

S T U . .
• • • • •
• F E I •
• • • • •



- INSTITUTE OF NUCLEAR AND PHYSICAL ENGINEERING, FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY, SLOVAK UNIVERSITY OF TECHNOLOGY, BRATISLAVA
- ALUMNI CLUB OF THE FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY, SLOVAK UNIVERSITY OF TECHNOLOGY, BRATISLAVA
- DEPARTMENT OF PHYSICS AND DEPARTMENT OF ENGINEERING FUNDAMENTALS, FACULTY OF ELECTRICAL ENGINEERING, UNIVERSITY OF ŽILINA, ŽILINA
- INSTITUTE OF PHYSICS, SLOVAK ACADEMY OF SCIENCES, BRATISLAVA
- SLOVAK PHYSICAL SOCIETY, BRATISLAVA



PROCEEDINGS

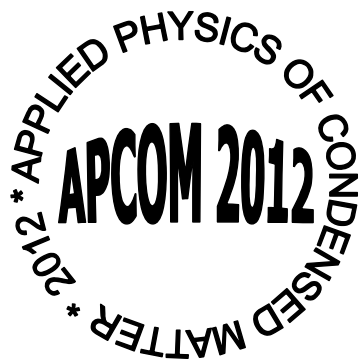
of the **18th** International Conference on
APPLIED PHYSICS OF CONDENSED MATTER (APCOM 2012)

June 20 – 22, 2012

Hotel Patria, Štrbské Pleso, Slovak Republic

Partners:





18th International Conference on
APPLIED PHYSICS OF CONDENSED MATTER (APCOM 2012)

June 20 – 22, 2012
Hotel Patria, Štrbské Pleso, Slovak Republic

INTERNATIONAL PROGRAM COMMITTEE

J. Sitek, FEEIT SUT Bratislava, SK – chairman
P. Bury, FEE Žilina University, SK
H. Frank, CUT Prague, CZ
J. Hajto, MUTF Tatabanya, HU
Z. J. Horvath, HAS Budapest, HU
K. Hricovini, CPU Cergy-Pontoise, FR
J. Kohout, CU Prague, CZ
A. Lančok, IP AS Prague, CZ
V. Lisý, FEEIT TU Košice, SK
R. Makhloufi, Caen University, FR
J. Müllerová, FEE Žilina University, SK
W. Recheis, UAS Wiener Neustadt, AT
O. Schneeweiss, IPM AS, Brno, CZ
B. Sopko, CUT Prague, CZ
P. Švec, IP SAS Bratislava, SK
M. Tlaczala, WUT Wroclaw, PL
J. Vajda, FEEIT SUT Bratislava, SK

LOCAL ORGANIZING COMMITTEE

J. Vajda, FEEIT SUT Bratislava, SK -
- chairman
I. Jamnický, FEE Žilina University, SK
L. Harmatha, FEEIT SUT Bratislava, SK
D. Pudiš, FEE Žilina University, SK
J. Mudroň, AAF Liptovský Mikuláš, SK

Partners



member of ZSVTS

EDITORS

J. Vajda, I. Jamnický

The 18th International Conference APCOM 2012 is supported by

- Slovenské elektrárne, a. s.
- Slovak Nuclear Society, member of ZSVTS
- Institut Français Slovaquie

Medial partners:

- Journal of Electrical Engineering
- Časopis pre elektrotechniku, elektroenergetiku, informačné a komunikačné technológie

The 18th International Conference on



APPLIED PHYSICS OF CONDENSED MATTER 2012

is the 18th international conference in the series of events started in the year 1995 with the workshop "Solid State Physics and Radioactive Irradiation". Next three years the name of this workshop was „Effect of Non–Standard External Factors on Physical Properties of Solids“. Since 1999, its name was transformed to current name "Applied Physics of Condensed Matter" (APCOM). APCOM provides a unique opportunity for experts in the field of applied physical research of condensed matter to come together and share their visions of future development and in the area of application of devices for example in electrical and nuclear power engineering, electronic and optical communication etc. The main focus of the conference is on presentation of both theoretical and experimental results, partly also of both computer simulation results and specific measurements techniques in the investigation of physical properties and structure of bulk solids and structures, thin solid films, ultrathin organic polymer films, micro- and nanostructures *etc.*, exposed to the influence of the wide-range specific external factors (electrical, magnetic, thermal, high-frequency electromagnetic waves, optical and ionized radiation, ion and elementary particles beams and so on).

