, Ing. Jozef Pritrský, Ing. Ivan Strašík, Ing. Peter Tatranský, Ing. Marek Vaško, Ing. Radoslav Zajac, Ing. Matej Zachar

**II. EQUIPMENT**

**II.1 Teaching and Research Laboratories**

**Nuclear Technologies Centre:**

- Laboratory of Mössbauer Spectroscopy
- Ion Beam Laboratory
- Laboratory of Positron Annihilation Spectroscopy
- Laboratory of Radiation Ecology
- Laboratory of Optical Spectroscopy
- Laboratory of Radioactive Isotopes
- Laboratory of Neutron Physics
- Computer Laboratory

**II.2 Special Measuring Instruments and Computers**

- Mössbauer Spectrometers - 4 units (77 - 1200 K)
- 1 MV Cascade Accelerator. Ion beam analyses: 2 MeV He<sup>2+</sup> RBS with UHV target chamber, sample heating 300 - 1200 K, 1 MeV H<sup>+</sup> PIXE; Ion beam modification: 10 keV - 1 MeV ion implantation, high dose ~ 10<sup>19</sup> ion/cm<sup>2</sup>
- Sector Magnet Mass Spectrometer, isotope resolution
- Life-Time and Angular Correlation Positron Annihilation Spectrometers
- Low-Background Chamber with HPGe detector and gamma ray spectrometer
- Department's LAN computer network

- 16 PC Cluster

### II.3 Special Software

- Particle Beam Optics Laboratory PBO Lab™ 2.1
- Transport
- Trace-3D
- Electrostatic Palette
- WinAGILE
- SRIM
- MCNP-4C2
- VISED
- SCALE 4.4a
- GENIE 2000
- CONFIT
- Field Precision - STATIC FIELD ANALYSIS TOOLKIT (TK 0300)

## 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, V. Slugeň
Sources of Radiation	(6th sem., 2-3h)	M. Miglierini
Ecology	(6th sem., 3-2h)	J. Sitek
Nuclear Installations	(8th sem., 20h)	J. Haščík
Ecobiophysics	(8th sem., 3-2h)	J. Degmová

### III.2 Graduate Study (Ing.)

Nuclear Physics and Technology	(1st sem., 2-2h)	A. Šagátová, J. Lipka
Theory of Nuclear Reactors	(1st sem., 3-2h)	J. Haščík
Team Projects 1	(1st sem., 0-4h)	R. Hincá, V. Nečas
Team Projects 2	(2nd sem. 0-4h)	J. Sitek, K. Vítázek
Decommissioning 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
Accelerator Physics and Technology I	(2nd sem., 2-2h)	M. Pavlovič
Accelerator Physics and Technology II	(3rd sem., 2-2h)	M. Pavlovič
Methods of Nuclear Physical	(3rd sem., 2-2h)	J. Sitek
Safety and Reliability of Power Engineering Installations	(3rd sem., 2-2h)	V. Slugeň

#### **IV. RESEARCH PROJECTS**

- Radioactive Materials in Innovative Nuclear Fuel Cycles and after Terminating the Operation of Nuclear Installations. VEGA 1/3160/06, V. Nečas
- Neutron Detectors: Technology of Preparation, Study of Electrical and Detection Properties, VEGA 2/7170/7, V. Nečas
- Consolidation of European Nuclear Education, Training and Knowledge Management, EC Contract Number FP6-036414, M. Miglierini
- Formation of Nanocrystalline Grains in Rapidly Quenched Fe-B-based Alloys with Additions of Other Elements. VEGA 1/4011/07, M. Miglierini
- Magnetic Structural Processes in Nano- and Microcrystalline States Materials Prepared from Amorphous Precursors. VEGA 1/3189/06, J. Sitek
- Radiation Embrittlement Study of NPP Advanced Construction Materials. VEGA 1/3188/06, V. Slugeň
- Perspective Thin Films and Structures for Electronics. VEGA 2/5130/25. Joint project with the Slovak Academy of Sciences, S. Stanček
- A New Generation Digital Radiology Kit. APVV-99-P06305, V. Nečas
- Study of Structural and Magnetic Properties of Nanophase and Amorphous Systems Based on 3rd Transition Elements. APVT-20-008404, M. Miglierini
- Accelerators for Ion Cancer Therapy. Scientific and educational collaboration with Forschungs- und Technologietransfer GmbH, FOTEC, Wiener Neustadt, Austria, INTERREG III A, M. Pavlovič
- Irradiation Tests of Magnetic Alloy and Organic Insulator Materials INTAS 06-1000012-8683, M. Pavlovič
- Prediction of Irradiation Damage Effects on Reactor Components (PERFECT). 6th Framework Project of European Atomic Energy Community No FI60-CT-2003-508840, V. Slugeň
- Coordinated Action of VVER Safety. 6th Framework Project of European Atomic Energy Community No FI06-COV-2005-012727, V. Slugeň
- Microstructural Characterisation of Fe-Cr Alloys: Simulation, Positron Annihilation, Mössbauer Spectroscopy. 6th Framework Project European Atom Energy Community No FU-CT-2005-00136, V. Slugeň
- 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 (2007-2009), V. Slugeň

