

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

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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 NdCr₃(BO₃)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
¹Scientific Production Corporation "S.I. Vavilov State Optical Institute", St. Petersburg, Russia, ²University of Information Technology, Mechanics and Optics, St. Petersburg, Russia, ³LPCML, UMR 5620 du CNRS, Université 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
¹University of Information Technology, Mechanics and Optics, St. Petersburg, Russia, ²Scientific Production Corporation "S.I. Vavilov State Optical Institute", St. Petersburg, Russia, ³LPCML, UMR 5620 du CNRS, Université Lyon 1, Villeurbanne, France, ⁴IPG 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
Jozef 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 **PHYSICO-CHEMICAL 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
¹Faculty of Physical Chemistry University of Belgrade, Belgrade, Serbia, ²IHTM, Center of Catalysis and Chemical Engineering, Belgrade, Serbia, ³Goša Institute, Belgrade, Serbia, ⁴Faculty of Chemistry, Belgrade, Serbia

18⁴⁵-19⁰⁰ **CARBON/CARBON-SILICON-CARBIDE DUAL-MATRIX COMPOSITES FOR BRAKE DISCS**

K. Krnel¹, T. Kosmač¹, Z. Stadler²

¹Jožef Stefan Institute, Ljubljana, Slovenia, ²MS Production, Bled, Slovenia

19⁰⁰-19¹⁵ **DETECTION OF THE DEGREE OF BRANCHING IN HYPERBRANCHED POLYMERS**

F. Schallausky¹, S. Reichelt¹, A. Lederer¹, M. Netopilik²

¹Leibniz-Institute of Polymer Research Dresden, Dresden, Germany, ²Institute 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. Damnjanović¹, M. Remškar², E. Dobardžić¹, B. Dakić¹, M. Viršek², I. Milošević¹

¹Faculty of Physics, Belgrade, Serbia, ²Jožef Stefan 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

¹Institute "Jožef Stefan", Ljubljana, Slovenia, ²Institute of Physics, Belgrade, Serbia,

³Textile 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

¹Institute of Nuclear Sciences "Vinča", Belgrade, Serbia

²Jožef 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

¹Condensed Matter Physics Laboratory, Institute of Nuclear Sciences Vinca, Belgrade, Serbia, ²Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia, ³Jožef 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

¹Faculty of Technology and Metallurgy, Belgrade, Serbia

²National Institute of Slovenia, Ljubljana, Slovenia

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-Perić

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}
¹Faculty of Physics, University of Belgrade, Belgrade, Serbia
²Center 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
¹Institute for Metallurgy, Nikšić, Montenegro, ²Faculty of Mechanical Engineering, Belgrade University, Serbia,
³Faculty 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. Sholkapper³, D. Blečić¹
¹University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro, ²LBNL, NCEM, MS-72, University of California, Berkeley, CA, USA,
³T.Z. Sholkapper, 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 $\text{Li}_{1+x}\text{Mn}_{2-x}\text{O}_4$ 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
¹Institute of General and Physical Chemistry, Belgrade, Serbia, ²Faculty of Mining and Geology, Belgrade, Serbia, ³Faculty 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
¹University of Belgrade, Faculty of Physical Chemistry, Beograd, Serbia
²University 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
¹Institute of Nuclear Sciences Vinca, Belgrad, Serbia, ^aLaboratory of material sciences, ^bLaboratory of nuclear and plasma physics, ^cLaboratory of physics
- P.S.A.32. **EFFECTS OF ORGANIC SURFACTANTS ON MECHANOCHEMICALLY 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
¹Institute of Technical Sciences of SASA, Belgrade, Serbia, ²The Vinca Institute of Nuclear Sciences, Belgrade, Serbia, ³Center for Multidisciplinary Studies, University of Belgrade, Belgrade, Serbia, ⁴Serbian 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

¹Institute for Technology of Nuclear and Other Raw Mineral Materials, Belgrade, Serbia, ²VMA, Institute for Hygiene, Belgrade, Serbia, ³VINČA 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

¹Institute for Technology of Nuclear and other Mineral Raw Materials, Belgrade, Serbia, ²Faculty of Technology and Metallurgy, Belgrade, Serbia

