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Frantsevich Institute for Problems of Materials Science of NASU
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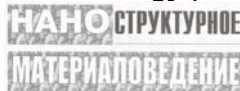
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Under auspices:



Federation of European
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European Association of
Powder Metallurgy

PROGRAMME OF CONFERENCE

October 19–23, 2009
Kiev, Ukraine

OUR SPONSORS:

We wish to thanks the following for their contribution to the success of this conference:

- Ukrainian Ministry of Education and Science
- National Academy of Science of Ukraine
- National Technical University of Ukraine
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Materials Science of NASU
- European Office of Airspace Research and
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- Air Force Office of Scientific Research
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Laboratory



Conference sessions will be held in National Technical University of Ukraine “Kiev Polytechnical Institute” on address:
35 Politekhnicheskaya Str., build.9
(Metro “Politekhnicheskyi institute”)

On October 19 beginning of sessions at 10⁰⁰

On October 20-23 beginning of sessions at 9³⁰.

CONTENT

	Pages
THE RULES OF THE CONFERENCE ACTIVITY	4
PLENARY SESSION	7
Section A. Fundamental principles of contemporary materials science. Phase equilibrium diagrams. Modeling of the technological processes for making materials and the properties of contemporary materials for various purposes	oral 33 poster 35
Section B. Metallic materials and technologies for manufacturing and working them	oral 10 poster 11
Section C. Powder metallurgy: current status of science and industry; modern materials based on fine powders, fibers, etc.	oral 27 poster 29
Section D. Nano-scale materials science: technologies and materials	oral 49 poster 54
Section E. Ceramics for functional and constructional purposes	oral 14 poster 15
Section G. Composite materials: properties and prospects in practical use	oral 42 poster 44
Section H. Engineering of surface	oral 20 poster 21
Section I. Medical-purpose materials	oral 24 poster 26
Section J. Modern technologies of joining of materials	oral 40 poster 41
Section K. Equipments and methods for characterization materials	oral 25

THE RULES OF THE CONFERENCE ACTIVITY

Sunday, October 18, 2009

9³⁰-16⁰⁰ Registration of participants
(Block 9, NTUU
"KPI")

Monday, October 19, 2009

9³⁰-12⁰⁰ Registration of participants
(Block 9, NTUU
"KPI")
10⁰⁰-11³⁰ **I Morning plenary session**
11³⁰-12⁰⁰ Coffee-brake
12⁰⁰-13³⁰ **II Morning plenary session**
13³⁰-14³⁰ Lunch
14³⁰-16³⁰ **III Plenary session**

Tuesday, October 20, 2009

Exposition posters of Section B from 9³⁰ till 11³⁰,
posters of Section E from 12⁰⁰ till 13³⁰,
posters of Section H from 14³⁰ till 16³⁰

9³⁰-11³⁰ **Section B. Metallic materials and technologies for manufacturing and working them.**
11³⁰-12⁰⁰ Coffee-break
12⁰⁰-13³⁰ **Section E. Ceramics for functional and constructional purposes.**
13³⁰-14³⁰ Lunch
14³⁰-16³⁰ **Section H. Engineering of surface.**

Wednesday, October 21, 2009

Exposition posters of Section I from 9³⁰ till 11³⁰,
(в секции К стендовые доклады не представлены)
posters of Section C from 12⁰⁰ till 15³⁰

9³⁰–11³⁰

Section I. Engineering of surface.
Section K. Equipments and methods for
characterization materials.

11³⁰–12⁰⁰
12⁰⁰–13³⁰

Coffee-break
Section C. Powder metallurgy: current status of science
and industry; modern materials based on fine powders,
fibers, etc.

13³⁰–14³⁰
14³⁰–15³⁰

Lunch
Section C. Powder metallurgy: current status of science
and industry; modern materials based on fine powders,
fibers, etc.

Thursday, October 22, 2009

Exposition posters of Section A from 9³⁰ till 12⁰⁰,
posters of Section J from 12³⁰ till 13³⁰,
posters of Section G from 14³⁰ till 17³⁰

9³⁰–12⁰⁰

Section A. Fundamental principles of contemporary
materials science. Phase equilibrium diagrams.
Modeling of the technological processes for making
materials and the properties of contemporary materials
for various purposes.

12⁰⁰–12³⁰
12³⁰–13³⁰

Coffee-break
Section J. Medical-purpose materials.

13³⁰–14³⁰
14³⁰–17³⁰

Lunch
Section G. Composite materials: properties and
prospects in practical use.