#### **V. COOPERATION**

##### **V.1 Cooperation in Slovakia**

- Cyclotron Centre of Slovak Republic, Bratislava
- DECOM jsc, Trnava
- DECONTA jsc, Trnava
- Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava
- Geological Institute, Slovak Academy of Sciences, 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. Šafarik, Institute of Physical Sciences, Košice
- VUJE jsc, Trnava
- Nuclear Regulatory Authority of the Slovak Republic, Bratislava

- Relko Ltd., Bratislava
- Slovak Electric Ltd., Bratislava
- JAVYS jsc, Nuclear Decommissioning Company, j. s. co., Jaslovské Bohunice
- 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
- Magic Trading Corporation jsc, Liptovský Mikuláš
- T&N System, Banská Bystrica

## V.2 International Cooperation

- All-Russian Scientific Institute of Experimental Physics, Theoretical Physics Department, Sarov, Russia
- Atominstitut der Österreichischen Universitäten, Vienna, Austria
- Centro de Investigación y de Estudios Avanzados del IPN Unidad Saltillo, Mexico
- Department of Nuclear Reactors, Technical University in Prague, CzR
- EFDA Close Support Unit, Garching, Germany
- Energovýzkum, Brno, CzR
- Flerov Laboratory of Nuclear Reactions, Joint Institute of Nuclear Research, Dubna, Russia
- Forschungs- und Technologietransfer GmbH, FOTEC, Wiener Neustadt, Austria
- Framatome ANP BT62 Brennelement Laboratory, Erlangen, Germany
- GSI, Accelerator Department, Darmstadt, Germany
- IMS - Nanofabrication, GmbH, Vienna, Austria
- 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 of Advanced Materials, 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, Czech Republic
- Institute of Experimental and Applied Physics, Czech Technical University in Prague, CzR
- State Metrology Service, Vilnius, Lithuania
- Institute of Inorganic Chemistry, Academy of Sciences of Czech Republic, Řež, CzR

## V.3 Membership in Slovak Organizations and Societies

- Board of Nuclear Safety SE-EBO (J. Haščík)
- Nuclear Safety Advisory Committee SE, jsc (V. Slugeň)
- 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)
- Expert Board of Cyclotron Centre of Slovak Republic (M. Pavlovič)
- Scientific Council of FEI SUT (V. Nečas)
- Scientific Council of Slovak Institute of Metrology (V. Nečas)
- Slovak Nuclear Forum (J. Lipka – vice-president)

- Slovak Nuclear Society (V. Slugeň - chairman, J. Degmová, J. Haščík, R. Hinca, Š. Krnáč, J. Lipka, M. Miglierini, V. Nečas, M. Petriska, J. Sitek, P. Tatranský, M. Mikloš, V. Kršjak, A. Šagátová, M. Seberíni, M. Pavlovič)
- Slovak Physical Society (M. Miglierini, V. Nečas, J. Sitek, V. Slugeň)
- Slovak Spectroscopic Society (M. Miglierini - president, J. Degmová, J. Haščík, Š. Krnáč, J. Lipka, M. Seberíni, 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

- ENEN Association (M. Miglierini, J. Haščík, V. Slugeň)
- European Nuclear Society (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 (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 Research Board of Nuclear Research Institute Řež, plc, CzR (V. Slugeň)

#### V.5 Contracts

- J. Haščík: 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. Lipka, Š. Krnáč, I. Tóth: Measurement of Selected Components of Ionisation Fire-Announcers. Contract with Am EKO Bratislava
- J. Haščík, R. Hinca, M. Miglierini, V. Nečas, V. Slugeň: Post-gradual Requalification Training Course: Safety aspects of nuclear installations operation. Contract with Slovenské elektrárne jsc
- V. Nečas, J. Breza, R. Zajac: Thorium Fuel Cycle of PWR. Contract with VUJE, jsc, Trnava
- V. Slugeň, M. Petriska: Software Development for Digital Positron Lifetime Spectrometer with Acqiris DP240 digitiser card. Contract No 42/160/07 between JRC-IE Petten, Institute of Advanced Materials, European Commission and FEI SUT Bratislava, Based on order No: IE.B103068
- V. Slugeň, J. Haščík, G. Farkas, S. Michálek, M. Petriska, A. Balga, K. Vitázek, R. Hinca, Š. Krnáč, M. Stacho, I. Neuhold, T. Melo, A. Vanková: Computer Simulation of Neutron Physical Characteristics of VVER-440 Reactors and their Experimental Validation. Contract with SE-ENEL jsc
- J. Lipka, I. Tóth: Corrosion Product from NPP. Contract with AllDeco Ltd., Jaslovské Bohunice