Main content areas:

1. New materials and structures (incl. nanostructures and thin films), their analysis and specific applications.
2. Physical properties and structural aspects of solid materials and their influencing.
3. Optical phenomena in materials, photovoltaics and photonics, new principles in sensors and detection methods
4. Nuclear science and technology (with emphasis on the influence of irradiation on physical properties of materials and radiation detection).
5. Computational physics and theory of physical properties of matter.
6. Biophysics and interdisciplinary physics of condensed matter.

CONTENTS (SCIENTIFIC PROGRAM)



Wednesday, June 20, 2012

OPENNING CEREMONY 14:30

PLENARY SESSION *Introductory lectures* 14:45

A. Szabó, K. Bán, G. Juhász, L. Novák and A. Lovas 13
A complex study of surface fatigue in carbom steels caused by rolling contact and sliding friction

J. Jasenek, B. Korenko, J. Červeňová 17
Coherence-domain reflectometry with synthesized coherence function

I. Kubena, J. Polak, T. Kruml 24
Development of reduced activation steels for fusion and their fatigue properties

D. Pudiš, L. Šušlik, J. Škriniarová, J. Kováč, J. Jakabovič, I. Kubicová, J. Kováč jr., J. Novák, Š. Haščík 25
Effect of 2D PhC structure patterned in LED surface on emission properties

F. Dubecký, P. Pribytný, G. Vanko, B. Zaťko, E. Gombia, M. Baldini, P. Hrkút, V. Nečas, and D. Donoval 29
Novel concepts of soft X-ray detector based on semi-insulating GaAs

P. Markoš 33
Finite size scaling analysis of disordered electron systems

COFFEE BREAK 16:15

SESSION 1(A) *Nuclear science and technology, influence of irradiation on physical properties of materials, radiation detection I.* 16:45

M. Pavlovič, M. Miglierini, E. Mustafin, T. Seidl, M. Šoka, I. Strasik 39
Magnetic susceptibility measurements of soft-magnetic metallic glasses under ion irradiation

E. Mustafin, I. Strasik, A. Plotnikov, A. Smolyakov 43
Radiation damage problems in slow extraction area and internal beam dump of SIS100

A. Belousov, E. Mustafin, W. Ensinger 47
Short term ionizing radiation impact on charge-coupled devices in radiation environment of high intensity heavy ion accelerators

K. Sedlačková, B. Zaťko, V. Nečas 51
Numerical study of the particle transport in fast neutron detectors with conversion layer

B. Zaťko, A. Šagátová, F. Dubecký, K. Sedlačková, P. Boháček, V. Nečas 55
Study of particle detector based on SiC epitaxial layer

A. Šagátová, B. Zaťko, F. Dubecký, P. Boháček, K. Sedlačková, V. Nečas 59
Semi-insulating GAAS detectors of fast neutrons