Friday, October 23, 2009
Exposition posters of Section D from 9³⁰ till 16³⁰

9³⁰–11³⁰ ***Section D. Nano-scale materials science: technologies and materials.***

11³⁰–12⁰⁰ Coffee-break
12⁰⁰–13³⁰ ***Section D. Nano-scale materials science: technologies and materials.***

13³⁰–14³⁰ Lunch
14³⁰–16³⁰ ***Section D. Nano-scale materials science: technologies and materials.***

17⁰⁰ CLOSE OF THE CONFERENCE

Monday, October 19, 2009

I MORNING PLENARY SESSION

Chairmen: Skorokhod V.V. (Ukraine), Firstov S.A. (Ukraine)

385 SOME PHYSICO-CHEMICAL, PHYSICAL AND MECHANICAL PRECONDITIONS FOR PLANNING THE RESEARCHES DIRECTED ON THE NEW MATERIALS CREATION

Skorokhod V.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

20 minutes

36 NEW APPROACHES IN MATERIALS SCIENCE IN CONTEXT WITH POSSIBILITIES AND CHALLENGES OF NANOTECHNOLOGY

Andrievskiy R.A.

Institute of Problems of Chemical Physics of RAS, Chernogolovka, Russia

20 minutes

166 SIZING EFFECTS IN NANOPOROUS MATERIALS

Trusov L.I., Smolokov A.V.

Association for Business Cooperation in the Advanced Complex Technologies

«ASPECT», Moscow, Russia

20 minutes

214 POWDER COMPOSITION MATERIALS IN REPUBLIC OF BELARUS: INVESTIGATIONS, TECHNOLOGIES, PRODUCTION

Ilyshchenko A.Ph., Petyushik E.E., Savich V.V.⁽¹⁾, Syroezhko G.S.⁽²⁾

SRPA PM of NASB, Minsk, Belarus

⁽¹⁾SSI PMI, Minsk, Belarus

⁽²⁾PRUE MoIPMP, Minsk, Belarus

20 minutes

379 STRUCTURAL ENGINEERING OF POROUS PERMEABLE MATERIALS WITH CONTROLLED PROPERTIES

Kostornov A.G.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

20 minutes

Discussion

Monday, October 19, 2009

II MORNING PLENARY SESSION

Chairmen: Trusov L.I. (Russia), Kostornov A.G. (Ukraine)

371 PHYSICAL CONCEPT OF MATERIALS PLASTICITY

Milman Yu.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

20 minutes

378 THE GENERALIZED DEPENDENCE OF YIELD STRESS ON THE GRAIN SIZE FOR POLYCRYSTALLINE MATERIALS

Firstov S.A., Rogul T.G., Shut O.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

20 minutes

163 NEW DEVELOPMENTS IN THE SYNTHESIS OF POLYMER MATERIALS WITH IMPROVED PROPERTIES

Ivanchev S.S.

Boreskov St-Petersburg Department of the Institute of Catalysis of Siberian Branch of RAS, St-Petersburg, Russia

20 minutes

33 NEW POLYMERIC MATERIALS RESISTANT TO BIOCORROSION UNDER LONG-TIME SPACE FLY FOR DEPENDENCE OF PEOPLE AND CONSTRUCTION ELEMENTS OF ORBIT STATION FROM MICROORGANISMES

Lebedev E.V., Savel'ev Yu.V.

Institute for Chemistry of High Molecular of NASU, Kiev, Ukraine

20 minutes

200 QUANTITATIVE METALLOGRAPHY IN APPLIED MATERIAL SCIENCE OF SPECIAL STEELS AND ALLOYS

Yatsenko R.V., Ternovy Y.F., Yatsenko M.Y.

State Enterprise «Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys» (GP UKRNIISPETSSTAL) Zaporozhia, Ukraine

20 minutes

Discussion

Monday, October 19, 2009

III PLENARY SESSION

Chairmen: Ivanchev S.S. (Russia), Milman Yu.V. (Ukraine)

43 PREPARATION AND CHARACTERIZATION OF HYDROXYAPATITE POROUS MATERIALS WITH UNIQUE MICROSTRUCTURES

Ioku K., Kamitakahara M., Kawachi G.⁽¹⁾, Ikeda T.⁽²⁾

Graduate School of Environmental Studies, Tohoku University, Japan

⁽¹⁾Graduate School of Engineering, Nagoya University, Japan

⁽²⁾Graduate School of Biomedical Sciences, Nagasaki University, Japan

20 minutes

69 CHALCOGENIDES AND FLUORIDES OF METALS AS BASIS FOR OPTICAL MATERIALS

Zinchenko V.F., Timukhin Ye.V., Magunov I.R., Kocherba G.I.⁽¹⁾

Bogatsky Physico-Chemical Institute of NASU, Odessa, Ukraine

⁽¹⁾JV «New Materials and Technologies», Odessa, Ukraine

20 minutes

2 INNOVATIVE POLICY IN THE INTERACTION BETWEEN BUSINESS, EDUCATION AND SCIENCE

Poltoratskiy L.M., Mochalov S.P.⁽¹⁾, Myshlayev L.P.⁽¹⁾

OJSC «West-Siberian Steel Corporation» Novokuznetsk, Russia

⁽¹⁾«Siberian State Industrial University», Novokuznetsk, Russia

20 minutes

380 MATERIALS SCIENCE OF XXI CENTURY: CHALLENGES AND PERSPECTIVES

Chemyshev L.I., Levina D.A., Belan I.I.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

20 minutes

Discussion

Tuesday, October 20, 2009

9³⁰–11³⁰ Section B. Metallic materials and technologies for manufacturing and working them.

