

FIRST PLENARY SESSION

Monday, September 10, 2007

Session I: 10⁰⁰-13³⁰

Chairpersons: R. Sinclair, M. Vukčević and V. Radmilović

10⁰⁰-10³⁰ **CHARACTERIZATION AND MANIPULATION OF FUNCTIONAL NANOSTRUCTURES USING HIGH RESOLUTION ANALYTICAL TEM AND COMBINED SPM-TEM**

E. Olsson

Department of Applied Physics, Chalmers University of Technology, Göteborg, Sweden

10³⁰-11⁰⁰ **CONTROLLED ASSEMBLY OF EPITAXIAL NANOSTRUCTURES FOR NANOELECTRONIC APPLICATIONS**

R. Hull¹, J. Gray^{1,2}, J. Graham¹, M. Kammler^{1,3}, A. Portavoce^{1,4}, M. Gherasimova¹, S. Wolf¹, J. Floro¹, F. Ross⁵

¹Department of MSE, University of Virginia, Charlottesville, Virginia, USA, ²Now at U. Pittsburgh, PA, USA, ³Now at Infineon, Dresden, Germany; ⁴Now at CNRS, Marseilles, France; ⁵IBM TJ Watson Research Center, Yorktown Heights New York, USA

11⁰⁰-11³⁰ **SEMICONDUCTOR NANOWIRE NUCLEATION AND GROWTH KINETICS**

F.M. Ross

IBM T.J. Watson Research Center, Yorktown Heights, New York, USA

Break: 11³⁰-12⁰⁰

12⁰⁰-12³⁰ **SOME RECENT DEVELOPMENTS IN NANO-MATERIALS**

R. Sinclair

Department of Materials Science and Engineering, Stanford University, Stanford, California, USA

12³⁰-13⁰⁰ **FINITE SIZE EFFECTS ON DISTRIBUTION AND SHAPE OF SMALL PARTICLES**

D. Chatain

CRM-CNRS, Marseille, France

13⁰⁰-13³⁰ NOVEL METALLIC THIN FILMS FOR NEMS APPLICATION

V. Radmilović¹, D. Mitlin²

¹*National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, University of California, Berkeley, California,* ²*Chemical and Materials Engineering, University of Alberta and National Institute for Nanotechnology, Edmonton, Alberta, Canada*

Break: 13³⁰-15⁰⁰

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

Session I: 15⁰⁰-19¹⁵

Chairpersons: J.A. Varela, V. Dondur and M. Drofenik

15⁰⁰-15¹⁵ PREPARATION AND STUDY OF ZINC – DOPED MAGHEMITE NANOPARTICLES

M. Drofenik^{1,2}, M. Kristl², D. Makovec¹, Z. Jagličič³, D. Hanžel¹

¹*Jožef Stefan Institute, Ljubljana, Slovenia,* ²*Faculty of Chemistry and Chemical Engineering, University of Maribor, Slovenia,* ³*Institute of Mathematics, Physics and Mechanics and Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia*

15¹⁵-15³⁰ PREPARATION AND MULTILAYERED AGGREGATION OF UNIFORM COLLOIDAL CHOLESTEROL PARTICLES

V. Uskoković, E. Matijević

Center for Advanced Materials Processing, Clarkson University, Potsdam, NY, USA

15³⁰-15⁴⁵ DESIGN OF 3D FUNCTIONAL ARTICLES BY USING COMBINED SHS-SLS

M.V. Kuznetsov¹, Yu.G. Morozov¹, I.V. Shishkovsky², I.P. Parkin³

¹*Institute of Structural Macrokineitics and Materials Science Russian Academy of Sciences, Chernogolovka, Moscow region, Russia,* ²*Lebedev Physics Institute, Samara Branch, Russian Academy of Sciences, Samara, Russia,* ³*Department of Chemistry, Christopher Ingold Labs, University College London, London, UK*

15⁴⁵-16⁰⁰ SYNTHESIS AND CHARACTERIZATION OF POLYANILINE-ZEOLITE NANOCOMPOSITE

V. Dondur¹, G. Ćirić-Marjanović¹, A. Radulović², Z. Vuković³, M. Milojević¹

¹*Faculty of Physical Chemistry, Belgrade, Serbia*

²*Institute of General and Physical Chemistry, Belgrade, Serbia*

³*Department of Catalysis and Chemical Engineering, ICTM, Belgrade, Serbia*

- 16⁰⁰-16¹⁵ **HARD MAGNETIC Co-Pt FILMS PREPARED BY ELECTRODEPOSITION**
K. Žužek Rožman^{1,2}, A. Krause², K. Leistner², H. Schlörb², S. Fähler², S. Baunack²,
L. Schultz²
¹Jožef Stefan Institute, Ljubljana, Slovenia, ²IFW Dresden, Dresden, Germany
- 16¹⁵-16³⁰ **SYNTHESIS OF Bi₃Nb_{1-x}Ta_xO₇ FLURITE - TYPE DIELECTRICS BY
POLYMERIC PRECURSOR METHOD**
U. Pimat¹, S.D. Škapin¹, D. Suvorov¹, M.A. Zaghete², J.A. Varela²
¹Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia,
²Instituto de Química, UNESP, Araraquara, Brasil
- 16³⁰-16⁴⁵ **RHOMBOHEDRAL CALCITE PRECIPITATION FROM CO₂-H₂O-Ca(OH)₂
SLURRY AT 90 °C AND 90 bar**
G. Montes-Hernandez, F. Renard, L. Charlet
LGIT, Maison de Géosciences, BP 53 X, Grenoble, France
- 16⁴⁵-17⁰⁰ **HYDROTHERMAL PROCESSING OF 1D -NANOMATERIALS FROM
MINERAL SANDS**
L. Mančić¹, B. Marinković², P. Jardim², F. Rizzo², O. Milošević¹
¹Institute of Technical Science of SASA, Belgrade, Serbia,
²Pontificia Universidade Catolica do Rio de Janeiro, Rio de Janeiro, Brasil
- Break: 17⁰⁰-17³⁰**
- 17³⁰-17⁴⁵ **FRACTAL ASPECTS OF DISCRETE FRACTURE MECHANICS**
M.P. Wnuk
College of Engineering and Mathematical Science, University of Wisconsin –
Milwaukee, Milwaukee, USA
- 17⁴⁵-18⁰⁰ **SOLVENT-FREE MECHANOCHEMICAL SYNTHESIS OF SOME
PHYSIOLOGICALLY ACTIVE SUBSTANCES**
N. Pankrushina^{1,2}, I. Nikitina^{1,2}, E. Chernjak¹, C. Myz^{2,3}, T. Shakhtshneider^{2,3}, V.
Boldyrev^{2,3}
¹Institute of Organic Chemistry, Novosibirsk, Russia, ²Research and Education
Centre "Molecular Design and Ecologically Safe Technologies" at Novosibirsk State
University, Russia, ³Institute of Solid State Chemistry and Mechanochemistry,
Novosibirsk, Russia
- 18⁰⁰-18¹⁵ **MECHANICAL MILLING: EVOLUTION OF CRYSTAL PARAMETER OF
IRON POWDER**
I. Taut¹, G. Arghir¹, C. Popa¹, S.-D. Bolboacă², L. Jäntschi¹
¹Technical University of Cluj-Napoca, Romania, ²"Iuliu Hatieganu" University of
Medicine and Pharmacy Cluj-Napoca, Romania

- 18¹⁵-18³⁰ **SUPERFICIAL DISTORTION INFLUENCE ON CHARACTERISTICS OF THE IRON-BASED MATERIALS**
L. Brândușan, L. Jäntschi
Technical University of Cluj-Napoca, Romania
- 18³⁰-18⁴⁵ **PLASMA POST-PROCESSING IN OXYGEN AND CARBON CONTAINING ATMOSPHERES FOR WIND TURBINE COMPONENTS TREATMENT**
M. Zlatanović¹, N. Popović²
¹*Faculty of Electrical Engineering, Belgrade, Serbia,*
²*Nuclear Science Institute Vinča, Belgrade, Serbia*
- 18⁴⁵-19⁰⁰ **SYNTHESIS OF OLIVINE-TYPE LiFePO₄ BY SONOCHEMICAL METHOD**
D. Jugović¹, M. Mitrić², N. Cvjetičanin³, S. Mentus³, D. Uskoković¹
¹*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia,* ²*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia,*
³*Faculty of Physical Chemistry, University of Belgrade, Serbia*
- 19⁰⁰-19¹⁵ **SYNTHESIS AND CHARACTERIZATION OF IRON CONTAINING MCM-41 POROUS SILICA – APPLICATION TO ADSORPTION OF ARSENATES**
E.A. Deliyanni, K.S. Triantafyllidis, E.N. Peleka, K.A. Matis
Section of Chemical Technology & Industrial Chemistry, Department of Chemistry, Aristotle University, Thessaloniki, Greece

SECOND PLENARY SESSION

Tuesday, September 11, 2007

Session II: 09⁰⁰-13⁰⁰

Chairpersons: F. Ross, D. Suvorov and S. Milonjić

09⁰⁰-09³⁰ **NEW DEVELOPMENTS IN QUANTITATIVE 3D STRUCTURE ANALYSIS OF THIN SOLID FILMS BY TRANSMISSION ELECTRON MICROSCOPY**
E. Spiecker

Microanalysis of Materials, Faculty of Engineering, Kiel University, Kiel, Germany

09³⁰-10⁰⁰ **USING REAL TIME MICROSCOPY TO QUANTITATIVELY DETERMINE NUCLEATION MECHANISMS AND KINETICS DURING THE GROWTH OF SI NANOWIRES AND CARBON NANOTUBES**

E. A. Stach¹, B.-J. Kim¹, S.M. Kim¹, S. Kodambaka², J. Tersoff², M.C. Reuter², K. Reuter², F.M. Ross², B. Maruyama³, M. Pender³

¹*School of Materials Engineering & Birck Nanotechnology Center, Purdue Univ., West-Lafayette, IN, USA*, ²*Research Division, IBM T.J. Watson Research Center, Yorktown Heights, NY, USA*, ³*Materials and Manufacturing Directorate, Air Force Research Laboratory, Dayton, OH, USA*

10⁰⁰-10³⁰ **BULK NANOCRYSTALLINE ALLOYS STUDIED BY TEM**

H.P. Karnthaler, Ch. Rentenberger, Th. Waitz

Materials Physics, University of Vienna, Vienna, Austria

10³⁰-11⁰⁰ **APPLICATION OF HIGH SPATIAL AND HIGH ENERGY RESOLUTION ANALYTICAL TOOLS FOR THE CHARACTERIZATION OF ADVANCED MATERIALS**