## 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] J. Bajan: Radiotoxicity of balanced fuel cycles of nuclear reactors VVER-440 and Super Phoenix (R. Zajac, V. Nečas)
- [2] M. Bobály: Dose optimization in the stereotactic radiosurgery (M. Miglierini)
- [3] P. Brezina: Radiation damage of materials by ion implantation (M. Pavlovič)
- [4] M. Cibula: Use of program SRIM for simulation of ion implantation with a use of mask. (M. Pavlovič)
- [5] J. Királ: Crystallization of Al-based metallic alloys (J. Sitek)
- [6] I. Stašík: Depth-profiling of residual activity induced by uranium ions in copper (M. Pavlovič)
- [7] M. Vlčko: Transmutation of nuclear power fuel for reactor VVER-1000 (P. Dařílek, V. Nečas)
- [8] P. Vlk: Verification of IMRT plan (G. Králik, M. Miglierini)
- [9] M. Zachar: Method of assessment impact of decommissioning of nuclear installation on the environment (V. Daniška, V. Nečas)
- [10] M. Žaťko: Semi-insulating GaAs detectors of thermal neutrons (A. Šagátová)

## VI.2 Doctoral Theses

- [1] M. Vaško: The methods of control of the radioactivity distribution and personal exposure calculations in computing tool for the decommissioning parameters evaluation (V. Nečas)

## VII. OTHER ACTIVITIES

- Organization of the Postgraduate Study “Safety Aspects of Nuclear Equipment Operation” for participants from different organizations. Organised for Slovak Electric, Ltd.
- Organization of students excursion to Austrian Research Center Seibersdorf
- Organization of SNUS Annual Meeting Scientific Conference, 25. April 2007, Častá, Slovakia
- Organization of Scientific Conference: NUSIM, 27 - 28 April 2006, Levice, Slovakia
- Organization of Scientific Conference NUSIM, 1. -3. March 2007, Liberec, CzeR
- Organization of International Conference “Secure Energy Supply” 3 - 5 October 2007, Bratislava, Slovakia
- Organization of Conference “ Applied Physics of Condensed Matter”, 27 - 29 June 2007, Bystrá, Slovakia
- Students Practical Exercises at the TRIGA Mark II Reactor in Atom Institute of the Austrian Universities, Vienna, Austria
- Students Practical Exercises at the School 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

## VIII. PUBLICATIONS

### VIII.1 Journals

- [1] DEGMOVÁ, J., FINNBERG, J., ROTH, S.: (FeSm)-(FeAlPCBSiGa) Composites Prepared by Hot-Pressing of Ball Milled Powders. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 58, No. 2 (2007), p. 118-120. (in English)
- [2] DUBECKÝ, F., FERRARI, C., KORYTÁR, D., GOMBIA, E., NEČAS, V.: Performance of Semi-Insulating GaAs-Based Radiation Detectors: Role of Key Physical Parameters of Base Materials. In: Nuclear Instruments and Methods in Physics Research A. - ISSN 0168-9002. - Vol. 576 (2007), p. 27-31. (in English)
- [3] DUBECKÝ, F., BOHÁČEK, P., SEKÁČOVÁ, M., ZAŤKO, B., LALINSKÝ, T., LINHART,