Chairmen: Poltoratskiy L.M. (Russia), Gorban V.F. (Ukraine)

B3 TECHNOLOGICAL PROCESS OF WELD MAKING FROM MATERIALS WITH FORM MEMORY EFFECT

Poltoratskiy L.M., Rudakov S.G.⁽¹⁾, Sapozhkov S.B.⁽²⁾, Sidorova O.D.

OJSC «West-Siberian Steel Corporation», Novokuznetsk, Russia

⁽¹⁾«Siberian State Industrial University», Novokuznetsk, Russia

⁽²⁾GOU VPO «Yurga Technological Institute (Corp.) of Tomskiy Polytechnic University», Yurga, Russia

15 minutes

B120 NUMERICAL AND STRUCTURAL ANALYSIS OF ALUMINUM ALLOY PROFILES EXTRUDED WITH VARIOUS EXTRUSION RATIOS

Libura W., Grzyb J., Rekas A.

AGH University of Science and Technology, Krakow, Poland

15 minutes

B8 COMPARATIVE ANALYSIS PROPERTIES OF INSTRUMENTAL STEEL SMELTED WITH THE USE OF THE SECONDARY TUNGSTEN

Glotka A.A., Koval A.D.

Zaporozhia national technical university Zaporozhia, Ukraine

15 minutes

B93 ROTOR-TYPE MACHINE FOR CONTINUOUS CASTING OF FERROALLOYS

Kevkhisvili G.Sh., Loria D.B., Chubinidze T.A.

Tavadze Institute of metallurgy and materials sciences, Tbilisi, Georgia

15 minutes

B355NEW HIGH-STRENGTH THERMALLY STEADY HIGH-ENTROPY ALLOYS

Firstov S.A., Gorban' V.F., Krapivka N.A., Pechkovsky E.P.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

B34 RESEARCH OF CO-OPERATION OF PHASES AT ALLOYING OF CARBON STEEL BY VANADIUM FROM OXIDE FUSIONS

Naydek V.L., Kostyakov V.N., Sidak V.B.⁽¹⁾, Yasinskaya E.A.

Physical-technological Institute of Metals and Alloys of NASU, Dneprodzerginsk, Ukraine

⁽¹⁾ME «Dneprodzerginskiy Steel-making Factory» of AC of IJSC «Dneprovagonmash», Dneprodzerginsk, Ukraine

15 minutes

B141 PECULIARITIES OF IN-SERVICE DEGRADATION OF TRANSIT OIL AND GAS PIPELINE STEELS PROPERTIES

Nykyforchyn H.M., Lunarska E.⁽¹⁾

Karpenko Physico-mechanical Institute of NASU, L'vov, Ukraine

⁽¹⁾Institute of Physical Chemistry of PAS, Warsaw, Poland

15 minutes

B182 PECULIARITIES OF METAL DEGRADATION IN WELDED JOINTS UNDER LONG-TERM OPERATION

Dmitrik V.V., Konyk A.I.

Ukrainian Engineering Pedagogics Academy, Kharkov, Ukraine

15 minutes

Discussion

Tuesday, October 20, 2009

Exposition posters of Section B from 9³⁰ till 11³⁰

B203 EARLY AGEING MECHANISMS IN A HIGH – COPPER Al-Cu15wt%-Mg5wt% ALLOY

Zlaticanin B.V., Filipovic M.M.⁽¹⁾

Faculty of Metallurgy and Technology, Podgorica, Montenegro,

⁽¹⁾Faculty of Technology and Metallurgy, Belgrade, Serbia

B5 INTERRUPTED COOLING IN THE PRODUCTION OF HEAT-STRENGTHENED COILED REINFORCING BARS

Yefimov O.Yu., Chinokalov V.Ya., Poltoratskiy L.M.

OJSC «West-Siberian Steel Corporation», Novokuznetsk, Russia

B196 PARAMETERS OF FE-SI-C ALLOYS FREEZING-OUT ON THE STEEL BASIS

Loria J.B., Katsarava N.I., Kevkhishvili G.Sh.

Tavadze Institute of metallurgy and materials sciences, Tbilisi, Georgia

B16 STRUCTURE AND MECHANICAL PROPERTIES OF ALUMINIUM ALLOY D16 AFTER RADIAL-SHEAR ROLLING

Barykin N.P., Valeev I.Sh., Valeeva A.Kh., Fazlyahmetov R.F., Khalikova G.R.

Institute for Metals Superplasticity Problems of RAS, Ufa, Russia

B29 DEVELOPMENT OF THE TRICKLE-ALLOYED STEEL COMPOSITION FOR CHEMICAL MACHINE BUILDING

Dubasov V.M.

Dal East-Ukrainian National University, Lugansk, Ukraine

B31 THERMAL FATIGUE RESISTANCE OF AUSTENITIC CAST STEEL

Garbiak M., Piekarski B.