Ch.A. Evans

Evans Analytical Group (EAG), Sunnyvale, CA, USA

Break: 11⁰⁰-11³⁰

11³⁰-12⁰⁰ **BIOLOGICALLY ENABLED ASSEMBLY OF NANOSTRUCTURED MATERIALS WITH COMPLEX THREE-DIMENSIONAL MORPHOLOGIES AND CHEMISTRIES**

K.H. Sandhage, M.R. Weatherspoon, S. Shian, Zh. Bao, E. Ernst, Ph. Graham, M.B. Dickerson, G. Ahmad

School of Materials Science & Engineering, Georgia Institute of Technology, Atlanta, GA, USA

12⁰⁰-12³⁰ CHARACTERIZATION OF SOLID/LIQUID INTERFACES BY SURFACE POTENTIAL MEASUREMENTS

N. Kallay, T. Preočanin, F. Šupljika

Laboratory of Physical Chemistry, Department of Chemistry, Faculty of Science, University of Zagreb, Zagreb, Croatia

12³⁰-13⁰⁰ BI-BASED MATERIALS FOR GLASS-FREE LTCC MODULES

D. Suvorov

Advanced Materials Department, »Jozef Stefan« Institute, Ljubljana, Slovenia

Break: 13⁰⁰-15⁰⁰

SYMPOSIUM B: ADVANCED MATERIALS FOR HIGH-TECHNOLOGY APPLICATION

Session I: 15⁰⁰-19¹⁵

Chairmen: N. Kallay, S. Mentus and M. Davidović

15⁰⁰-15¹⁵ LITHIUM CONDUCTING PEROVSKITES

A. Belous

V.I.Vernadskii Institute of General and Inorganic Chemistry NAS of Ukraine, Kyiv, Ukraine

15¹⁵-15³⁰ LOW-LOSS MICROWAVE DIELECTRICS BASED ON THE COLUMBITES $A^{2+}Nb_2O_6$ AND PEROVSKITES $Ba(A^{2+}_{1/3}Nb_{2/3})O_3$: THE EFFECT OF COMPOSITIONAL VARIATION

A. Belous¹, O. Ovchar¹, B. Jančar²

¹V.I.Vernadskii Institute of General and Inorganic Chemistry NAS of Ukraine, Kyiv, Ukraine, ²Jozef Stefan Institute, Ljubljana, Slovenia

15³⁰-15⁴⁵ MOLDING FLUORESCENCE EMISSION BY PHOTONIC BAND GAP ENGINEERING

B. Kolarić, K. Baert, R.A.L. Vallée, M. Van der Auweraer, K. Clays

Department of Chemistry, K.U. Leuven and the Institute of Nanoscale Physics and Chemistry (INPAC), Heverlee, Belgium

15⁴⁵-16⁰⁰ PROPERTIES OF $NdCr_3(BO_3)_4$ BORATE: SPECTROSCOPIC STUDY

M.N. Popova¹, E.P. Chukalina¹, K.N. Boldyrev¹, N.I. Leonyuk²

¹Institute of Spectroscopy of RAS, Troitsk, Moscow region, Russia, ²Moscow State University, Moscow, Russia

- 16⁰⁰-16¹⁵ **EXITON-IMPURITY ENERGY TRANSFER DYNAMICS IN NEW LOW PHONON ENERGY LASER MATERIALS**
A.M. Tkachuk^{1,2}, S.E. Ivanova², M.-F. Joubert³, Y. Guyot³
¹*Scientific Production Corporation “S.I. Vavilov State Optical Institute”, St. Petersburg, Russia,* ²*University of Information Technology, Mechanics and Optics, St. Petersburg, Russia,* ³*LPCML, UMR 5620 du CNRS, Universite Lyon 1, Villeurbanne, France*
- 16¹⁵-16³⁰ **NEW RE DOPED FLUORIDE AND CHLORIDE CRYSTALS FOR EFFICIENT OPTICAL CONVERTERS**
S.E. Ivanova¹, A.M. Tkachuk^{1,2}, M.-F. Joubert³, Y. Guyot³, V.P. Gapontzev⁴
¹*University of Information Technology, Mechanics and Optics, St. Petersburg, Russia,* ²*Scientific Production Corporation “S.I. Vavilov State Optical Institute”, St. Petersburg, Russia,* ³*LPCML, UMR 5620 du CNRS, Universite Lyon 1, Villeurbanne, France,* ⁴*IPG Laser GmbH, Burbach, Germany*
- 16³⁰-16⁴⁵ **MAGNETIC PHENOMENA IN THE 4F-ELECTRON INTERMETALLIC COMPOUNDS**
A. Szytuła
M. Smoluchowski Institute of Physics, Jagiellonian University, Kraków, Poland
- 16⁴⁵-17⁰⁰ **THE DISPROPORTIONATION PROCESS IN RARE-EARTH-TRANSITION-METAL-BASED MATERIALS: AN EXPERIMENTAL AND MODELING APPROACH**
P.J. McGuinness, K. Žužek-Rožman, M. Komelj, S. Kobe
Department for Nanostructured Materials, Jozef Stefan Institute, Ljubljana, Slovenia
- Break: 17⁰⁰-17³⁰**
- 17³⁰-17⁴⁵ **MESOPOROUS TITANIUM DIOXIDE: SYNTHESIS AND PHOTOCATALYTIC ACTIVITY**
I.V. Kolesnik, M.V. Kharlamova, A.V. Garshev, A.A. Eliseev, A.V. Lukashin, Yu.D. Tretyakov
Department of Material Science, Moscow State University, Moscow, Russia
- 17⁴⁵-18⁰⁰ **INCOMMENSURATE-COMMENSURATE PHASE TRANSFORMATION IN THE Bi₂O₃-Nb₂O₅ SOLID SOLUTION**
B. Jančar, U. Pirnat, S. Šturm, D. Suvorov
Jozef Stefan Institute, Ljubljana, Slovenia

- 18⁰⁰-18¹⁵ **SOL-GEL SYNTHESIS AND CHARACTERIZATION OF A NEW BISMUTH TITANATE PYROCHLORE CERAMIC**
Š. Kunej, D. Suvorov
Jožef Stefan Institute, Ljubljana, Slovenia
- 18¹⁵-18³⁰ **INFLUENCE OF CRYSTAL SYMMETRY ON THE VOLTAGE-TUNABILITY OF Na_{0.5}Bi_{0.5}TiO₃-BASED SYSTEMS**
M. Spreitzer, B. Jančar, D. Suvorov
Advanced Materials Department, Jozef Stefan Institute, Ljubljana, Slovenia
- 18³⁰-18⁴⁵ **PHYSICOCHEMICAL CHARACTERISTICS OF Rb⁺ AND Cs⁺ SALTS OF 12-TUNGSTOPHOSPHORIC ACID**
I. Holclajtner-Antunović¹, Ž. Čupić², M. Davidović³, U.B. Mioč¹, M. Todorović⁴, D. Jovanović², P. Banković²
¹*Faculty of Physical Chemistry University of Belgrade, Belgrade, Serbia,* ²*IHTM, Center of Catalysis and Chemical Engineering, Belgrade, Serbia,* ³*Goša Institute, Belgrade, Serbia,* ⁴*Faculty of Chemistry, Belgrade, Serbia*
- 18⁴⁵-19⁰⁰ **CARBON/CARBON-SILICON-CARBIDE DUAL-MATRIX COMPOSITES FOR BRAKE DISCS**
K. Krnel¹, T. Kosmač¹, Z. Stadler²
¹*Jožef Stefan Institute, Ljubljana, Slovenia,* ²*MS Production, Bled, Slovenia*
- 19⁰⁰-19¹⁵ **DETECTION OF THE DEGREE OF BRANCHING IN HYPERBRANCHED POLYMERS**
F. Schallausky¹, S. Reichelt¹, A. Lederer¹, M. Netopilík²
¹*Leibniz-Institute of Polymer Research Dresden, Dresden, Germany,* ²*Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, v.v.i., Prague, Czech Republic*

WORKSHOP: SERBIA – SLOVENIA BILATERAL COOPERATION

Press-Hall

Session I: 15⁰⁰-16⁴⁵

Chairpersons: M. Remškar, Z.Lj. Petrović and N. Rajić

- 15⁰⁰-15¹⁵ **PHONONS IN MoS₂ AND W S₂ NANOTUBES**
M. Damjanović¹, M. Remškar², E. Dobardžić¹, B. Dakić¹, M. Viršek², I. Milošević¹
¹*Faculty of Physics, Belgrade, Serbia,* ²*Jožef Štefan Institute, Ljubljana, Slovenia*
- 15¹⁵-15³⁰ **STUDIES OF APPLICATION AND CHARACTERIZATION OF PLASMAS USED IN TREATMENT OF POLYMERS AND ORGANIC MATERIALS**

A. Jesih¹, N. Puač², M. Radetić³, Z.Lj. Petrović², G. Malović², S. Lazović²
¹*Institute "Jožef Stefan", Ljubljana, Slovenija,* ²*Institute of Physics, Belgrade, Serbia,*
³*Textile Engineering Department, Faculty of Technology and Metallurgy, Belgrade, Serbia*

**15³⁰-15⁴⁵ PULSED LASER ABLATION OF PVD MULTI-LAYERED COATINGS:
PROFILOMETRIC ANALYSIS**

B. Gaković¹, M. Trtica¹, S. Petrović¹, P. Panjan², M. Čekada², M. Panjan²
¹*Institute of Nuclear Sciences "Vinča", Belgrade, Serbia*
²*Jožef Stefan Institute, Ljubljana, Slovenia*

15⁴⁵-16⁰⁰ TEM STUDY OF TiAlN/CrN NANOLAYER COATINGS

M. Panjan, S. Šturm, P. Panjan, M. Čekada
Jožef Stefan Institute, Ljubljana, Slovenia

**16⁰⁰-16¹⁵ SYNTHESIS AND MAGNETIC PROPERTIES OF Fe₂O₃ NANOPARTICLES
IN A SILICA MATRIX**

M. Tadić¹, D. Marković¹, V. Spasojević¹, V. Kusigerski¹, J. Pirnat², Z. Jagličić², Z. Trontelj², M. Remškar³
¹*Condensed Matter Physics Laboratory, Institute of Nuclear Sciences Vinca, Belgrade, Serbia,* ²*Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia,* ³*Jožef Stefan Institute, Ljubljana, Slovenia*

16¹⁵-16³⁰ SOL-GEL PRODUCED THIN FILMS FOR PHOTOCATALYSIS

U. Lavrenčič Štangar, U. Černigoj, K. Maver, D. Mahne, S. Patil, P. Trebše
Laboratory for Environmental Research, University of Nova Gorica, Nova Gorica, Slovenia