- V., ŠAGÁTOVÁ-PERĐOCHOVÁ, A., MUDROŇ, J., POSPÍŠIL, S.: Role of Electrode Metallization in Performance of Semi-Insulating GaAs Radiation Detectors. In: Nuclear Instruments and Methods in Physics Research A. - ISSN 0168-9002. - Vol. 576 (2007), p. 87-89. (in English)
- [4] FERTMAN, A., MUSTAFIN, E., HINCA, R., STRAŠÍK, I., PAVLOVIČ, M., SCHARDT, D., SOBOLEVSKIY, N., GOLUBEV, A., SHARKOV, B., FEHRENBACHER, G., HOFMANN, I., IWASE, H., KOZLOVA, E., MUSTAFINA, G.: First Result of an Experimental Study of the Residual Activity Induced by High-Energy Uranium Ions in Steel and Copper. In: Nuclear Instruments and Methods in Physics Research B. - ISSN 0168-583X. - Vol. 260 (2007), p. 579-591. (in English)
- [5] GRGAC, P., KUSÝ, M., ČAPLOVIČ, E., MIGLIERINI, M., KAŇUCH, T., VITÁZEK, K.: Temperature Induced Transformation of Metastable Austenite in a Hypereutectic Iron-Based Rapidly Solidified Power. In: Materials Science and Engineering A. Structural Materials. Properties, Microstructure and Processing. - ISSN 0921-5093. - Vol. 449-451 (2007), p. 1029-1032. (in English)
- [6] GRIESMAYER, E., SCHREINER, T., PAVLOVIČ, M.: The MedAustron Projekt. In: Nuclear Instruments and Methods in Physics Research B. - ISSN 0168-583X. - Vol. 257 (2007), p. 134-138. (in English)
- [7] HOVORKA, D., KRIŠTÍN, J., LIPKA, J., PAVÚK, J., ŠTEVULA, L., TÓTH, I., TÚNYI, I.: Raw Materials Aspects of the Neolithic Pottery (Slovak Republic): Multi-Analytical Results. In: Slovak Geological Magazine. - Vol. 11, No. 4 (2007), p. 283-300. (in English)
- [8] ILLEKOVÁ, E., ŠVEC, P., MIGLIERINI, M.: Thermokinetic Analysis of the Multistep Crystallization of a NANOPERM-Type Ribbon. In: Journal of Non-Crystalline Solids. - ISSN 0022-3093. - Vol. 353 (2007), p. 3342-3347. (in English)
- [9] MIGLIERINI, M., KAŇUCH, T., PAVÚK, M., JIRÁSKOVÁ, Y., ZBOŘIL, R., MAŠLÁŇ, M., ŠVEC, P.: Evolution of Structural Changes in Nanocrystalline Alloys with Temperature. In: Fizika metallov i metallovedeniye. - ISSN 0015-3230. - Tom 104, No. 4 (2007), p. 349-359. (in Russian)
- [10] MIGLIERINI, M., KAŇUCH, T., PAVÚK, M., JIRÁSKOVÁ, Y., ZBOŘIL, R., MAŠLÁŇ, M., ŠVEC, P.: Evolution of Structural Changes in Nanocrystalline Alloys with Temperature. In: The Physics of Metals and Metallography. - Vol. 104, No. 4 (2007), p. 335-345. (in English)
- [11] MIGLIERINI, M., VITTEK, R., HASIAK, M.: Impact of Annealing Temperature on Magnetic Microstructure of  $\text{Fe}_{80}\text{Zr}_4\text{Ti}_3\text{Cu}_1\text{B}_{12}$  Rapidly Quenched Alloy. In: Materials Science and Engineering A. Structural Materials. Properties, Microstructure and Processing. - ISSN 0921-5093. - Vol. 449-451 (2007), p. 419-422. (in English)
- [12] MIKLOŠ, M., BOŽÍK, M., VAŠINA, D.: Leak Tightness Testing System for Nuclear Fuel Assemblies in Wet Conditions of Interim Spent Fuel Storage. In: International Journal of Nuclear Energy Science and Technology. - Vol. 3, No. 3 (2007), p. 220-235. (in English)
- [13] NEČAS, V., BREZA, J., ZAJAC, R., DAŘÍLEK, P.: Advanced Nuclear Fuel Cycles. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 13, No. 4 (2007), p. 15-17. (in Slovak)
- [14] PAVLOVIČ, M., ČINČURA, E., GRIESMAYER, E., SCHREINER, T.: A Study of Dispersion Effects in Transport of Ion-Therapy Beams. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 58, No. 1 (2007), p. 33-38. (in English)