A. Bartnik, H. Fiedorowicz, B. Korczyk, J. Kostecki, A. Szczurek, P. Wachulak 63
Soft X-ray and EUV treatment of solids

<i>V. Sopko, B. Sopko, D. Chren, J. Dammer</i>	67
Influence of irradiation on defects creation in PIN diode structure	
<i>J. Sitek, J. Dekan</i>	71
Analysis of volcano rocks by Mössbauer spectroscopy	
<hr/>	
SESSION 1(B) <i>Nuclear science and technology, influence of irradiation on physical properties of materials, radiation detection II.</i>	16:45
<hr/>	
<i>V. Sabelová, M. Petriska, J. Veterníková, V. Slugeň, S. Sojak</i>	75
Application of Doppler Broadening Spectroscopy for detection of vacancy defects	
<i>J. Veterníková, V. Slugeň, J. Degmová, V. Sabelová, M. Petriska, S. Stanček</i>	79
Positron study of implanted ODS steels	
<i>J. Lüley, B. Vrban, G. Farkas, J. Haščík, R. Hinca, M. Petriska, V. Slugeň</i>	83
Determination of thermal reactivity coefficients for the first fuel loading of MO34	
<i>B. Vrban, J. Lüley, G. Farkas, J. Haščík, R. Hinca, M. Petriska, V. Slugeň</i>	87
MNCP calculation of the critical H₃BO₃ concentrations for the first fuel loading into the reactor core of NPP MO-3-4 units	
<i>S. Sojak, V. Slugeň, V. Kršjak, W. Egger, L. Ravelli, M. Petriska, S. Stanček, M. Skarba, P. Priputen, K. Vitázek, M. Stacho, J. Veterníková, V. Sabelová</i>	91
PLEPS study of thermal annealing influence on binary Fe-11.62%Cr alloys	
<i>M. Stacho, Š. Krnáč, V. Slugeň, R. Hinca, S. Sojak</i>	95
Analysis of high energy gamma ray spectra using whole spectrum processing	
<i>J. Dekan, J. Degmová, V. Slugeň, M. Maláč</i>	99
Phase analysis of iron containing corrosion products at NPP secondary circuit using Mössbauer spectrometry	
<i>T. Hatala, M. Miglierini</i>	103
Nuclear forward scattering of synchrotron radiation	
<i>Š. Čerba, V. Nečas</i>	107
Determination of the isotopic composition of neutron irradiated nuclear fuel materials by MCNPX	
WELCOME PARTY	19:30
 Thursday, June 21, 2012	
BREAKFAST	07:00
SESSION 2(A) <i>New materials and structures, nanostructures, thin films, their analysis and applications I.</i>	08:15
<hr/>	
<i>A. N. Kalinenko, A. I. Kopeliovich, P. V. Pyshkin, A. V. Yanovsky</i>	111
The new type of current and spin polarization oscillations in nano and micro rings	
<i>J. Hoško, I. Janotová, P. Švec, I. Maňko, D. Janičkovič, P. Švec Sr.</i>	114
Microstructure analysis of CoFeBSiNb metallic glasses with a various geometry prepared by planar flow casting and suction casting methods	
<i>P. Neilinger, M. Trgala, I. Hrebíková, M. Mikula, M. Leporis, M. Zahoran, M. Truchlý, M. Grajcar</i>	118
Nonlinearity in superconducting titanium nitride coplanar waveguide resonators	