**16³⁰-16⁴⁵ ON THE PREPARATION OF METAL-ORGANIC FRAMEWORKS (MOF)
AS POTENTIAL MATERIALS FOR HYDROGEN STORAGE**

N. Rajić¹, Dj. Stojaković¹, N. Zabukovec Logar², V. Kaučič²
¹*Faculty of Technology and Metallurgy, Belgrade, Serbia*
²*National Institute of Slovenia, Ljubljana, Slovenia*

THIRD PLENARY SESSION

Wednesday, September 12, 2007

Session III: 09⁰⁰-12⁰⁰

Chairpersons: A. Auroux, A.Ye. Yermakov and D. Raković

- 09⁰⁰-9³⁰ **NANOSTRUCTURED MATERIALS FOR INTERMEDIATE TEMPERATURE SOLID OXIDE FUEL CELLS (IT-SOFCs)**
E. Traversa
Department of Chemical Science and Technology, University of Rome Tor Vergata, Rome, Italy
- 9³⁰-10⁰⁰ **TRANSPORT PROPERTIES OF NANOSTRUCTURED ANTIMONY-DOPED TIN OXIDE FILMS**
J.A. Varela, T.R. Giraldi, E. Longo
Universidade Estadual Paulista – UNESP, Araraquara, SP, Brazil
- 10⁰⁰-10³⁰ **NO_x ABATEMENT OVER SUPPORTED BINARY OXIDE CATALYSTS CONTAINING CuO COUPLED WITH Ga₂O₃ AND SnO₂**
S. Bennici^{1,2}, A. Gervasini¹, A. Auroux²
¹*Dip. Chimica Fisica ed Elettrochimica, Università degli Studi di Milano, Milano, Italy,* ²*IRCELYON, UMR5256 CNRS-Université Lyon 1, Villeurbanne, France*

Break: 10³⁰-11⁰⁰

- 11⁰⁰-11³⁰ **ELECTRICAL RELAXATIONS DUE TO ELECTRONS IN OXIDES**
J.-C. Badot
Laboratoire de Chimie de la Matière Condensée de Paris, UMR CNRS 7574, ENSCP, Paris, France
- 11³⁰-12⁰⁰ **SURFACE REACTIVITY OF METAL OXIDES: SORPTION AND ADHESION PROCESSES**
G. Lefèvre, Lj. Čerović, M. Fédoroff
Laboratory of Electrochemistry and Analytical Chemistry UMR7575, ENSCP-CNRS-Paris6, Paris, France

FOURTH PLENARY SESSION

Thursday, September 13, 2007

Session IV: 09⁰⁰-12³⁰

Chairmen: E. Traversa, J. Czernuszka and M. Plavšić

09⁰⁰-9³⁰ **THE FIRST INORGANIC NANOBUDS AND PEA-PODS: WS₂ AND MoS₂ FULLERENES GROWN BY DIFFUSION PROCESS**

M. Remškar, M. Viršek, A. Mrzel, A. Jesih
Jozef Stefan Institute, Ljubljana, Slovenia

09³⁰-10⁰⁰ **PROCESSING AND CHARACTERIZATION OF MAGNETIC NANOSTRUCTURED MATERIALS**

J. Wittig
Vanderbilt University, Nashville, Tennessee USA

10⁰⁰-10³⁰ **SYNTHESIS AND PROPERTIES OF METAL-CARBON NANOCOMPOSITES. SOME PERSPECTIVE APPLICATIONS IN CATALYSTS CHEMISTRY AND MEDICINE (PHOTO-THERMAL THERAPY OF TUMORS)**

A.Ye.Yermakov¹, M.A.Uimin¹, A.A.Mysik¹, E.S. Lokteva², A.A. Strattonnikov³
¹*Institute of Metal Physics, Ural Branch of RAS, Ekaterinburg, Russia*
²*M.V. Lomonosov Moscow State University, Moscow, Russia*
³*Natural Science Center of General Physics Institute of RAS, Moscow, Russia*

Break: 10³⁰-11⁰⁰

11⁰⁰-11³⁰ **Fe₃O₄ NANOPARTICLES FOR BIOMEDICAL APPLICATIONS: THE ROLE OF THE SURFACTANT**

P. Guardia¹, N. Pérez¹, A. G. Roca², O. Iglesias¹, M. P. Morales², C. J. Serna², A. Labarta¹, X. Batlle¹
¹*Departament de Física Fonamental and Institut de Nanociència i Nanotecnologia, Universitat de Barcelona, Martí i Franqués 1, Barcelona, Catalonia, Spain*, ²*Instituto de Ciencia de Materiales de Madrid, CSIC, Sor Juana Inés de la Cruz, Madrid, Spain*

11³⁰-12⁰⁰ **3-D SCAFFOLDS FOR 3-D TISSUE ENGINEERING**

J. Czernuszka
Department of Materials Sciences, Oxford University, Oxford, United Kingdom

12⁰⁰-12³⁰ BIOACTIVE PEPTIDE DESIGN USING THE RESONANT RECOGNITION MODEL

I. Čosić, E. Pirogova, J. Fang, V. Vojisavljević
School of Electrical and Computer Engineering, RMIT University, Melbourne, Australia, Australian Centre for Radiofrequency Bioeffects Research (ACRBR)

Break: 12³⁰-15⁰⁰

SYMPOSIUM C: NANOSTRUCTURED MATERIALS

Session I: 15⁰⁰-19⁰⁰

Chairmen: X. Battle, M. Zlatanović and J. Nedeljković

15⁰⁰-15¹⁵ ATOMIC RESOLUTION HAADF-STEM: APPLICATIONS IN MATERIALS SCIENCE

M. Čeh¹, S. Šturm¹, M. Shiojiri²
¹*Institute Jožef Stefan, Ljubljana, Slovenia*, ²*Kyoto Institute of Technology, Kyoto, Japan*

15¹⁵-15³⁰ NANOCATALYST ENGINEERING ON EXTENDED AND NANOSCALE SURFACES

V. Stamenković, D. Strmcnik, D. Tripković, D. van der Vliet, H. You, N.M. Marković
Argonne National Laboratory, Materials Science Division, Argonne, IL, USA

15³⁰-15⁴⁵ PREPARATION OF AMINE-FREE SILICA-COATED AgI NANOPARTICLES WITH A MODIFIED STÖBER METHOD

Y. Kobayashi^{1,2}, N. Shimizu¹, M. Takeda³, N. Ohuchi³, A. Kasuya⁴, M. Konno¹
¹*Department of Chemical Engineering, Graduate School of Engineering, Tohoku University, Aoba, Aramaki-aza, Aoba-ku, Sendai, Japan*, ²*Present address: Department of Biomolecular Functional Engineering, College of Engineering, Ibaraki University, Naka-narusawa-cho, Hitachi, Ibaraki, Japan*, ³*Division of Surgical Oncology, Graduate School of Medicine, Tohoku University, Seiryomachi, Aoba-ku, Sendai, Japan*, ⁴*Center for Interdisciplinary Research, Tohoku University, Aoba, Aramaki-aza, Aoba-ku, Sendai, Japan*

15⁴⁵-16⁰⁰ CHARACTERIZATION OF NANOPARTICLES BY FLUORESCENCE CORRELATION SPECTROSCOPY

M. Štěpánek¹, J. Humpolíčková², T. Kral²
¹*Department of Physical and Macromolecular Chemistry, Charles University, Prague, Czech Republic*, ²*Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic*

- 16⁰⁰-16¹⁵ **MULTILAYER POLYMERIC NANOPARTICLES BASED ON SPECIFIC INTERACTIONS IN SOLUTION: LIGHT SCATTERING AND ATOMIC FORCE MICROSCOPY STUDY**
P. Matějček¹, M. Uchman¹, J. Lokajová¹, M. Špírková², K. Procházka¹
¹Department of Physical and Macromolecular Chemistry, Charles University, Prague, Czech Republic, ²Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 16¹⁵-16³⁰ **POLYURETHANE NETWORKS WITH INORGANIC NANO-BUILDING BLOCKS**
A. Strachota¹, B. Strachotová¹, M. Špírková¹, F. Ribot²
¹Department of Polymer Networks and Mechanical Properties, Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Praha, Czech Republic, ²Institute Laboratoire de Chimie de la Matière Condensée, UMR CNRS 7574, Université Pierre et Marie Curie, Paris, France
- 16³⁰-16⁴⁵ **EPITAXIAL GROWTH BY MONOLAYER RESTRICTED GALVANIC DISPLACEMENT**
R. Vasilic¹, N. Dimitrov²
¹Laboratory for Atomic Physics, Institute of Nuclear Sciences Vinca, Belgrade, Serbia, ²Materials Science and Engineering Program, SUNY Binghamton, Binghamton, NY, USA
- 16⁴⁵-17⁰⁰ **THIN SEMI-CONDUCTOR FILMS FORMED BY PULSED ION DEPOSITION**
M.S. Saltymakov¹, G.E. Remnev¹, I.V. Ivonin², V.I. Yurchenko³, E.P. Nayden⁴, V.A. Novikov²
¹High Voltage Research Institute, Tomsk, Russia, ²Tomsk State University, Tomsk, Russia, ³Federal Researches Institute of Semiconductor Devices, Tomsk, Russia, ⁴Siberian Physical-Technical Institute, Tomsk, Russia
- Break:** 17⁰⁰-17³⁰
- 17³⁰-17⁴⁵ **LASER-INDUCED CHANGE IN THE REFRACTIVE INDEX IN THE ORGANIC SYSTEMS DOPED WITH NANOOBJECTS**
N.V. Kamanina¹, D.P. Uskoković²
¹Vavilov State Optical Institute, St. Petersburg, Russia; ²Institute of Technical Sciences of the SASA, Belgrade, Serbia
- 17⁴⁵-18⁰⁰ **RAMAN SPECTROSCOPY METHOD FOR DETERMINATION OF PARTICLE SIZE DISTRIBUTION IN ANATASE TiO₂ NANOPOWDERS**

M.J. Šćepanović, M.U. Grujić-Brojčin, Z.D. Dohčević-Mitrović, S. Aškračić, R. Kostić, Z.V. Popović
Center for Solid State Physics and New Materials, Institute of Physics, Belgrade, Serbia

18⁰⁰-18¹⁵ **LUMINESCENT PROPERTIES OF EUROPIUM DOPED YTTRIUM AND GADOLINIUM SESQUIOXIDE PREPARED USING POLYETHYLENE GLYCOL ASSISTED COMBUSTION METHOD**

R. Krsmanović, Ž. Andrić, M.D. Dramićanin
Institute of Nuclear Sciences "Vinca", Belgrade, Serbia

18¹⁵-18³⁰ **SYNTHESIS AND CHARACTERIZATION OF HIGH-QUALITY ORGANIC BASED MAGNETIC FLUIDS**

A. Drmota¹, A. Košak², A. Žnidaršič^{1,2}
¹*Nanotesla Institute, KOLEKTOR GROUP, Ljubljana, Slovenia*
²*Iskra-Feriti d.o.o., KOLEKTOR GROUP, Ljubljana, Slovenia*