West Pomeranian University of Technology, Szczecin, Poland

B65 TECHNOLOGICAL ASPECTS OF DEFORMATION OF SPECIAL STEELS AND ALLOYS WITH USE OF UNIQUE FOUR-DIE FORGING DEVICE

Ternovy Y.F., Artamonov Y.V., Bedrosova L.V., Zubkova V. T., Melnikov Y.V.
GP Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhia, Ukraine

B126 INFLUENCE OF SEVERE PLASTIC DEFORMATION ON HARDENING OF Al-Mg-Si ALLOY AD-31 (6060)

Berezina A.L., Monastyrskaya T.A., Davidenko A.A.⁽¹⁾, Kotko A.V., Molebny O.A., Romanov V.E.⁽²⁾, Spuskanyuk V.Z.⁽¹⁾, Gangalo A.N.⁽¹⁾

Kurdyumov Institute for Metal Physics of NASU, Kiev, Ukraine

⁽¹⁾Galkin Donetsk Institute for Physics and Engineering of NASU, Donetsk, Ukraine

⁽²⁾ Factory of Aluminiums Buildings Constructions, Brovary, Ukraine

B186 PHYSICAL-MECHANIKAL PROPERTIES OF BORON, DOPED WITH COBALT

Darsaveli-dze G.Sh., Darchiash-vili M.D., Gabunia D.L., Tsagareishvili O.A.

Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia

B197 FORMATION OF ANOMALOUSLY SUPERSATURATED SOLID SOLUTIONS IN ALLOYS OF Al-Sc-Ta UNDER IPD

Berezina A.L., Molebny O.A., Davidenko A.A.⁽¹⁾, Monastyrskaya T.A., Kotko A.V., Spuskanyuk V.Z.⁽¹⁾

Kurdyumov Institute for Metallphysics of NASU, Kiev, Ukraine

⁽¹⁾Galkin Donetsk Physicotechnical Institute of NASU, Donetsk, Ukraine

B302 INFLUENCE OF SMALL CHROMIUM CONTENT ON HEAT RESISTANCE OF TITANIUM AND ZIRCONIUM

Brodnikovskij N.P., Oryshich I.V., Kuznetsova T.L., Krapivka N.A., Poryadchenko N.E., Zubets Y.E., Khmeljuk N.D., Rokitskaya E.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

B331 FEATURES OF THERMAL RETREATMENT OF LARGE-SIZED WASTE OF HEAVY ALLOY IN SOLAR FURNACE

Pasichny V.V., Korchemna V.S., Ostapenko S.A., Pasichna M.S.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

B352 STRUCTURE AND HIGH TEMPERATURE PROPERTIES OF ALLOYS BASED ON TITANIUM ALUMINIDES WITH ADDITIONAL ALLOYING OF Sc, B AND REM

Gornaya I.D., Poryadchenko N.E., Ban'kovsky O.I., Goltvyanitsa V.S.⁽¹⁾,

Goltvyanitsa S.K.⁽²⁾, Kotko A.V., Koval A.Yu., Firstov S.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Zaporozhye National Technical University, Zaporozhye, Ukraine

⁽²⁾Real Ltd., Zaporozhye, Ukraine

B364 BEHAVIOR OF COMPLEX TITANIUM ALLOYS DURING HEATING IN AIR

Rokitskaya E.A., Poryadchenko N.E., Krapivka N.A., Firstov S.A., Gorban V.F.,
Bega N.D.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

**B350 INFLUENCE OF HYDROGEN ON STRUCTURE AND PROPERTIES OF
ELECTRON-BEAM CHROMIUM FILMS**

Brodnikovskiy N.P., Zykova E.V., Dubikovskiy L.F., Rokitskaya E.A., Sameluk A.I.,
Garbuz V.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

**B100 STEAM LINES' DAMAGEABILITY FEATURES DURING THE PROTRACTED
EXPLOITATION IN THE CONDITIONS OF AFTERFLOW AND LOW-CYCLE
FATIGUE**

Dmitrik V.V., Bartash S.N.

Ukrainian Engineer-Pedagogical Academy, Kharkov, Ukraine

Tuesday, October 20, 2009

**12⁰⁰–13³⁰ Section E. Ceramics for functional and constructional
purposes.**

Chairmen: Oleynik G.S. (Ukraine), Shmuradko V.T. (Belarus)

**E321 MECHANISMS OF GRAIN STRUCTURE DISPERSION UNDER SINTERING
OF CERAMICS**

Oleynik G.S.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

**E24 EFFECT OF DIFFERENTLY PREPARED POWDERS ON MECHANICAL
PROPERTIES OF MULLITE – ZrO₂ CERAMICS**

Sedmale G., Hmelov A., Sperberga I., Grabis J.⁽¹⁾

Riga Technical University, Institute of Silicate Materials, Riga, Latvia

⁽¹⁾Riga Technical University, Institute of Inorganic Chemistry, Salaspils, Latvia

15 minutes

**E147 THE REGULARITIES OF FORMING STRUCTURE AND PROPERTIES OF
SUPERHARD COMPOSITES ON THE BASIS OF CUBIC BORON NITRIDE,
STRENGTHENED BY REFRACTORY BORIDES AT HIGH PRESSURE
CONDITIONS**

Bezhenar N.P., Garbuz T.A., Konoval S.M., Bozhko S.A.