- [15] PAVLOVIČ, M., STRAŠÍK, I.: Supporting Routines for the SRIM Code. In: Nuclear Instruments and Methods in Physics Research B. - ISSN 0168-583X. - Vol. 257 (2007), p. 601-604. (in English)
- [16] PAVLOVIČ, M., NEČAS, V., GRIESMAYER, E., SCHREINER, T.: Innovative Concepts of Dual-Species Proton/Carbon Medical Synchrotrons. In: International Review of Physics. - ISSN 1971-680X. - Vol. 1, No. 4 (2007), p. 251-257. (in English)
- [17] PAVÚK, M., MIGLIERINI, M., VUJTEK, M., MASHLAN, M., ZBORIL, R., JIRÁSKOVÁ, Y.: AFM and Mössbauer Spectrometry Investigation of the Nanocrystallization Process in Fe-Mo-Cu-B Rapidly Quenched Alloy. In: Journal of Physics: Condensed Matter. - Vol. 19 (2007), p. 216219.1-16. (in English)
- [18] PETRISKA, M., PAVÚK, M., SLUGEŇ, V., KRŠJAK, V., MIGLIERINI, M.: Nanocrystalline Alloys Studied by Positron Annihilation Lifetime Spectroscopy. In: Physica Status Solidi (c). - Vol. 4, No. 10 (2007), p. 3903-3906. (in English)
- [19] SLUGEŇ, V., LIPKA, J., HAŠČÍK, J., KRŠJAK, V., PETRISKA, M., ZEMAN, A.: Application of Mössbauer and Positron Annihilation Spectroscopies for Monitoring of WWER RPV Steel Degradation. In: International Journal of Nuclear Energy Science and Technology. - Vol. 3, No. 3 (2007), p. 254-277. (in English)
- [20] SLUGEŇ, V., KRŠJAK, V., PETRISKA, M., ZEMAN, A., MIKLOŠ, M.: Positron Annihilation Study of Alloys for Fission and Fusion Technology. In: Physica Status Solidi (c). - Vol. 4, No. 10 (2007), p. 3481-3484. (in English)
- [21] SLUGEŇ, V., MIKLOŠ, M., BOŽÍK, M., VAŠINA, D.: Monitoring and Leak Testing of WWER-440 Fuel Assemblies in Slovak Wet Interim Spent Fuel Storage Facility. In: Acta Montanistica Slovaca. - ISSN 1335-1788. - Vol. 12, No. 1 (2007), p. 187-191. (in English)
- [22] ŠAGÁTOVÁ-PERDOCHOVÁ, A., DUBECKÝ, F., ZAŤKO, B., CHODÁK, I., LADZIANSKÝ, M., NEČAS, V.: Detectors of Fast Neutrons Based on Semi-Insulating GaAs with Neutron Converter Layers. In: Nuclear Instruments and Methods in Physics Research A. - ISSN 0168-9002. - Vol. 576 (2007), p. 56-59. (in English)
- [23] ŠPANKOVÁ, M., CHROMIK, Š., VÁVRA, I., SEDLÁČKOVÁ, K., LOBOTKA, P., LUCAS, S., STANČEK, S.: Epitaxial LSMO Films Grown on MgO Single Crystalline Substrates. In: Applied Surface Science. - ISSN 0169-4332. - Vol. 253 (2007), p. 7599-7603. (in English)
- [24] ZAŤKO, B., DUBECKÝ, F., PROCHÁZKOVÁ, O., NEČAS, V.: Role of Electrode Metallization in the Performance of Bulk Semi-Insulating InP Radiation Detectors. In: Nuclear Instruments and Methods in Physics Research A. - ISSN 0168-9002. - Vol. 576 (2007), p. 98-102. (in English)
- [25] ZELENÁKOVÁ, A., OLEKŠÁKOVÁ, D., DEGMOVÁ, J., KOVÁČ, J., KOLLÁR, P., KUSÝ, M., SOVÁK, P.: Structural and Magnetic Properties of Mechanically Alloyed FeCo Powders. In: Journal of Magnetism and Magnetic Materials. - ISSN 0304-8853. - Vol. 316 (2007), p. 519-522. (in English)
- [26] ZEMAN, A., DEBARBERIS, L., KOČÍK, J., SLUGEŇ, V.: Evaluation of Radiation Stability of Generation IV Structural Materials by Positron Annihilation Spectroscopy. In: Physica Status Solidi (c). - Vol. 4, No. 10 (2007), p. 3581-3586. (in English)
- [27] ZEMAN, A., DEBARBERIS, L., KOČÍK, J., SLUGEŇ, V., KEILOVÁ, E.: Microstructural Analysis of Candidate Steels Pre-Selected for New Advanced Reactor Systems. In: Journal of Nuclear Materials. - ISSN 0022-3115. - Vol. 362 (2007), p. 259-267. (in English)



- [28] ZEMAN, A., KUPČA, L., ACOSTA, B., KYTKA, M., DEGMOVÁ, J.: Study of Radiation-Induced Degradation of RPV Steels and Model Alloy by Positron Annihilation and Mössbauer Spectroscopy. In: Journal of Nuclear Materials. - ISSN 0022-3115. - Vol. 360 (2007), p. 272-281. (in English)

### VIII.2 Conference Proceedings

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