18³⁰-18⁴⁵ **HIGH PRESSURE SINTERING OF NANOCRYSTALLINE TITANIUM CARBONITRIDE**

V.S. Urbanovich¹, G.P. Okatova², K.I. Yanushkevich¹, G.K. Zubovich¹, L.P. Stafetski³
¹*Joint Institute of Solid State and Semiconductor Physics, National Academy of Sciences of Belarus, Minsk, Belarus,* ²*Belarusian State Technological University, Minsk, Belarus,* ³*Joint-stock Neomat Co, Salaspils, Latvia*

18⁴⁵-19⁰⁰ **Fe-C BULK NANOCOMPOSITES PREPARED BY MECHANICAL ALLOYING AND MAGNETIC PULSE COMPACTION**

E. Yelsukov¹, V. Ivanov², S. Zayatz², S. Lomayeva¹
¹*Physical - Technical Institute UrB RAS, Izhevsk, Russia*
²*Institute of Electrophysics UrB RAS, Ekaterinburg, Russia*

SYMPOSIUM E: BIOMATERIALS

Friday, September 14, 2007

Session I: 09⁰⁰-12⁰⁰

Chairpersons: I. Ćosić, Dj. Koruga and J.P. Šetrajčić

- 09⁰⁰-09¹⁵ **POTENTIALITIES OF MAGNETOLIPOSOMES AS INTRACELLULAR THERANOSTICS**
S.J.H. Soenen¹, J. Cocquyt², L. DeFour¹, P. Saveyn², P. Van der Meeren², M. De Cuyper¹
¹*Interdisciplinary Research Centre, Katholieke Universiteit Leuven – Campus Kortrijk, Kortrijk, Belgium;* ²*Particle and Interfacial Technology Group, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium*
- 09¹⁵-09³⁰ **CHEMICAL AND PHYSICAL CHARACTERIZATION OF REGULAR AND ULTRA THIN CHITOSAN FILMS STORED AT VARIOUS TEMPERATURES**
S. Živanović, J. Li, T. Wu, G. Rajpal
University of Tennessee, Knoxville, TN, USA
- 09³⁰-09⁴⁵ **NANOBIOLOGICAL ATOMIC FORCE MICROSCOPY STUDY OF THE SPORULATION OF *BACILLUS SUBTILIS***
O. Hekele¹, C.G. Goesselsberger¹, M. Brandstetter¹, R. Sommer², I.C. Gebeshuber¹
¹*Institut fuer Allgemeine Physik, Vienna University of Technology, Vienna, Austria*
²*Hygiene-Institute, Medical University of Vienna, Wien, Austria*
- 09⁴⁵-10⁰⁰ **NANOMEDICINE PERFORMED WITH THE ATOMIC FORCE MICROSCOPE ON HUMAN RED BLOOD CELLS**
O. Hekele, C.G. Goesselsberger, I.C. Gebeshuber
Institut fuer Allgemeine Physik, Vienna University of Technology, Vienna, Austria
- 10⁰⁰-10¹⁵ **SYNTHESIS AND CHARACTERIZATION OF DLPLG NANOPARTICLES FOR CONTROLLED DELIVERY OF WATER-SOLUBLE VITAMINS**
M. Stevanović¹, A. Radulović², D. Uskoković¹
¹*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia;* ²*Institute of General and Physical Chemistry, Belgrade, Serbia*
- 10¹⁵-10³⁰ **GENOTOXICITY OF THE POLY-D,L-LACTIDE MICROPARTICLES ON THE HUMAN LYMPHOCYTES**
I. Jovanović,¹ M. Petković,¹ G. Joksić², D. Uskoković¹
¹*Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia;* ²*Laboratory of Physical Chemistry, Institute of Nuclear Sciences „Vinča“, Belgrade, Serbia*

Break: 10³⁰-11⁰⁰

11⁰⁰-11¹⁵ NONLINEAR EXCITATIONS IN Q1D STRUCTURAL POLYMER TRANSITIONS

G. Keković¹, D. Raković¹, D. Davidović^{2,3}

¹Faculty of Electrical Engineering, Belgrade, Serbia, ²Vinca Institute of Nuclear Sciences, Belgrade, Serbia, ³School of Electrical and Computer Engineering, RMIT University, Melbourne, Australia

11¹⁵-11³⁰ PARAMAGNETIC/DIAMAGNETIC DYNAMICS OF BIOMOLECULES-WATER COMPLEXES ON NANOTESLA SCALE

Dj. Koruga

Department of Biomedical Engineering, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia

11³⁰-11⁴⁵ OBTAINING NANO CALCIUM PHOSPHATE/POLY(DL-LACTIDE-CO-GLYCOLIDE) COMPOSITE BIOMATERIAL BY SONOCHEMICAL PROCESSING

N. Ignjatović¹, M. Dramićanin², D. Vasiljević-Radović³, D. Uskoković¹

¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²Institute of Nuclear Sciences Vinca, Belgrade, Serbia, ³Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia

11⁴⁵-12⁰⁰ SIMILARITIES ANALYSIS ON HYDROXYAPATITE-ZIRCONIA COMPOSITES

S.D. Bolboacă¹, L. Jäntschi²

¹"Iuliu Hațieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania, ²Technical University of Cluj-Napoca, Romania

POSTER SESSION I

Tuesday, September 11, 2007, 20³⁰-22⁰⁰

SYMPOSIUM A: ADVANCED METHODS IN SYNTHESIS AND PROCESSING OF MATERIALS

- P.S.A.1.* **THE SYNTHESIS IN COMBUSTION MODE OF COMPLEX OXIDE FOR GAS SENSING MATERIALS**
M.L. Chernega, M.V. Kuznetsov, Yu.G. Morozov
Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka, Moscow Region, Russia
- P.S.A.2.* **THE EFFECT OF AN APPLIED ELECTRIC FIELD ON SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF FERRITES**
S.M. Busurin, Yu.G. Morozov, M.V. Kuznetsov
Institute of Structural Macrokinetics and Materials Science RAS, Chernogolovka, Moscow region, Russia
- P.S.A.3.* **TiO₂ COATINGS PREPARED BY SOL-GEL METHOD FOR POTENTIAL USE FOR AIR DEODORIZING**
W. Mielcarek¹, I.Zaręba-Głódź², K. Prociow¹, J. Warycha¹
¹*Electrotechnical Institute, Wrocław, Poland,* ²*Wrocław University of Technology, Wrocław, Poland*
- P.S.A.4.* **BIOMETIC METHOD SUITABILITY FOR PROCESSING OF TiO₂ COATINGS APPLICABLE FOR AIR DEODORIZING**
W. Mielcarek, K. Prociow, J. Warycha
Electrotechnical Institute, Wrocław, Poland
- P.S.A.5.* **ELECTRICAL PROPERTIES OF TiO₂ THIN FILMS WITH Eu AND Pd DOPANTS PREPARED BY MAGNETRON SPUTTERING ON SILICON**
E.L. Prociow, J. Domaradzki, D. Kaczmarek, T. Berlicki
Faculty of Microsystem Electronics and Photonics, Wrocław University of Technology, Wrocław, Poland
- P.S.A.6.* **A STUDY OF MICROSTRUCTURAL CHANGES IN TiN THIN FILMS INDUCED BY ION IMPLANTATION**
M. Popović, M. Novaković, D. Peruško, I. Radović, V. Milinović, M. Mitrić, M. Milosavljević
VINČA Institute of Nuclear Sciences, Belgrade, Serbia

- P.S.A.7. INFLUENCE OF NITROGEN ION IMPLANTATION ON THE MECHANICAL PROPERTIES OF C1045 STEEL**
D. Peruško, S. Petrović, M. Mitrić, M. Novaković, M. Popović, M. Milosavljević
Institute of Nuclear Sciences Vinca, Belgrade, Serbia
- P.S.A.8. SURFACE MODIFICATION WTi SYSTEM INDUCED BY TEA CO₂ LASER BEAM**
S. Petrović¹, B. Gaković¹, M. Trtica¹, D. Peruško¹, Š. Miljanić²
¹*Institute of Nuclear Science Vinča, Belgrade, Serbia*
²*Faculty of Physical Chemistry, Belgrade, Serbia*
- P.S.A.9. STUDY OF SUBSTRATE PRETREATMENT ON TOPOGRAPHY AND DEFECTS IN DEFECTS IN PVD-HARD COATINGS**
P. Panjan¹, M. Čekada¹, B. Gaković², M. Panjan¹, D. Kek-Merl¹, S. Paskvale¹
¹*Jožef Stefan Institute, Ljubljana, Slovenia*, ²*Vinca Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.10. THEORETICAL CALCULATION OF PARTITION AND THERMODYNAMIC FUNCTIONS OF B₂C AND BC₂ GAS PHASE MOLECULES**
J. Radić-Petić
Faculty of Physical Chemistry, University of Belgrade, Belgrade, Serbia
- P.S.A.11. THE INFLUENCE OF THE GAS DISCHARGE ELECTRICAL PROPERTIES ON UNIPOLAR PULSE PLASMA SYSTEM RESPONSE**
I. Popović, M. Zlatanović
Faculty of Electrical Engineering, Belgrade, Serbia
- P.S.A.12. SILICON SURFACE PROCESSING BY QUASISTATIONARY PLASMA FLOW**
I.P. Dojčinović^{1,2}, M.M. Kuraica^{1,2}, J. Purić^{1,2}
¹*Faculty of Physics, University of Belgrade, Belgrade, Serbia*
²*Center for Science and Technology Development, Belgrade, Serbia*
- P.S.A.13. INFLUENCE OF THE LASER PROCESSING PARAMETERS ON STRUCTURAL CHANGES OF SUPER ALLOY HASTELLOY**
K. Kovačević¹, A. Milosavljević², M. Srećković³, E. Počuča⁴, I. Nešić²
¹*Institute for Metallurgy, Nikšić, Montenegro*, ²*Faculty of Mechanical Engineering, Belgrade University, Serbia*, ³*Faculty of Electrical Engineering, Belgrade University, Serbia*, ⁴*“Nicola Tesla” Airport, Belgrade, Serbia*