Bakul Institute of Superhard Materials of NASU, Kiev, Ukraine

15 minutes

**E74 APPLICATION OF IMPULSE LOADING METHODS IN MODERN MATERIALS
SCIENCE AND TECHNOLOGIES OF TECHNICAL CERAMICS**

Shmuradko V.T., Roman O.V.⁽¹⁾, Ilyuschenko A.Ph.⁽²⁾, Drosdov A.V.

Separate Self-sustained Organization «Research Institute of Impulse Processes with
Pilot Plant», Minsk, Belarus

⁽¹⁾National Academy of Sciences of Belarus, Minsk, Belarus

⁽²⁾State Scientific Institution «Powder Metallurgy Institute», Minsk, Belarus

15 minutes

**E35 A NOVEL APPROACH TO TAILORING THE MICROSTRUCTURE OF
ZnO-BASED VARISTOR CERAMICS**

BY THE INVERSION-BOUNDARY GRAIN-GROWTH MECHANISM

Bernik S., Podlogar M., Daneu N., Rečnik A.

Jožef Stefan Institute, Ljubljana, Slovenia

15 minutes

**E134 THE INFLUENCE OF DEFORMATION PARAMETERS ON TEXTURE
FORMATION IN $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ CERAMICS**

Imayev M.F., Kabirova D.B., Egorov A.O.⁽¹⁾

Institute for Metals Superplasticity Problems of RAS, Ufa, Russia

⁽¹⁾JSC «BHTA-RUS», Representative office in Russia, Eurotechprom GmbH, Ufa, Russia

15 minutes

**E164 STRUCTURAL AND FERROELECTRIC PROPERTIES OF
 $\text{K}(\text{Nb}_{0.8}\text{Mg}_{0.2})\text{O}_{2.4}\text{F}_{0.6}$ CERAMICS**

Taïbi-Benziada L.

Faculty of Chemistry, U.S.T.H.B., Algeria

15 minutes

**E217 FABRICATION OF POLYCRYSTALLINE TRANSPARENT CERAMIC BY
SPARK PLASMA SINTERING (SPS)**

Frage N., Kalabukhov S., Sverdlov N., Dariel M.P.

Ben-Gurion University of the Negev, Beer-Sheva, Israel

15 minutes

Discussion

Tuesday, October 20, 2009

Exposition posters of Section E from 12⁰⁰ till 13³⁰,

E359 FEATURES OF THE INTERACTION IN THE CrSi₂-CrB₂ SYSTEM

Krushinskaya L.A., Fedorus V.B., Makarenko G.N., Matsera V.E., Klochkov L.A.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

E39 STRUCTURE AND PROPERTIES OF EUTECTIC LaB₆ - ScB₂ SYSTEM ALLOYS

Loboda P.I., Kysla G.P., Sysoyev M.A.
National Technical University «KPI», Kiev, Ukraine

E45 MECHANICAL ACTIVATION OF CLAYS AND ITS INFLUENCE ON PROCESS OF DRYING AND FINAL PROPERTIES OF MASONRY UNITS

Vasić M., Radojević Z., Janačković Đ.⁽¹⁾, Rosić A.⁽²⁾
Institute for Testing Materials, Belgrade, Serbia
⁽¹⁾Faculty of technology and metallurgy, Belgrade, Serbia
⁽²⁾Faculty of mineralogy and geology, Belgrade, Serbia

E50 CAST CERAMIC COMPOSITES IN THE Mo-Si-W SYSTEM AND THEIR SINTERING

Gorshkov V.A., Yukhvid V.I.
Institute of Structural Macrokinetics and Materials Science, Chernogolovka, Russia

E54 THERMAL DISSOCIATION AND PHASE FORMATION IN EQUIMOLECULAR ZIRCON-CORUNDUM MIXTURES

Porozova S.E., Krasny A.B.⁽¹⁾, Tarasovsky V.P.⁽¹⁾
Research Centre of Powder Materials Science of The state Educational Establishment of Higher Vocational Training «Perm State Technical University», Perm, Russia
⁽¹⁾Nauchno-Tekhnichesky Tsentr "Bakor" CJSC, Tcherbinka, Russia

E56 THERMAL DISSOCIATION OF YTTRIA-DOPED ZIRCON

Kulmetyeva V.B. Tarasovsky V.P.⁽¹⁾, Krasny A.B.⁽¹⁾
Research Centre of Powder Materials Science of The state Educational Establishment of Higher Vocational Training «Perm State Technical University», Perm, Russia
⁽¹⁾Nauchno-Tekhnichesky Tsentr "Bakor" CJSC, Tcherbinka, Russia

E57 INFLUENCE OF POROSITY ON CONDUCTIVITY OF ZrO₂-Sc₂O₃-CeO₂ CERAMICS

Komysa Yu.A., Barbashov V.I., Akimov G.Ya.
Donetsk Institute for Physics and Engineering of NASU, Donetsk, Ukraine

E71 AUTOWAVE SYNTHESIS OF CERAMIC COMPOSITIONS BASED ON LANTANUM CHROMITE AND ALUMINUM OXYNITRIDE

Gorshkov V.A., Yukhvid V.I.
Institute of Structural Macrokinetics and Materials Science, Chernogolovka, Russia

E73 EFFECT OF PHONON SPECTRUM ON THE IONIC CONDUCTIVITY OF ZIRCONIA

Barbashov V.I., Nesova E.V.