<i>J. Osvald</i>		121
Interface electron traps and capacitance characteristics of AlGaIn/GaN		
<i>B. Ściana, W. Dawidowski, D. Pucicki, D. Radziejewicz, M. Tłaczała, J. Serafińczuk, M. Latkowska, J. Kováč, A. Vincze</i>		125
Technology and characterization of AlInBV-N heterostructures for solar cells applications		
<i>J. Kravčák</i>		129
Dynamics of magnetic domain walls in thin ferromagnetic layers and wires		
<i>A. Stafiniak, B. Boratyński, A. Baranowska-Korczyk, K. Fronc, D. Elbaum, R. Paszkiewicz, M. Tłaczała</i>		133
Electrical properties of electrospun ZnO nanofibers		
SESSION 2(B)	<i>New materials and structures, nanostructures, thin films, their analysis and applications II.</i>	08:15
<i>K. Gmucová, M. Weis, M. Benkovičová, E. Majková</i>		137
Composite nanomembranes for electrochemical sensing		
<i>R. Andok, A. Benčurová, A. Konečnicková, L. Matay, P. Nemeč</i>		141
Characterization of test structures for e-beam lithography for estimation of proximity exposure parameters		
<i>I. Matko, P. Švec, P. Švec Sr., D. Janičkovič, M. Stoica, T. Gemming</i>		145
Preparation of rapidly quenched bilayer ribbons, their properties and interface structure		
<i>M. Vojs, M. Behúľ, P. Michniak, V. Řeháček, V. Tvarožek, M. Veselý, M. Rossberg, P. Schaaf</i>		149
Boron doped diamond electrodes for the dopamine identification by anodic stripping voltammetry		
<i>P. Michniak, M. Vojs, M. Veselý, A. Vincze, M. Wilke, T. Kups, P. Schaaf, D. Rossberg</i>		153
Characterization of boron doped diamond thin films		
<i>J. Cirák, M. Sokolský, M. Weis, E. Dobročka</i>		157
The Langmuir monolayer: an efficient model for studying interfacial properties of biomembranes		
<i>P. Ďurina, A. Benčurová, A. Konečnicková, I. Kostič, P. Kúš, A. Pleceník</i>		161
Influence of backscattered electrons on the quality of structures in the thin resist layer patterned using e-beam with the Gaussian distribution of electron energies		
COFFEE BREAK		10:00
SESSION 3(A)	<i>Physical properties and structural aspects of solid materials and their influencing I.</i>	10:30
<i>P. Kordoš, R. Stoklas, K. Čičo, M. Mikulics</i>		165
Comparative study of InAlN/GaN HFETs with and without thermal oxidized InAlN of different composition		
<i>B. Butvinová, P. Butvin, M. Kadlečiková, M. Kuzminski, K. Csach</i>		169
Changes of magnetic properties and surfaces condition due to thermal treatment of FeNbCuBSi ribbons		

<i>V. Nádaždy, K. Gmucová, Š. Lányi</i>	173
Charge transfer based methods for detection of defect states in organic semiconductors	
<i>J. Onufer, J. Ziman, M. Kladiřová, V. Šuhajová</i>	177
Study of depinning process in bistable ferromagnetic microwire	
<i>E. Ušák, M. Ušáková, M. Šoka</i>	181
Modification of magnetic properties of NiZn ferrites by appropriate substitutions of Gd ions	
<i>A. Szyszka, M. Wosko, A. Apostoluk, W. Macherzynski, R. Paszkiewicz, B. Masenelli, M. Tlaczala</i>	186
Properties of AlGaN/GaN heterostructures with double GaN buffer layer for HFET fabrication	
<i>M. Molnár, G. Donnarumma, V. Palankovski, J. Kuzmík, D. Donoval, J. Kováč, S. Selberherr</i>	190
Characterization, modeling and simulation of In_{0.12}Al_{0.88}N/GaN HEMTs	
<i>M. Koval'aková, E. Chmielewská, R. Hodossyová, V. Hronský, P. Duranka</i>	195
Solid State NMR Study of Phosphate Adsorption on Natural Microporous Materials	
<i>K. Rendek, A. Šatka</i>	199
Investigation of low-frequency noise in AlGaN/GaN HEMT at various temperatures	
 SESSION 3(B) <i>New materials and structures, nanostructures, thin films, their analysis and applications III.</i>	 10:30
<hr/>	
<i>R. Srnáneř, M. Weis, J. Jakobovič, J. Kováč, J. Filo, M. Putala</i>	203
Study of organic semiconductor H₂T₂₆N by Raman spectroscopy	
<i>S. Flickyngerová, M. Vojs, K. S. Shtereva, P. Šutta, A. Vincze, M. Milosavlevič, Ch. Jeynes, N. Peng, I. Novotný, V. Tvarožek</i>	207
Effect of annealing on properties of gallium-nitrogen Co-doped zinc oxide thin films prepared by sputtering and ion implantation	
<i>M. Kotlár, M. Vojs, M. Marton, M. Veselý, R. Redhammer</i>	211
Synthesis of carbon nanotubes bridging metal electrodes	
<i>M. Marton, M. Vojs, M. Kotlár, P. Michniak, S. Flickyngerová, M. Veselý, R. Redhammer</i>	215
Preparation of copper doped DLC films by dc PE-CVD method	
<i>L. Vančo, M. Kadlečiková, E. Šipoš</i>	219
Observation of enhanced Raman spectra on thin layers of nanocrystalline diamond	
<i>A. Chvála, D. Donoval, J. Marek, P. Příbytný and M. Molnár</i>	223
Low voltage power transistor model for SPICE-like electro-thermal circuit simulation	
<i>P. Benko, J. Kováč, J. Škriniarová, P. Kordoš, L. Harmatha</i>	227
Influence of layer structure on performance of AlGaN/GaN HEMTs	