- P.S.A.14 THE INFLUENCE OF LASER BORONIZING ON THE SURFACE LAYERS STRUCTURE OF 500-7 NODULAR IRON**
M. Paczkowska, W. Waligóra
Institute of Machines and Motor Vehicles, Poznan University of Technology, Poznan, Poland
- P.S.A.15 THE EFFECT OF TEMPERATURE AND ZINC CONCENTRATION ON ZINC COATINGS DEPOSITED WITH PACK CEMENTATION**
D. Chaliampalias, N. Pistofidis, G. Vourlias
Physics Department, Aristotle University of Thessaloniki, Thessaloniki, Greece
- P.S.A.16 STUDY OF THE GROWTH MECHANISM OF ZINC HOT-DIP GALVANIZING COATINGS**
N. Pistofidis, G. Vourlias, D. Chaliampalias
Physics Department, Aristotle University of Thessaloniki, Thessaloniki, Greece
- P.S.A.17 EXAMINATION OF THE MICROSTRUCTURAL FEATURES OF ZINC PROTECTIVE COATINGS ON LOW CARBON STEEL FORMED IN A FLUIDIZED BED REACTOR**
D. Chaliampalias, G. Vourlias, N. Pistofidis
Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece
- P.S.A.18 FORMATION AND GROWTH OF COPPER DEPOSITS UNDER HYDROGEN CODEPOSITION**
N.D. Nikolić, Lj.J. Pavlović
ICTM – Institute of Electrochemistry, University of Belgrade, Belgrade, Serbia
- P.S.A.19 CHARACTERIZATION OF CARBON FIBROUS MATERIALS MODIFIED BY RUBY LASER RADIATION**
J. Stašić¹, M. Srećković², B. Kaludjerović¹, S. Ristić³
¹Institute of Nuclear Sciences “Vinča”, Laboratory for materials science, Belgrade, Serbia, ²Faculty of Electrical Engineering, Belgrade, Serbia, ³Military Technical Institute, Belgrade, Serbia
- P.S.A.20 RAPID QUENCHED METAL FIBRES AND POROUS FIBROUS MATERIALS**
V.N. Antsiferov, A.A. Smetkin
Centre of Powder Materials Science of PSTU, Perm, Russia
- P.S.A.21 PREPARATION OF Al(OH)₃ POWDER BY FIB FOR TEM INVESTIGATION**
I. Nikolić¹, V. Radmilović², T.Z. Sholklapper³, D. Blečić¹

¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro, ²LBNL, NCEM, MS-72, University of California, Berkeley, CA, USA, ³T.Z. Shoklapper, LBNL, MSSM, University of California, Berkeley, CA, USA

- P.S.A.22. MASS-SPECTROMETRIC DIFFERENTIATION OF SULFUR CONTAINING, ELECTRON-RICH HETEROCYCLES**
J. Hadži-Djordjević¹, I. Cekić-Lasković¹, R. Marković^{2,3}, A. Rašović³, D. Minić^{1,3}
¹Faculty of Physical Chemistry, University of Belgrade, Serbia, ²Faculty of Chemistry, University of Belgrade, Serbia, ³Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia
- P.S.A.23. POINT OF ZERO CHARGE AND ISOELECTRIC POINT OF ALUMINA**
J.J. Gulicovski, L.J.S. Čerović, S.K. Milonjić
The Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.A.24. STABILITY OF ZIRCONIA SOL IN THE PRESENCE OF VARIOUS INORGANIC ELECTROLYTES**
J.M. Marković¹, S.K. Milonjić¹, V. Leovac²
¹The Vinča Institute of Nuclear Sciences, Belgrade, Serbia, ²Chemistry Department, Faculty of Sciences, Novi Sad, Serbia
- P.S.A.25. SYNTHESIS OF $\text{Li}_{1+x}\text{Mn}_2\text{O}_4$ CATHODE MATERIAL USING GEL-COMBUSTION METHOD**
I. Stojković¹, D. Jugović², M. Mitrić³, N. Cvjetičanin¹, S. Mentus¹
¹Faculty of Physical Chemistry, Belgrade, Serbia, ²Institute of Technical Sciences, Serbian Academy of Sciences, Belgrade, Serbia, ³The Vinca Institute of Nuclear Sciences, Laboratory for Theoretical and Condensed Matter Physics, Belgrade, Serbia
- P.S.A.26. HYDROTHERMAL SYNTHESIS OF CATHODE MATERIALS FOR LITHIUM-ION BATTERIES**
Z. Stojanović, D. Jugović, D. Uskoković
Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Belgrade, Serbia
- P.S.A.27. MODELING OF EMULSION PROCESS GENERATION USING REAL TIME MEASUREMENTS**
S. Petrušić², S. Pašalić¹, P. Jovanić³
¹Ministry for Science, Belgrade, Serbia, ²Faculty for Technology and Metalurgy, Belgrade, Serbia, ³Institute for Plant Protection and Environment, Belgrade, Serbia
- P.S.A.28. INNOVATIVE MATERIALS FOR H_2 STORAGE**
D. Swierczynski, S. Bennici, A. Auroux
IRCELYON, Institut de recherches sur la catalyse et l'environnement de Lyon, UMR5256, CNRS – Université Lyon 1, Villeurbanne, France

- P.S.A.29. **THE INFLUENCE OF EXCESS SODIUM CATIONS FROM LTA ZEOLITE ON HIGH TEMPERATURE CRYSTALLIZATION AND STABILITY OF LOW-CARNEGIEITE**
A. Radulović¹, D. Arandjelović¹, R. Dimitrijević², P. Vulić², V. Dondur³
¹*Institute of General and Physical Chemistry, Belgrade, Serbia,* ²*Faculty of Mining and Geology, Belgrade, Serbia,* ³*Faculty of Physical Chemistry, Belgrade, Serbia*
- P.S.A.30. **PREPARATION AND CHARACTERIZATION OF ZEOLITE ENCAGED ENZYME-MIMETIC COPPER HISTIDINE COMPLEXES**
Lj. Damjanović¹, V. Rac², V. Dondur¹, R. Hercigonja¹, V. Rakić²
¹*University of Belgrade, Faculty of Physical Chemistry, Beograd, Serbia*
²*University of Belgrade, Faculty of Agriculture, Zemun, Serbia*
- P.S.A.31. **STRUCTURAL DESTABILIZATION IN MAGNESIUM HYDRIDE**
S. Milovanović¹, N. Novaković¹, M. Šiljegović¹, J. Grbović Novaković¹, N. Ivanović¹
¹*Institute of Nuclear Sciences Vinca, Belgrad, Serbia,* ^a*Laboratory of material sciences,* ^b*Laboratory of nuclear and plasma physics,* ^c*Laboratory of physics*
- P.S.A.32. **EFFECTS OF ORGANIC SURFACTANTS ON MECHANOCHEMICALY SYNTHESIZED ZnO PARTICLES**
A. Stanković, Z. Stojanović, D. Uskoković
Institute of Technical Science of the Serbian Academy of Sciences and Arts, Belgrade, Serbia
- P.S.A.33. **THEORETICAL APPROACH FOR DEVELOPMENT OF ANTIMICROBIAL MATERIALS BASED ON Ag-APATITES**
S. Raičević, V. Stanić
Vinča Institute of Nuclear Sciences, Radiation and Environmental Protection Laboratory, Belgrade, Serbia
- P.S.A.34. **INFLUENCE OF MgO ADDITION ON THE SYNTHESIS OF ZINC-TITANATE CERAMICS**
N. Obradović¹, N. Labus¹, M. Mitrić², M.V. Nikolić³, M.M. Ristić⁴
¹*Institute of Technical Sciences of SASA, Belgrade, Serbia,* ²*The Vinca Institute of Nuclear Sciences, Belgrade, Serbia,* ³*Center for Multidisciplinary Studies, University of Belgrade, Belgrade, Serbia,* ⁴*Serbian Academy of Sciences and Arts, Belgrade, Serbia*
- P.S.A.35. **ARSENIC (V) SORPTION BY IRON MODIFIED NATURAL ZEOLITE TUFF**
T. Stanić¹, M. Tomašević-Čanović¹, A. Živanović², A. Radosavljević-Mihajlović³, S. Miličević¹

¹*Institute for Technology of Nuclear and Other Raw Mineral Materials, Belgrade, Serbia,* ²*VMA, Institute for Hygiene, Belgrade, Serbia,* ³*VINČA Institute of Nuclear Science, Material Science Lab., Beograd, Serbia*

- P.S.A.36. ORIENTATION-INDUCED CHANGES IN MICROSTRUCTURE AND CRYSTALLINITY OF DIFFERENT PEs**
D. Miličević, A. Leskovac, M. Mitrić, E. Suljovrujić
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.A.37. THE STUDY OF NUCLEATION OF SECONDARY PHASE IN GLASS WITH PRIMARY CRYSTALLIZATION**
M.B. Tošić¹, V.D. Živanović¹, N.S. Blagojević², S.R. Grujić², J.D. Nikolić¹
¹*Institute for Technology of Nuclear and other Mineral Raw Materials, Belgrade, Serbia,* ²*Faculty of Technology and Metallurgy, Belgrade, Serbia*
- P.S.A.38. CONJUGATED POLYMER CHARACTERISATION USING LASER BEAM SCATTERING TECHNIQUES**
V. Arsoski, R. Ramović, M. Srečković
School of Electrical Engineering, University of Belgrade, Serbia
- P.S.A.39. COMPARISON OF SELECTIVE CATALYSTS FOR POLYURETHANE FOAMS**
B. Strachotová, A. Strachota, M. Špírková
¹*Department of Polymer Networks and Mechanical Properties, Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Praha, Czech Republic*
- P.S.A.40. CURING REACTIONS OF SEMI-DRYING OILS ALKYDS WITH MELAMINE RESIN**
M.C. Jovičić, R.Ž. Radičević, J.K. Budinski-Simendić
University of Novi Sad, Faculty of Technology, Novi Sad, Serbia
- P.S.A.41. DEGRADATION OF SOLAR CELLS DUE TO DIFFERENT WORKING ENVIRONMENTS**
A. Vasić-Milovanović¹, P. Osmokrović², B. Lončar³, S. Stanković⁴
¹*Faculty of Mechanical Engineering, Belgrade, Serbia,* ²*Faculty of Electrical Engineering, Belgrade, Serbia,* ³*Faculty of Technology and Metallurgy, Belgrade, Serbia,* ⁴*The Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
- P.S.A.42. INFLUENCE OF COMPOSITION OF BORONISING MIXTURE ON THE DEPTH OF BORIDE LAYERS PRESSED AND BORIDED SAMPLES FROM IRON POWDER**
E. Požega¹, S. Ivanov²

¹Copper Institute, Bor, Serbia, ²University of Belgrade, Technical Faculty in Bor, Bor, Serbia