Galkin Donetsk Phys. Tech. Institute of NASU, Donetsk, Ukraine

E83 refractory borides based composit coatings

Loboda P.I., Sysoyev M.A., Kozin M.V., Dryga M.Yu.

National Technical University of Ukraine, «KPI», Kiev, Ukraine

E84 Al₂O₃-ZrO₂-BASED CERAMICS FOR CUTTING TOOL APPLICATIONS

Dyatlova Ya.G., Ordanyan S.S.⁽¹⁾, Runyantsev V.I., Fischev V.N.⁽¹⁾

VIRIAL Ltd., Saint-Petersburg, Russia

⁽¹⁾Saint-Petersburg State Technological Institute (Technical University), Saint-Petersburg, Russia

E85 WEAR-RESISTANT MATERIALS BASED ON B₄C – TiB₂ – SiC SYSTEM

Korablev D.V., Rumyantsev V.I., Ordanyan S.S.⁽¹⁾, Fischev V.N.⁽¹⁾

VIRIAL Ltd., Saint-Petersburg, Russia

⁽¹⁾Saint-Petersburg State Technological Institute (Technical University), Saint-Petersburg, Russia

E88 THE STRENGTH OF DIRECTIONALLY REINFORCED COMPOSITE LaB₆-TiB₂ AT ELEVATED TEMPERATURES

Loboda P.I., Bogomol Yu.I.

National Technical University of Ukraine «KPI», Kiev, Ukraine

E98 ECHNOLOGIES PULSE FORMATION of POWDER PRODUCTS

Shmuradko V.T., Ovchinnikov V.I.

Detached Self-supporting Division «Institute of pulse processes», Minsk, Belarus

E99 TUBULAR NONTIGHT CERAMIC ELEMENTS ON A BASIS ZrO₂-Al₂O₃ FOR ELECTROCHEMICAL INSTALLATIONS «EMERALD»

Shmuradko V.T., Ovchinnikov V.I., Reut O.P.⁽¹⁾, Boginski L.S.⁽¹⁾, Vinogradov V.V.⁽²⁾

Detached Self-supporting Division «Institute of pulse processes», Minsk, Belarus

⁽¹⁾Institute of Improvement of Professional Skill of the Byelorussian National Technical University, Minsk, Belarus

⁽²⁾Research-and-Production Enterprise «Emerald», St.-Petersburg, Russia

E102 MOLTEN SALT SYNTHESIS OF PLATE-LIKE BISMUTH TITANATE

Zaremba T.

Silesian University of Technology, Gliwice, Poland

E103 TOPOCHEMICAL SYNTHESIS OF PLATE-LIKE K_{0.5}Bi_{0.5}TiO₃ FROM AURIVILLIUS PRECURSOR

Zaremba T.

Silesian University of Technology, Gliwice, Poland

E136 STRUCTURE OPTIMIZATION OF SUPERHARD POLYCRYSTALS AT REACTIVE SINTERING OF cBN POWDERS WITH Al IN THE HIGH PRESSURES CONDITIONS

Konoval S.M., Bezhenar N.P., Bozhko S.A., Nagorny P.A.
Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

E137 TITANIUM DIBORIDE - THE ALLOYING AND MODIFYING COMPONENT AT OBTAINING OF POLYCRYSTAL SUPERHARD MATERIALS ON THE BASIS OF cBN

Garbuz T.A., Bezhenar N.P., Bozhko S.A., Belyavina N.N.
Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

E158 WEAR AND SURFACE TRANSFORMATION OF MG-PSZ AND CE-TZP CERAMICS UNDER SLIDING FRICTION AGAINST STEEL

Akimov G.Ya., Chayka E.V., Marinin G.A., Timchenko V.M., Krysov V.I., Burhovetskii V.V.
Galkin Donetsk Physical-Technical Institute of NASU, Donetsk, Ukraine

E165 PHASE TRANSITIONS, MAGNETIC AND TRANSPORT PROPERTIES OF CERAMICS $\text{La}_{0.6}\text{Sr}_{0.2}\text{Mn}_{1.2-x}\text{Nb}_x\text{O}_3 \pm \delta$

Paschenko A.V., Paschenko V.P.⁽¹⁾, Prokopenko V.K., Silcheva A.G.⁽¹⁾, Revenko Yu.F., Shemyakov A.A., Levchenko G.G.
Donetsk A.A.Galkin Institute for Physics and Technology of NASU, Donetsk, Ukraine
⁽¹⁾Shevchenko Luhansk National University, Lugansk, Ukraine