<i>A. Vincze, M. Držík, M. Michalka, J. Bruncko, M. Vallo, G. Vanko, T. Lalinsky</i>	231
SIMS depth profiling of metallization contact layers for AlGaIn/GaN heterostructures	
<i>J. Škriniarová, I. Novotný</i>	235
Electrodeless wet etching of n-GaN assisted with ultraviolet light	
LUNCH	12:45
SOCIAL PROGRAMME	14:00
DINNER AND FRIENDSHIP PARTY	19:30
Friday, June 22, 2012	
BREAKFAST	07:00
SESSION 4(A)	<i>Optical phenomena in materials, photovoltaics and photonics, new principles in sensors and detection methods I.</i>
<hr/>	
<i>D. Fidriková, L. Kubičár</i>	239
The use of the hot-ball method for observation of moisture in porous	
<i>M. Florovič, J. Kováč, B. Šciána, I. Zborowska-Lindert, M. Tlaczala</i>	243
Investigation of electrical and optical properties of InGaAsN/GaAs QW MSM photodetectors	
<i>P. Hronec, S. Shokhovets, P. Schaaf, J. Kováč</i>	247
Investigation of photonic crystal light emitting diode using spectroscopic ellipsometry	
<i>I. Kubicková, D. Pudiš, J. Škriniarová, J. Kováč, J. Kováč jr., J. Jakabovič, L. Šušlik, J. Novák</i>	251
LED with 2D irregular structure in the surface prepared by NSOM lithography	
<i>M. Mikolášek, M. Nemeč, J. Racko, L. Harmatha, J. Kováč, M. Žiška</i>	255
Investigation of amorphous silicon/crystalline silicon interface for heterojunction solar cell applications	
<i>M. Nemeč, M. Mikolášek, L. Harmatha</i>	259
Current transport mechanism in amorphous silicon/ crystalline silicon hetero-junction solar cells	
SESSION 4(B)	<i>Optical phenomena in materials, photovoltaics and photonics, new principles in sensors and detection methods II.</i>
<hr/>	
<i>J. Kováč, M. Čaplovičová, D. Búč, T. Brath, J. Kováč jr, P. Eliáš, S. Hasenohr, J. Novák</i>	263
Properties of GaP/ZnO heterostructures for photovoltaics	
<i>G. Kajtár</i>	267
Analysis of periodic structures using RCWA	
<i>J. Kováč jr., J. A. Zapien, Yucheng Dong</i>	272
Photoluminescence from nano-dimensional materials with UV excitation	