- P.S.A.43. **SYNTHESIS OF OLIGOADDUCTS OF MALONIC ACID C₆₀**
A. Djordjević, I. Ičević
Department of Chemistry, Faculty of Science, University of Novi Sad, Novi Sad, Serbia
- P.S.A.44. **CHEMICAL SYNTHESIS AND CHARACTERIZATION OF LITHIUM ORTHOSILICATE (Li₄SiO₄). CO₂ ABSORPTION CAPACITIES**
V.V. Kovačević¹, B.P. Dojčinović², B.M. Obradović^{1,5}, M.M. Kuraica^{1,5}, D.D. Manojlović³, V.M. Rakić⁴
¹University of Belgrade, Faculty of Physics, Belgrade, Serbia, ²Centre of Chemistry, Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia, ³University of Belgrade, Faculty of Chemistry, Belgrade, Serbia, ⁴University of Belgrade, Faculty of Agriculture, Zemun, Serbia, ⁵Center for Science and Technology Development, Belgrade, Serbia
- P.S.A.45. **SIMILARITY AND DIFFERENCE BETWEEN EXPLOSION WELDING AND LASER HYBRID ON STRUCTURAL LEVEL**
M. Kutin¹, S. Bunić², M. Davidović¹
¹Institute Goša, Research and Development, Belgrade, Serbia
²Faculty of Technology, Banja Luka, Republic of Srpska, BiH
- P.S.A.46. **EXPERIMENTAL RESEARCH OF EFFECTS OF AIR PRESSURE TO THE WALLS OF BYPASSING HIGH SPEED TRAINS**
M. Puharić, M. Kutin, J. Tanasković
GOŠA Institute, Belgrade, Serbia
- P.S.A.47. **THERMAL STABILITY AND FRAGILITY PARAMETERS OF Fe-M-Al-Ga-P-C-B (M=Nb) AMORPHOUS ALLOYS**
N. Mitrović¹, A. Kalezić-Glišović¹, S. Roth², J. Eckert³
¹Joint Laboratory for Advanced Materials of SASA, Section for Amorphous Systems, Technical Faculty Čačak, Čačak, Serbia, ²IFW Dresden, Institute for Metallic Materials, Dresden, Germany, ³IFW Dresden, Institute for Complex Materials, Dresden, Germany
- P.S.A.48. **XRD ANALYSIS OF HIGH-COPPER AlCuMg ALLOYS**
B. Zlatičanin¹, B. Radonjić¹, M. Filipović²
¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro, ²Faculty of Technology and Metallurgy, Belgrade, Serbia

- P.S.A.49. **TRICALCIUM ALUMINATE HEXAHYDRATE (TCA) FILTER AID IN THE BAYER INDUSTRY**
P. Tomić¹, M. Davidović², S. Batinić¹, V. Petković¹
¹Fabrika glinice "Birac" AD, Zvornik, Republika Srpska, BiH
²Institute Goša, Belgrade, Serbia
- P.S.A.50. **AN INFLUENCE OF MICROSTRUCTURE OF SCREEN FORMED BY LASER EXPOSURE OF LIGHT-SENSITIVE FILM ON TON VALUE INCREASE IN PRINTING**
P.M. Živković, P.S. Uskoković, A. Krstić, N. Borna
Faculty of Technology and Metallurgy, University of Belgrade, Serbia
- P.S.A.51. **EXPERIMENTAL ANALYSIS OF CRACK INITIATION AND GROWTH IN WELDED JOINT OF STEEL FOR OPERATION AT ELEVATED TEMPERATURES**
M. Burzić, M. Kutin, M. Puharić
Institute GOŠA d.o.o., Belgrade, Serbia
- P.S.A.52. **THE POSSIBILITIES OF USING ELECTRO FILTER ASH OF STEAM POWER PLANT „PLJEVLJA“ AS RAW MATERIALS MIXTURE COMPONENT FOR OBTAINING SINTERED PRODUCT**
M. Krgović¹, S. Djurković¹, N. Marstijepović¹, M. Ivanović¹, R. Zejak², M. Knežević²
¹Faculty of Metallurgy and Technology, Podgorica, Montenegro,
²Faculty of Civil Engineering, Podgorica, Montenegro,
- P.S.A.53. **INFLUENCE OF BASICITY OF ELECTRODES COVERING AND WIRE COMPOSITION OF ELECTRODES KERNEL ON THE STRUCTURE AND PROPERTIES OF WELD OF LOW ALLOY STEELS**
Ž. Blečić¹, D. Blečić¹, D. Bajić², D. Čabarkapa³
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S. Matijašević¹, A. Daković¹, A. Stojanović¹, D. Ileš¹, G. Vitorović², B. Mitrović²
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A. Maričić, A. Kalezić-Glišović, N. Mitrović, R. Simeunović, S. Djukić

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¹Faculty of Electrical Engineering, University of Belgrade, Belgrade, Serbia
²Department of Physics, University of Antwerp, Groenenborgerlaan, Belgium
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L. Ulfat^{1,2}, J. Adell¹, J. Sadowski³, L. Ilver¹, J. Kanski¹
¹Department of Applied Physics, Chalmers University of Technology, Göteborg, Sweden, ²Department of Physics University of Karachi, Karachi, Pakistan,
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F. Skuban¹, S.R. Lukić¹, M. Slankamenac², D.M. Petrović¹
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²Institute of Physics, Polish Academy of Sciences, Warsaw, Poland
³Department of Physics, Moscow State University, Moscow, Russia
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Dj. Jovanović¹, R. Gajić¹, K. Hingerl²
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B. Radjenović¹, M. Radmilović-Radjenović², Z.Lj. Petrović², Ž. Nikitović²
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²Faculty of Technology and Metallurgy, University of Belgrade, Serbia,
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M. Luković¹, O. Aleksić², V. Marić³, Lj. Živanov³
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¹Faculty of Physical Chemistry, Belgrade, Serbia
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Lj. Milovanović¹, B. Mazalica², L. Katsikas², I.G. Popović²
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²Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia
³Faculty of Forestry Science, University of Belgrade, Belgrade, Serbia
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M.B. Plavšić¹, N. Lazić², S. Ostojić², M. Kićanović²
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N. Jović¹, A. Milutinović-Nikolić¹, I. Gržetić², D. Jovanović¹
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J. Rodič², W. Holzgruber¹, H. Holzgruber¹, A. Scheriau¹, R. Tarmann¹, R. Hartner¹
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- P.S.B.58. HIGH TEMPERATURE LOW CYCLE FATIGUE OF SUPERALLOY INCONEL 738LC**
K. Obrtlík, A. Chlupová, M. Petrenec, J. Polák
Institute of Physics of Materials AS CR, v.v.i., Brno, Czech Republic

- P.S.B.59. **DESTRUCTIVE AND NON-DESTRUCTIVE TECHNIQUES APPLIED TO THE CHARACTERIZATION OF AS-CAST MODEL STEELS WITH PARAMETRIC VARIATION OF Ni, Mn, Si AND Cr CONTENT**
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²Department of Nuclear Physics and Technology, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology, Bratislava, Slovakia
- P.S.B.60. **NUMERICAL MODELLING OF DUCTILE FRACTURE INITIATION IN PRESSURE VESSEL STEEL**
D. Veljić¹, M. Rakin², Z. Cvijović², M. Zrilić², V. Grabulov³, A. Sedmak⁴
¹"Montaža Ad", Belgrade, Serbia, ²Faculty of Technology and Metallurgy, Belgrade, Serbia, ³Military Technical Institute, Belgrade, Serbia, ⁴Faculty of Mechanical Engineering, Belgrade, Serbia
- P.S.B.61. **THE ANALYSIS OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF WELDED JOINTS OBTAINED WITH TWO TYPES OF CORED FILLER WIRES**
N. Bajić¹, V. Šijački-Žeravčić², M. Rakin³, D. Čikara⁴
¹Chemical Power Sources ReseArch Institute, Serbia, ²Faculty of Mechanical Engineering, Belgrade, Serbia, ³Faculty of Technology and Metallurgy, Belgrade, Serbia, ⁴Faculty of Technical Sciences, Kosovska Mitrovica, Serbia
- P.S.B.62. **MECHANICAL AND MICROSTRUCTURAL PROPERTIES OF HIGH-CARBON STEEL SURFACE WELDED LAYER**
O. Popović¹, R. Prokić-Cvetković¹, A. Sedmak¹, V. Grabulov², Z. Burzić², M. Rakin³
¹Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia,
²Military Technical Institute, Belgrade, Serbia, ³Faculty of Technology and Metallurgy, Belgrade, Serbia
- P.S.B.63. **THE APPLICATION OF MODERN TECHNIQUES IN SUPER ALLOYS INVESTIGATION**
A. Milosavljević¹, S. Petronić¹, V. Negovanović²
¹Faculty of Mechanical Engineering, Serbia
²Faculty of Business studies, University of Belgrade, Belgrade, Serbia
- P.S.B.64. **STUDY OF THE SIMULATED HAZ OF CREEP RESISTANT 9-12% ADVANCED CHROMIUM STEEL**
Lj. Milović¹, T. Vuherer², M. Zrilić¹, S. Putić¹
¹Faculty of Technology and Metallurgy, Beograd, Serbia
²Faculty of Mechanical Engineering, Maribor, Slovenia
- P.S.B.65. **USE OF IN-SITU SEM OBSERVATIONS FOR THE CHARACTERISATION OF FRACTURE PROCESS IN Al-Zn-Mg-Cu ALLOYS**

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²*Faculty of Technology and Metallurgy, Belgrade, Serbia*

P.S.B.66. **PERFORMANCE OF ALUMINOTHERMIC RAILS WELDING TECHNOLOGY**

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Institut „Kirilo Savić“, Beograd, Srbija

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M. Ćosić¹, M. Tadić^{1,2}, F.M. Peeters¹

¹Department of Physics, University of Antwerp, Belgium

²Faculty of Electrical Engineering, University of Belgrade, Belgrade, Serbia

P.S.C.2. VIBRATIONAL SPECTROSCOPY OF CdTe/ZnTe QUANTUM DOT SUPERLATTICES

M. Romčević¹, N. Romčević¹, A. Milutinović¹, R. Kostić¹, G. Karczewski², R. Galazka², A. Boukenter³, F. Goutaland³

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P.S.C.3. ELECTRON-ELECTRON SCATTERING IN THE ACTIVE REGION OF GaAs/AlGaAs QUANTUM CASCADE LASER IN MAGNETIC FIELD

B. Novaković¹, J. Radovanović², A. Mirčetić², V. Milanović², Z. Ikonić³, D. Indjin³

¹Institute of Physics, Belgrade, Serbia, ²Faculty of Electrical Engineering, Belgrade, Serbia, ³Institute of Microwaves and Photonics, School of Electronic and Electrical Engineering, University of Leeds, Leeds, UK