P.S.A.38. **CONJUGATED POLYMER CHARACTERISATION USING LASER BEAM SCATTERING TECHNIQUES**

V. Arsoski, R. Ramović, M. Srećković
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
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
¹Faculty of Mechanical Engineering, Belgrade, Serbia, ²Faculty of Electrical Engineering, Belgrade, Serbia, ³Faculty of Technology and Metallurgy, Belgrade, Serbia, ⁴The 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**

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P.S.A.45. **SIMILARITY AND DIFFERENCE BETWEEN EXPLOSION WELDING AND LASER HYBRID ON STRUCTURAL LEVEL**

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P.S.A.46. **EXPERIMENTAL RESEARCH OF EFFECTS OF AIR PRESSURE TO THE WALLS OF BYPASSING HIGH SPEED TRAINS**

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- P.S.A.47. **THERMAL STABILITY AND FRAGILITY PARAMETERS OF Fe-M-Al-Ga-P-C-B (M=Nb) AMORPHOUS ALLOYS**
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- P.S.A.48. **XRD ANALYSIS OF HIGH-COPPER AlCuMg ALLOYS**
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- P.S.A.49. **TRICALCIUM ALUMINATE HEXAHYDRATE (TCA) FILTER AID IN THE BAYER INDUSTRY**
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- P.S.A.50. **AN INFLUENCE OF MICROSTRUCTURE OF SCREEN FORMED BY LASER EXPOSURE OF LIGHT-SENSITIVE FILM ON TON VALUE INCREASE IN PRINTING**
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- P.S.A.51. **EXPERIMENTAL ANALYSIS OF CRACK INITIATION AND GROWTH IN WELDED JOINT OF STEEL FOR OPERATION AT ELEVATED TEMPERATURES**
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- 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**
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- 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**
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- P.S.A.54. **NEW DIRECTION IN SOLID STATE SCIENCE**
Yu.I. Vesnin
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- P.S.A.55. **PREPARATION OF BORON CARBIDE NANOWIRES VIA EPITAXIAL VLS GROWTH**
M. Jazirehpur, A. Alizadeh
MUT University of Tehran, Iran
- P.S.A.56. **SYNTHESIS OF BORON CARBIDE NANOWIRES AND NANORODS VIA CARBOTHERMAL-VLS ROUTE**
M. Jazirehpur, A. Alizadeh
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- P.S.A.57. **STRAIGHT BORON CARBID NANORODS VIA A CARBOTHERMAL TEMPLATE ASSISTED METHOD**

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P.S.A.58. **SYNTHESIS OF TITANIUM DIBORIDE NANOWIRES AND NANORODS VIA CARBOTHERMAL-VLS ROUTE**

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P.S.A.59. **PREPARATION OF BORON CARBIDE NANOWIRES VIA A TEMPLATE ASSISTED POLYMERIC PRECURSOR**

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P.S.A.60. **PREPARATION OF BORON CARBIDE NANOFIBERS VIA A THREE STEP METHOD FROM PAN NANOFIBERS**

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P.S.A.61. **TIME-DOMAIN PHOTOTHERMAL RESPONSE OF MEDIA WITH THERMAL MEMORY FOR VARIOUS SHAPES OF INCIDENT PULSES**

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P.S.A.62. **SMALL POLARON ELECTRICAL CONDUCTIVITY IN MACROMOLECULAR CHAINS**

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P.S.A.63. **CHARACTERIZATION OF ORGANIC/METAL INTERFACES USING QUANTUM THEORY OF ATOMS IN MOLECULES: CORRELATION WITH EXPERIMENT**

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P.S.A.64. **URANIUM (VI) ADSORPTION ON ACIDS MODIFIED ZEOLITIC TUFF**

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P.S.A.65. **BASIC OPTICAL MATERIALS OF FERRULE AND THEIR PERFORMANCE**

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P.S.A.66. **CORRELATION BETWEEN ISOTHERMAL ANNEALING AND MAGNETIC SUSCEPTIBILITY RELATIVE CHANGE OF THE $\text{Fe}_{89.8}\text{Ni}_{1.5}\text{Si}_{5.2}\text{B}_3\text{C}_{0.5}$ AMORPHOUS ALLOY**

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