E172 PREPARATION AND PROPERTIES OF $\text{M}_{n+1}\text{AX}_n$ MATERIALS

Prikhna T.A., Dub S.N., Savchuk Ya.M., Starostina A.V., Melnikov V.S., Kozyrev A.V., Sergienko N.V., Moshchil V.E., Nagorny P.A., Petruscha I.A., Firstov S.A.⁽¹⁾, Ivanova I.I.⁽¹⁾, Karpets M.V.⁽¹⁾, Gawalek W.⁽²⁾, Schmidt Ch.⁽²⁾, Joulain A.⁽³⁾, Rabier J.⁽³⁾, Tolmacheva G.N.⁽⁴⁾, Cobioc T.⁽³⁾
Institute for Superhard Materials of NASU, Kiev, Ukraine
⁽¹⁾Institute for Problems of Material Sciences of NASU, Kiev, Ukraine
⁽²⁾Institut für Photonische Technologien, Jena, Germany
⁽³⁾Universite de Poitiers, CNRS/ Laboratoire PHYMAT, UMR 6630 CNRS-Universite de Poitiers, France
⁽⁴⁾National Science Center of Kharkov Institute of Physics and Technology, Kharkov, Ukraine

E192 HIGHLY POROUS CERAMICS ON A BASE OF THE CRYOCHEMICAL POWDER Al_2O_3

Rudeny S.A.
Kiev National Technical University «Kiev Polytechnical Institute», Kiev, Ukraine

E304 EFFECT OF MACROSTRUCTURE ON HEAT RESISTANCE OF LAYERED CERAMICS WITH QUARTZ SUBSTRATE AND TWO-SIDED PROTECTIVE NIOBIUM PENTOXIDE COATING

Voynich Ye., Kirkova E., Frolov A.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

E346 MECHANICAL PROPERTIES OF TITANIUM HYDRIDE DETERMINED BY INDENTATION TECHNIQUE

Dudnyk A.O., Vlasov A.A., Byakova A.V., Milman Yu.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

E327 MECHANOCHEMICAL METHOD OF NANOCRYSTALLINE POWDERS PRODUCTION IN THE $ZrO_2-CeO_2-Y_2O_3$ SYSTEM

Shevchenko A.V., Skyba I.A., Dudnik O.V., Lopato L.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

E75 HEAT-RESISTANT CRUCIBLES FOR STOMATOLOGIC MOULDING AND JEWELLER'S MANUFACTURE

Shmuradko V.T., Roman O.V.⁽¹⁾, Baray S.G.⁽²⁾, Zhilevich A.V.⁽³⁾

Separate Self-sustained Organization «Research Institute of Impulse Processes with Pilot Plant», Minsk, Belarus

⁽¹⁾National Academy of Sciences of Belarus, Minsk, Belarus,

⁽²⁾State Scientific Institution «Powder Metallurgy Institute», Minsk, Belarus

⁽³⁾348th Stomatologic Centre of Armed Forces of Belarus, Minsk, Belarus

E70 APATITES: SYNTHESIS IN THE MELT, PECULIARITIES OF THE STRUCTURE AND PROPERTIES

Zinchenko V.F., Tarasenko S.O., Nechiporenko A.V.

Bogatsky Physico-Chemical Institute of NASU, Odessa, Ukraine

Tuesday, October 20, 2009

14³⁰–16³⁰ Section H. Engineering of surface.

Chairmen: Olikier V.E. (Ukraine), Savich V.V. (Belarus)

H112 HT-COATINGS USING ALUMINIUM PARTICLE TECHNOLOGY

Kodjama-nova P., Kolarik V., Schulz O., Juez-Lorenzo M., Fietzek H.

Fraunhofer-Institute for Chemical Technology ICT, Pfinztal, Germany

15 minutes

H215 TITANIUM IMPLANTS SURFACE MODIFICATION AND SURFACE PHYSICAL-CHEMICAL AND BIO-CHEMICAL PROPERTIES

Savich V.V., Shipitsa N.A., Kiselev M.G.⁽¹⁾, Pavich T.P.⁽¹⁾, Martsev S.P.⁽²⁾, Vlasov A.P.⁽²⁾

SSI PMI, Minsk, Belarus

⁽¹⁾BNTU, Minsk, Belarus

⁽²⁾National Research and Practice Centre for Haematology and Transfusiology, Minsk, Belarus

15 minutes

H209 INFLUENCE OF MAGNETIC FIELD ON FORMATION OF STRUCTURE AND PROPERTIES OF INTERMETALLIC NiAl COATINGS

Gridasova T.Ya., Eliseeva E.N.⁽¹⁾, Olikier V.E.⁽¹⁾

Kiev National Technical Universities «Kiev Polytechnical Institute», Kiev, Ukraine

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

H38 REGULARITIES OF STRUCTURE-PHASE STATE FORMATION IN ION-SPUTTERED CONDENSATES OF REFRACTORY MATERIALS

Sobol' O.V.