P.S.C.4. EELS/HRTEM CHARACTERIZATION OF PHASES OBTAINED DURING THE HYDROTHERMAL SYNTHESIS OF CaTiO₃

S. Šturm, B. Jančar, I. Bračko

Jozef Stefan Institute, Ljubljana, Slovenia

P.S.C.5. SYNTHESIS OF CdSe/MESOPOROUS SiO₂ COMPOSITES WITH NARROW PARTICLE SIZE DISTRIBUTION

I.V. Kolesnik, D.I. Petukhov, A.A. Eliseev, A.V. Lukashin, Yu.D. Tretyakov

Department of Material Science, Moscow State University, Moscow, Russia

P.S.C.6. SYNTHESIS AND CHARACTERIZATION OF BaTiO₃ NANORODS

K. Žagar, S. Šturm, M. Čeh

Jozef Stefan Institute, Ljubljana, Slovenia

- P.S.C.7. **THE $W_{18}O_{49}$ NANOWIRES USED FOR SYNTHESIS OF THE WS_2 NANOTUBES**
M. Viršek¹, M. Remškar¹, A. Jesih¹, J. Jelenc²
¹*Jozef Stefan Institute, Ljubljana, Slovenia,* ²*Faculty of Mathematics and Physics, Department of Physics, University in Ljubljana, Slovenia*
- P.S.C.8. **SCANNING PROBE MICROSCOPY OF ATOMIC AND NANO STRUCTURES**
A. Beltaos¹, R. Gajić¹, G. Isić¹, Dj. Jovanović¹, B. Novaković¹, N. Paunović¹, Z.V. Popović¹, M. Radović¹, K. Winkler²
¹*Institute of Physics, Belgrade, Serbia,* ²*Omicron Nanotechnology GmbH, Taunusstein, Germany*
- P.S.C.9. **SYNTHESIS AND CHARACTERIZATION OF SHAPED ZnS NANOCRYSTALS IN WATER IN OIL MICROEMULSIONS**
D.J. Jovanović, I.Lj. Validžić, I.A. Janković, N. Bibić, J.M. Nedeljković
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.C.10. **LOW TEMPERATURE SYNTHESIS OF DISODIUM DIMOLYBDATE**
D.J. Jovanović, I.Lj. Validžić, I.A. Janković, M. Mitrić, J.M. Nedeljković
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.C.11. **RADIOLYTIC SYNTHESIS AND CHARACTERIZATION OF PVA HYDROGEL –Au NANOCOMPOSITES**
A. Krklješ, M. Marinović-Cincović, Z. Kačarević-Popović, J.M. Nedeljković
Vinča Institute of Nuclear Science, Belgrade, Serbia
- P.S.C.12. **CHARACTERIZATION OF Au NANOPARTICLES DISPERSED IN WATER AND POLYMER MATRIX**
V.V. Vodnik, Z.V. Šaponjić, N.D. Abazović, M.I. Čomor, J.M. Nedeljković
Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P.S.C.13. **NANOSIZED SILICALITE-1 CRYSTALLIZATION – INFLUENCE OF TPA⁺**
O.A. Kovačević¹, B.T. Kovačević¹, D. Arandjelović¹, K. Andjelković³, V. Dondur², Ž.Lj. Tešić³
¹*Institute of General and Physical Chemistry, Belgrade, Serbia*
²*Faculty of Physical Chemistry, University of Belgrade, Serbia*
³*Faculty of Chemistry, University of Belgrade, Serbia*
- P.S.C.14. **INVESTIGATION OF NANOSIZED SILICALITE-1 BY FTIR**

SPECTROSCOPY

B.T. Kovačević¹, O.A. Kovačević¹, D. Arandjelović, L. Pezo¹, V. Dondur², Ž.Lj. Tešić³

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P.S.C.15. SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES AND COMPLEX IT'S WITH LYSINE AND ANTIBODY OF PSA AND THEIR APPLICATION IN PRODUCING DIAGNOSTIC PROSTATE CANCER KIT

D. Zare³, A. Akbarzadeh¹, B. Mohajerani², D. Norouzian¹, M. Atyabi¹, M.R. Mehrabi¹, A. Farhangi¹, H. Ansari¹, M. Mortazavi¹, Z. Saffari¹, M. Shafiei¹

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³*Department of Chemistry, University of Isfahan, Isfahan, Iran*

P.S.C.16. CHARACTERIZATION OF Eu-DOPED Zn₂SiO₄ POWDERS OBTAINED BY POLYMER INDUCED SOL-GEL SYNTHESIS

Ž. Andrić¹, R. Krsmanović¹, M. Mitrić¹, I. Zeković¹, Lj. Djačanin², M.D. Dramićanin¹

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P.S.C.17. SYNTHESIS AND STRUCTURE OF FERRITE POLYMER NANOCOMPOSITES

B. Pilić, M. Maletin, V. Srdić

Faculty of Technology, Novi Sad, Srbija

P.S.C.18. STUDY OF STRUCTURAL AND OPTICAL BEHAVIORS OF TiO₂:Eu, Pd THIN FILMS

D. Kaczmarek, J. Domaradzki, E.L. Prociow, A. Borkowska

Faculty of Microsystem Electronics and Photonics, Wrocław University of Technology, Wrocław, Poland

P.S.C.19. TEMPERATURE DEPENDENCE OF OXYGEN REDUCTION KINETICS ON CARBON SUPPORTED Pt NANOPARTICLES

N.R. Elezović¹, B.M. Babić², N.V. Krstajić³, S.Lj. Gojković³, Lj.M. Vračar³

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P.S.C.20. SYNTHESIS AND PROPERTIES OF POLYSTYRENE-CO-MALEIC ACID/Cd_{1-x}Mn_xS NANOCOMPOSITES

D. Milivojević, B. Babić-Stojić, V. Djoković, J. Blanuša
Vinca Institute of Nuclear Sciences, Belgrade, Serbia

- P.S.C.21. **STRUCTURAL PROPERTIES OF EUROPIUM-DOPED YTTRIA OBTAINED VIA AEROSOL SYNTHESIS**
K. Marinković¹, M.E. Rabanal², L.S. Gomez², I. Martin², L. Mančić¹, O. Milošević¹
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- P.S.C.22. **OPTICAL AND ELECTRICAL PROPERTIES OF INDIUM DOPED NANOCRYSTAL ZINC OXIDE PREPARED BY SPRAY PYROLYSIS METHOD**
A. Tanuševski¹, M. Ristova¹, V. Georgieva²
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- P.S.C.23. **THE INFLUENCE OF THE CONCENTRATION AND KIND OF MODIFICATION OF MONTMORILLONITE ON PROPERTIES OF NANOCOMPOSITE COATINGS**
M. Špírková, A. Strachota, J. Brus, B. Strachotová, M. Urbanová
Institute of Macromolecular Chemistry ASCR, v.v.i., Prague, Czech Republic
- P.S.C.24. **STRUCTURE PARTICULATES OF NANOSTRUCTURED CONDENSATES OF QUASIBINARY**
O. Sobol¹, L. Ribic², L. Kunytska³
¹*National Technical University «Kharkov Polytechnical Institute», Kharkov, Ukraine,* ²*Technical Faculty, Cacak, Serbia,* ³*Institute of Surface Chemistry of NAS of Ukraine, Kiev, Ukraine*
- P.S.C.25. **CORRELATION BETWEEN THE CHANGE OF ELECTRON DENSITY STATES ON THE FERMI LEVEL AND THE RELATIVE CHANGE OF THE MAGNETIC PERMEABILITY OF THE Fe₈₁B₁₃Si₄C₂ AMORPHOUS ALLOY**
A. Maričić¹, O. Aleksić², N. Mitrović¹, D.M. Minić³
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²*Center for multidisciplinary studies of the University of Belgrade, Belgrade, Serbia*
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SYMPOSIUM D: COMPOSITES

P.S.D.1. SYNTHESIS AND MECHANICAL PROPERTIES OF BIOMORPHIC C/SiC COMPOSITES

I. Djordjević, B. Babić, D. Sekulić, B. Matović
Institute of Nuclear Sciences Vinca, Belgrade

P.S.D.2. DETERMINATIONS OF MECHANICAL PROPERTIES OF PARTIALLY CARBONIZED CARBON FIBRES AND THEIR CARBON-CARBON COMPOSITES

Lj. Milovanović, D. Sekulić, B. Kaludjerović
Institute of Nuclear Science «Vinča», Belgrade, Serbia

P.S.D.3. THE INFLUENCE OF CARBON BLACK AND SILICA FILLER ON THE PROPERTIES OF ACRYLONITRILE-BUTADIENE/ETHYLENE-PROPYLENE-ETHYLIDENENORBORNENE RUBBER BLENDS

V. Jovanović¹, J. Budinski-Simendić², S. Samardžija-Jovanović¹, G. Marković³, S. Konstantinović⁴

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P.S.D.4. THE INFLUENCE OF CARBON BLACK AND WOOD FLOUR ON HIGH ENERGY RADIATION RESISTANCE OF COMPOSITES BASED ON NR/CSM RUBBER BLEND

G. Marković¹, B. Radovanović², M. Marinović-Cincović³, J. Budinski-Simendić⁴

¹Tigar, Pirot, ²Faculty of Science, Niš, ³Institute of Nuclear Science Vinča, Belgrade, ⁴Faculty of Technology, Novi Sad, Serbia

P.S.D.5. POSSIBILITIES OF APPLICATION OF CARBON STEEL-SiC CAST IN CARBIDE COMPOSITES AS WEAR RESISTANCE MATERIAL

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P.S.D.6. COMPUTER MODEL OF HEAT AND MASS TRANSFER DURING HEAT TREATMENT OF WOOD