<i>T. Skoršepová, J. Chlpík</i>	276
Spectroscopic ellipsometer as a sensor based on surface plasmon polaritons	
<i>K. Bombarová, J. Chlpík, S. Flickyngerová, J. Círák</i>	280
Material model of ZnO for ellipsometry measurements	
<i>P. Hrkút, R. Andok, P. Andris, I. Čaplovič</i>	284
A position detector for extreme conditions with high temperature, pressure and surrounding noise	
COFFEE BREAK	09:30
SESSION 5(A) <i>Computational physics and theory of physical properties of matter I.</i>	10:00
<hr/>	
<i>J. Murín, M. Aminbaghai, J. Hrabovský, V. Kutiš, J. Paulech</i>	288
Modal analyses of functionally graded material beams	
<i>J. Racko, M. Mikolášek, P. Benko, A. Grmanová, L. Harmatha, R. Granzner, F. Schwierz, J. Breza</i>	293
Direct and trap-assisted tunnelling in the Schottky barrier	
<i>J. Hrabovský, J. Murín, J. Paulech, V. Kutiš</i>	297
Electric-thermal analysis of FGM conductor joint using new finite element	
<i>G. Vasziová, J. Tóthová, L. Glod, V. Lisý</i>	301
Correlation properties of the thermal noise in fluids	
<i>V. Kutiš, J. Murín, J. Paulech, J. Hrabovský</i>	305
Beam element with piezoelectric layers	
<i>L. Glod, G. Vasziová, J. Tóthová, V. Lisý</i>	309
Brownian motion in a medium with nonlinear friction	
SESSION 5(B) <i>Computational physics and theory of physical properties of matter II.</i>	10:00
<hr/>	
<i>J. Marek, D. Donoval, A. Chvála, P. Pribytný, M. Molnár</i>	313
Determining of the failure mechanism during UIS test combining single and multipulse UIS test	
<i>T. Váry, J. Chlpík, P. Markoš</i>	317
Scattering of electromagnetic waves on metal nanoparticles	
<i>P. Bokes, M. Zemanová-Diešková</i>	322
Simulations of the transport of electrons through molecular and atomic nanodevices	
<i>M. Konôpka, P. Bokes</i>	328
Time-dependent description of quantum interference nanotransistor	
<i>V. Sedlák, D. Ďuračková, R. Záluský</i>	333
Detection of signals in noisy environment	
<i>R. Záluský, D. Ďuračková, V. Sedlák</i>	337
The effectiveness of dactyl alphabet recognition of neural network with new architecture	

SHORT BREAK	11:30
PLENARY SESSION	<i>Physical properties and structural aspects of solid materials</i>
	<i>and their influencing II.</i>
<hr/>	
<i>V. Slugeň, A. Kryukov, S. Sojak, M. Petriska, J. Veterníková, V. Sabelová, R. Hinca, M. Stacho</i>	341
Application of PAS and Charpy-V tests at WWER reactor pressure vessel steels	
<i>I. Janotová, J. Hoško, P. Švec Sr., I. Maňko, D. Janičkovič, P. Švec</i>	345
Structure of Fe-B-P based metallic glasses	
<i>P. Příbytný, F. Dubecký, D. Donoval, A. Chvála, J. Marek, M. Molnár</i>	349
Analysis and optimization of silicon detector supported by electro-physical modeling and simulation	
<i>M. Petrus, L. Stuchlíková, J. Rybár, P. Juhász, L. Harmatha, P. Benko, J. Kováč, M. Žiška, J. Šebok, B. Ściana, D. Radziewicz, D. Pucicki, M. Tłaczała</i>	353
Deep level investigation on GaAsN structures by DLTS method	
<i>L. Stuchlíková, J. Rybár, A. Kósa, M. Petrus, L. Harmatha, B. Ściana, D. Radziewicz, D. Pucicki, M. Tłaczała</i>	357
Investigation of InGaAsN/GaAs heterostructures by capacitance methods	
<i>M. Pavúk, P. Ballo, B. Brunner, M. Weis</i>	361
MFM study of core/cover interface in a MgB₂/Fe superconducting wire	
Author index	365
CONCLUDING REMARKS	12:50
LUNCH	13:00
DEPARTURE	13:30



PARTNERS:

Slovenské elektrárne a. s.