L. Pezo¹, S. Stanojlović¹, D. Majstorović¹, B. Tomić-Tucaković¹, D. Debeljković²

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- P.S.D.7. MODELLING OF AIRFLOW THROUGH A WOOD-DRYING KILN**
L. Pezo¹, S. Stanojlović¹, D. Majstorović¹, B. Tomić-Tucaković¹, D. Debeljković²
¹Eng. Dept. Holding Institute of General and Physical Chemistry, Belgrade, Serbia
²Faculty of Mechanical Engineering, Belgrade, Serbia
- P.S.D.8. EXPERIMENTAL INVESTIGATION OF A SOLAR DRYER WITH NATURAL CONVECTIVE HEAT FLOW**
L. Pezo¹, S. Stanojlović¹, D. Majstorović¹, B. Tomić-Tucaković¹, D. Debeljković²
¹Eng. Dept. Holding Institute of General and Physical Chemistry, Belgrade, Serbia
²Faculty of Mechanical Engineering, Belgrade, Serbia
- P.S.D.9. MODELLING OF FRICTION PAIR CONTACT CHARACTERISTICS BY MEANS OF ARTIFICIAL NEURAL NETWORKS**
D. Aleksendrić, I. Balać, Č. Duboka
Faculty of Mechanical Engineering, University of Belgrade, Serbia
- P.S.D.10. NONWOVEN GEOTEXTILE COMPOSITES WITH BENTONITE**
J. Dostanić¹, A. Milutinović-Nikolić¹, V. Rizmanoski¹, S. Lukić², D. Jovanović¹
¹Institute of Chemistry, Technology and Metallurgy-Department of Catalysis and Chemical Engineering, Belgrade, Serbia
²Faculty of Technology and Metallurgy, Belgrade, Serbia
- P.S.D.11. ELECTRODEPOSITION OF NIMO ALLOY COATINGS AND THEIR CHARACTERIZATION AS CATHODES FOR HYDROGEN EVOLUTION IN SODIUM HYDROXIDE SOLUTION**
Lj. Gajić-Krstajić¹, N.V. Krstajić², V.D. Jović³, B.M. Jović³,
¹Institute of Technical Sciences SASA, Belgrade, Serbia
²Faculty of Technology and Metallurgy University of Belgrade, Belgrade, Serbia
³Center for Multidisciplinary Studies University of Belgrade, Belgrade, Serbia
- P.S.D.12. AN AUSTEMPERING STUDY OF DUCTILE IRON ALLOYED WITH COPPER AND NICKEL**
O. Erić¹, D. Rajnović², L. Sidjanin²
¹Institute "Kirilo Savic", Beograd, Serbia
²University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia
- P.S.D.13. APPLICATION ON DESIGN AND CONSTRUCTION OF GLASS REINFORCED PLASTIC BOAT**
L. Gusha
Technological University "Ismail Qemali", Marine Faculty, Naval Engineering Department, Vlora, Albania
- P.S.D.14. APPLICATIONS OF REPRODUCTION METHOD WITH SOLDERING OF MASSIVE DETAILS IN ALBANIAN SEA PORTS**

V. Kasemi

*Technological University “Ismail Qemali”, Naval Faculty, Naval Engineering
Department, Vlora, Albania*

P.S.D.15. **RELIABILITY ASSESSMENT OF A BI-MATERIAL WEDGE: STRAIN
ENERGY DENSITY APPROACH**

J. Klusák, Z. Knésl

Institute of Physics of Materials AS CR, v. v. i., Brno, Czech Republic

SYMPOSIUM E: BIOMATERIALS

- P.S.E.1. MECHANOCHEMICAL SYNTHESIS OF ANTIMICROBIAL MATERIALS BASED ON Ag-APATITES**
V. Stanić¹, M. Mitrić¹, Č. Jovalekić², S. Raičević¹
¹*Vinča Institute of Nuclear Sciences, Belgrade, Serbia,* ²*Center for Multidisciplinary Studies, University of Belgrade, Belgrade, Serbia*
- P.S.E.2. SONOCHEMICAL PREPARATION OF HYDROXYAPATITE / POLY (DL-LACTIDE-CO-GLYCOLIDE) COMPOSITE**
M. Jevtić¹, M. Mitrić², N. Ignjatović¹, D. Uskoković¹
¹*Institute of Technical Sciences of Serbian Academy of Sciences and Arts, Belgrade, Serbia,* ²*Institute of Nuclear Science "Vinca", Belgrade, Serbia*
- P.S.E.3. pH SENSITIVE HYDROGELS BASED ON METHACRYLATES**
M. Mičić¹, S. Tomić², J. Filipović², D. Djokić¹, E. Suljovrujić¹
¹*Vinča Institute of Nuclear Sciences, Belgrade, Serbia*
²*Faculty of Technology and Metallurgy, Belgrade University, Belgrade, Serbia*
- P.S.E.4. SYNTHESIS AND CHARACTERIZATION OF Cu(II), Cd(II), Pt(II) AND Pd(II) COMPLEXES WITH CONDENSATION DERIVATIVE OF PYRIDINE-2-CARBOXALDEHYDE AND ETHYL HYDRAZINOACETATE**
K. Andjelković¹, N. Filipović², T. Todorović¹, D. Jovanović³, S. Tufegđić⁴, D. Sladić¹
¹*Faculty of Chemistry, University of Belgrade, Serbia,* ²*Faculty of Agriculture, University of Belgrade, Serbia,* ³*Faculty of Veterinary Medicine, University of Belgrade, Serbia,* ⁴*Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia*
- P.S.E.5. IN VITRO CYTOTOXIC ACTIVITY OF WATER-SOLUBLE CARBOXYFULLERENES DERIVATIVES**
S. Šolajić¹, V. Bogdanović¹, I. Ičević², G. Bogdanović¹, A. Djordjević²
¹*Institute of Oncology Sremska Kamenica, Experimental Oncology Department, Sremska Kamenica, Serbia,* ²*Department of Chemistry, Faculty of Science, University of Novi Sad, Novi Sad, Serbia*
- P.S.E.6. BIOMOLECULAR-TISSUE CONFORMATION AND ELECTRICAL PROPERTIES CHANGES: BASE FOR EARLY DIAGNOSIS OF SKIN CANCER AND MELANOMA**
L. Matija¹, Dj. Koruga¹, J. Bandić³, Ž. Ratkaj¹, D. Dobrasavljević²
¹*Department of Biomedical Engineering, Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia,* ²*Institute for Dermatovenerology, Faculty of Medicine, University of Belgrade, Belgrade, Serbia,* ³*ORS Hospital, Belgrade, Serbia*

- P.S.E.7. **MEDICINE APPLICATION OF LIQUID CRYSTAL AND FULLERENE-DOPED MATERIALS**
A.A. Kamanin¹, N.V. Kamanina²
¹*Saint-Petersburg Pavlov State Medical University, St. Petersburg, Russia,*
²*Vavilov State Optical Institute, St. Petersburg, Russia*
- P.S.E.8. **FLUORIDE CONTENT, RECHARGE ABILITY AND REMINERALISATION POTENTIAL OF GLASS-IONOMER CEMENT**
B.B. Petrović¹, D.Lj. Marković²
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- P.S.E.9. **PDLLA MICROPARTICLES CONTAINING BSA: EFFECT OF FORMULATION VARIABLES ON SIZE DISTRIBUTION**
I. Jovanović¹, M. Petković¹, B. Jordović², N. Ignjatović¹, D. Uskoković¹
¹*Institute of Technical Science of the Serbian Academy of Sciences and Arts, Belgrade, Serbia,* ²*Faculty of Technical Sciences, Čačak, Serbia*
- P.S.E.10. **NEURAL MODELLING OF PLLA POLYMER IN HA_p/PLLA BIOCPOSITE MATERIAL BEHAVIOUR DURING NANOINDENTATION**
D. Aleksendrić¹, I. Balać¹, C.Y. Tang², C.P. Tsui², P. Uskoković³
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²*Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, P.R. China,*
³*Faculty of Technology and Metallurgy University of Belgrade, Belgrade, Serbia*
- P.S.E.11. **IMMOBILIZATION OF SACCHAROMYCES ELLIPSOIDEUS CELLS FOR BIOETHANOL PRODUCTION**
Lj. Mojović¹, M. Rakin¹, S. Nikolić¹, M. Vukašinović¹, V. Nedović²
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²*Faculty of Agriculture, Zemun, Serbia*
- P.S.E.12. **INVESTIGATION OF ANTIMICROBIAL ACTIVITY OF ESSENTIAL OILS AND MICROBAL METABOLITS FROM LACTIC ACID BACTERIA FOR IMPREGNATION IN MEDICAL TEXTILE**
K. Mihajlovski Popović¹, S. Dimitrijević¹, Lj. Simović², S. Siler Marinković¹, P. Škundrić¹
¹*Faculty of Technology and Metallurgy, Belgrade, Serbia*
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- P.S.E.13. **SURFACE MODIFICATION AND CHARACTERIZATION OF METHACRYLATE POLYMER NETWORKS FOR TISSUE ENGINEERING**

R. Hobzova, N. Zhunusbekova, J. Sirc, J. Michalek
Institute of Macromolecular Chemistry, Academy of Sciences, Prague, Brevnov, Czech Republic

P.S.E.14. CHROMATOGRAPHIC STATIONARY PHASES FOR SEPARATION OF BIOACTIVE COMPOUNDS - CORRELATION OF MORPHOLOGY AND SEPARATION PROPERTIES

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P.S.E.15. THE INFLUENCE OF THE STERILIZATION PROCESS BY GAMMA RAYS IRRADIATION ON THE ACTIVATED CARBON CLOTH PROPERTIES AS A DRESSING MATERIAL

D. Sekulić¹, B.V. Kaludjerović¹, B.M. Babić¹, Lj.M. Milovanović¹, J.M. Stašić¹, B. Prokić²

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P.S.E.16. HEPATOPROTECTIVE ROLE OF TUNGSTATES

S. Uskoković-Marković¹, M. Milenković¹, A. Topić¹, I. Holclajtner-Antunović², M.R. Todorović³, U.B. Mioč²

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P.S.E.17. ADDITIONAL ENZYME CATALYTIC EFFECTS TO DEGRADATION OF SMART POLYMER BIOMATERIALS

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P.S.E.18. RHEOLOGICAL ASPECTS OF STRUCTURED-GEL IMPLANT APPLICATIONS

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P.S.E.19. STUDY OF THE RELEASE OF THE HEAVY METALS FROM VARIOUS FIXED DENTURES (APPLIANCES) INTO SYNTHETIC SALIVA, USING ELECTROCHEMICAL STRIPPING ANALYSIS

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P.S.E.20. APPLICATION ANALYSIS OF MICRO AND NANO COMPOSITES IN RESTORING OF BONE TISSUE OF THE JAW

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P.S.E.21. EVALUATION OF GLASSIONOMER CEMENT APPLICATION FOR PERMANENT BINDING OF PROSTHETIC DENTURES

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P.S.E.22. BOVINE SERUM ALBUMIN (BSA) ION INTERACTION FOLLOWED BY ITC

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P.S.E.23. THIN FILMS AND IMPLANT MATERIALS

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Srpska, B&H

P.S.E.24. EFFECT OF HYDROGELS BASED ON 2-HYDROXYETHYL METHACRYLATES TO ERYTHROCYTE RESISTANCE TO HEMOLYSIS

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- P.S.E.25. EFFECT OF HYDROGELS BASED ON 2-HYDROXYETHYL METHACRYLATES TO VIABILITY AND OXIDATIVE ABILITY OF RAT PERITONEAL MACROPHAGES**
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- P.S.E.26. OSTEOGENIC ACTIVITY IN A MICE SUBCUTANEOUS IMPLANT OF POROUS HYDROXYAPATITE/POLY-L-LACTIDE LOADED WITH BONE MARROW CELLS**
J. Janičijević¹, S. Najman², N. Beljić², M. Vukelić², N. Ignjatović³, D. Uskoković³, L.J. Djordjević¹, P. Vasiljević¹
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- P.S.E.27. DESIGNING OF THE ALGINATE HYDRO GEL BEADS MORPHOLOGY USING ULTRASONIC SPRAY GELLING METHOD**
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