Slovak Nuclear Society
member of ZSVTS



Institut Francais Slovaquie
Bratislava



MEDIAL PARTNERS:

Journal of Electrical Engineering



Časopis pre elektrotechniku, elektroenergetiku,
informačné a komunikačné technológie



AUTHOR INDEX

Aminbaghai M.	288
Andok R.	141, 284
Andris P.	284
Apostoluk A.	186
B aldini M.	29
Ballo P.	361
Bán K.	13
Baranowska-Korczyc A.	133
Bartnik A.	63
Behúl M.	149
Belousov A.	43
Benčurová A.	141, 161
Benko P.	227, 293, 353
Benkovičová M.	137
Boháček P.	55, 59
Bokes P.	322, 328
Bombarová K.	280
Boratyński B.	133
Brath T.	263
Breza J.	293
Bruncko J.	231
Brunner B.	361
Búc D.	263
Butvin P.	169
Butvinová B.	169
C irák J.	157, 280
Csach K.	169
Č aplovič I.	284
Čaplovičová M.	263
Čerba Š.	107
Červeňová J.	17
Čičo K.	165
Dammer J.	67
Dawidowski W.	125
Degmová J.	79, 99
Dekan J.	71, 99
Dobročka E.	157
Donnarumma G.	190
Donoval D.	29, 190, 223, 313, 349
Držík M.	231
Dubecký F.	29, 55, 59, 349
Đuračková D.	333, 337
Duranka P.	195
Đurina P.	161
E gger W.	91
Elbaum D.	133
Eliáš P.	263
Ensinger W.	47
F arkas G.	83, 87

Fidriková D.	239
Fiedorowicz H.	63
Filo J.	203
Flickyngerová S.	207, 215, 280
Florovič M.	243
Fronc K.	133
G emming T.	145
Glod L.	301, 309
Gmucová K.	137, 173
Gombia E.	29
Grajcar M.	118
Granzner R.	293
Grmanová A.	293
H armatha L.	227, 255, 259, 293, 353, 357
Hasenohr S.	263
Haščík J.	83, 87,
Haščík Š.	25
Hatala T.	103
Hinca R.	83, 87, 95, 341
Hodossyová R.	195
Hoško J.	114, 345
Hrabovský J.	288, 297, 305
Hrebíková I.	118
Hrkút P.	29, 284
Hronec P.	247
Hronský V.	195
C hlpík J.	276, 280, 317
Chmielewská E.	195
Chren D.	67
Chvála A.	223, 313, 349
J akabovič J.	25, 203, 251
Janičkovič D.	114, 145, 345
Janotová I.	114, 345
Jasenek J.	17
Jeynes Ch.	207
Juhász G.	13
Juhász P.	353
K adlečíková M.	169, 219
Kajtár G.	267
Kalinenko A. N.	111
Kladivová M.	177
Konečnicková A.	141, 161
Konôpka M.	328
Kopeliovich A. I.	111
Korczyk B.	63
Kordoš P.	165, 227
Korenko B.	17
Kósa A.	357
Kostecki J.	63
Kostič I.	161
Kotlár M.	211, 215

Kováč J.	25, 125, 190, 203, 227, 243, 247, 251, 255, 263, 353
Kováč J. Jr.	25, 251, 272
Kovaľaková M.	195
Kravčák J.	129
Krnáč Š.	95
Kršjak V.	91
Kruml T.	24
Kryukov A.	341
Kubena I.	24
Kubicová I.	25, 251
Kubičár Ľ.	239
Kups T.	153
Kúš P.	161
Kutiš V.	288, 297, 305
Kuzmík J.	190
Kuzminski M.	169
L alinský T.	231
Lányi Š.	173
Latkowska M.	125
Leporis M.	118
Lisý V.	301, 309
Lovas A.	13
Lüley J.	83, 87
M acherzynski W.	186
Majková E.	137
Maláč M.	99
Marek J.	223, 313, 349
Markoš P.	33, 317
Marton M.	211, 215
Masenelli B.	186
Matay L.	141
Maťko I.	114, 145, 345
Miglierini M.	39, 103
Michalka M.	231
Michniak P.	149, 153, 215
Mikolášek M.	255, 259, 293
Mikula M.	118
Mikulics M.	165
Milosavlevič M.	207
Molnár M.	190, 223, 313, 349
Murín J.	288, 297, 305
Mustafin E.	39, 43, 47
N ádaždy V.	173
Nečas V.	29, 51, 55, 59, 107
Neilinger P.	118
Nemec M.	255, 259
Nemec P.	141
Novák J.	25, 251, 263,
Novák L.	13
Novotný I.	207, 235
O nufér J.	177

Osvald J.	121
P alankovski V.	190
Paszkievicz R.	133, 186
Paulech J.	288, 297, 305
Pavlovič M.	39
Pavúk M.	361
Peng N.	207
Petriska M.	75, 79, 83, 87, 91, 341
Petrus M.	353, 357
Pleceník A.	161
Plotnikov A.	43
Polak J.	24
Príbytný P.	29, 223, 313, 349
Priputen P.	91
Pucicki D.	125, 353, 357
Pudiš D.	25, 251
Putala M.	203
Pyshkin P. V.	111
R acko J.	255, 293
Radziewicz D.	125, 357
Ravelli L.	91
Redhammer R.	211, 215
Rendek K.	199
Rossberg D.	153
Rossberg M.	149
Rybár J.	353, 357
Řeháček V.	149
S abelová V.	75, 79, 91, 341
Ściana B.	125, 243, 353, 357
Sedlačková K.	51, 55, 59
Sedlák V.	333, 337
Seidl T.	39
Selberherr S.	190
Serafińczuk J.	125
Shokhovets S.	247
Shtereva K. S.	207
Schaaf P.	149, 153, 247
Schwierz F.	293
Sitek J.	71
Skarba M.	91
Skoršepová T.	276
Slugeň V.	75, 79, 83, 87, 91, 95, 99, 341
Smolyakov A.	43
Sojak S.	75, 91, 95, 341
Sokolský M.	157
Sopko B.	67
Sopko V.	67
Srnánek R.	203
Stafiniak A.	133
Stacho M.	91, 95, 341
Stanček S.	79, 91
Stoica M.	145

Stoklas R.	165
Strasik I.	39, 43
Stuchlíková E.	353, 357
Szabó A.	13
Szczurek A.	63
Szyszka A.	186
Šagátová A.	55, 59
Šatka A.	199
Šebok J.	353
Šipoš E.	219
Škriniarová J.	25, 227, 235, 251,
Šoka M.	39, 181
Šuhajová V.	177
Šušlik E.	25, 251
Šutta P.	207
Švec P.	114, 145, 345
Švec Sr. P.	114, 145, 345
T laczala M.	125, 133, 186, 243, 353, 357
Tóthová J.	301, 309
Trgala M.	118
Truchlý M.	118
Tvarožek V.	149, 207
U šák E.	181
Ušáková M.	181
V allo M.	231
Vančo E.	219
Vanko G.	29, 231
Váry T.	317
Vasziová G.	301, 309
Veselý M.	149, 153, 211, 215
Veterníková J.	75, 79, 91, 341
Vincze A.	125, 153, 207, 231
Vitázek K.	91
Vojs M.	149, 153, 207, 211, 215
Vrban B.	83, 87
W achulak P.	63
Weis M.	137, 157, 203, 361
Wilke M.	153
Wosko M.	186
Y anovsky A. V.	111
Yucheng Dong	272
Z ahoran M.	118
Záluský R.	333, 337
Zapien J. A.	272
Zaťko B.	29, 51, 55, 59,
Zborowska-Lindert I.	243
Zemanová-Diešková M.	322
Ziman J.	177
Žiška M.	255, 353