National Technical University «Kharkov Polytechnical Institute», Kharkov, Ukraine

15 minutes

H132 EXPERIMENTAL RESEARCH MANUFACTURING OF WEAR-RESISTANT (Ti,Al)N COATINGS DEPOSITION ON METAL-CUTTING TOOLS IN UKRAINIAN SPECIAL STEEL INSTITUTE

Mateiko I.V., Goltvyanitsa V.S.⁽¹⁾, Goltvyanitsa S.K.⁽²⁾

Ukrainian State Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhye, Ukraine

⁽¹⁾Zaporozhye national technical university, Zaporozhye, Ukraine

⁽²⁾Real Ltd., Zaporozhye, Ukraine

15 minutes

H155 THE CHARACTERISTICS OF PLASMA ELECTROLYTIC TREATED HARDEND SURFACE LAYER OF STEEL-CAST IRON COMPOSITE PRODUCED BY BI-METAL CASTING ROUTE

Ozel A, Kumruoglu L.C, Mimaroglu A., Unal H.

Sakarya University, Sakarya, Turkey

15 minutes

H188 CYCLING DURABILITY OF MULLITE AND ZrSiO₄ BASED ENVIRONMENTAL BARRIER COATINGS

Ustel F., Turk A., Yildirim S., Altuncu E.⁽¹⁾

Sakarya University, Sakarya, Turkey

⁽¹⁾Kocaeli University, Hereke Borusan Campus

15 minutes

Discussion

Tuesday, October 20, 2009

Exposition posters of Section H from 14³⁰ till 16³⁰

H154 MICRO ARC OXIDATION OF WIRE ARC SPRAYED AL-MG6 COATINGS ON LOW ALLOYED STEEL

Kumruoglu L.C., Ustel F., Ozel A., Mimaroglu A.
University of Sakarya, Esentepe Campus, Turkey

H205 HYBRID METHODS OF PRODUCING DIFFUSIVE, WEAR AND CORROSION RESISTANCE LAYERS ON Ti6Al4V ALLOY

Sobiecki J.R., Rajchel B.⁽¹⁾, Wierzchoń T.
Warsaw University of Technology, Warsaw, Poland
⁽¹⁾Institute of Nuclear Physics of Polish Academy of Science, Krakow, Poland

H4 CERAMIC COATING OF COKE OVEN BRICKWORK DURING HOT REPAIRS

Pronyakin A.Y., Filenkov K.V., Dyabin V.V., Kryukov Y.V., Poltoratskiy L.M.
OJSC «West-Siberian Steel Corporation», Novokuznetsk, Russia

H142 INCREASING OF WEAR RESISTANCE OF STEEL TRIBO DETAILS BY MEANS OF COMPOSITION STRENGTHENING OF THE SURFACES

Mudruk L.A., Zatulovskiy S.S., Chemega S.M.⁽¹⁾
Physico-technological Institute of Metals and Alloys of NASU, Kiev, Ukraine
⁽¹⁾NTUU «Kiev Polytechnic Institute», Kiev, Ukraine

H149 MICROPLASMA SPRAYING OF BIO-CERMET COATINGS FOR ENDOPROSTHESES

Borisov Yu.S., Voinarovych S.G., Kislitsa A.N., Kuzmych-Ianchuk Ie.K., Gaiko G.V.⁽¹⁾, Podgaetsky V.M.⁽¹⁾
Paton Electric Welding Institute of NASU, Kiev, Ukraine
⁽¹⁾State Enterprise «Institute of Orthopedy and Traumatology» of AMSU, Kiev, Ukraine”

H150 EFFICIENCY OF HEAT-PROTECTIVE CHARACTERISTICS OF THERMAL SPRAY COATINGS WITH QUASI-CRYSTALLINE ALLOY ADDED TO THEIR COMPOSITION

Borisov Yu.S., Astakhov E.A., Kaplina G.S., Grishchenko A.P., Vigilyanskaya N.V.
Paton Electric Welding Institute of NASU, Kiev, Ukraine

H340 THE RESEARCH OF OBTAINING COBALT COATING FOR DIAMOND POWDER

Luchka M.V., Raychenko O.I., Derev'yanko O.V., Evdokimov V.O., Shlychok E.M.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

H52 INVESTIGATION OF THE EFFECT OF UNIFORM MAGNETIC FIELD ON THE ATR SPECTRA OF ZnO AND 6H-SiC SINGLE CRYSTALS

Venger E.F., Ievtushenko A.I.⁽¹⁾, Melnichuk A.V.⁽¹⁾, Melnichuk L.Yu.⁽¹⁾
Lashkaryov Institute of Semiconductor Physics of NASU, Kiev, Ukraine
⁽¹⁾Gogol Nezhin State University, Nezhin, Ukraine

H187 COMPUTATION OF REFLECTION COEFFICIENTS AND OPTIMIZATION OF THE PARAMETERS OF THE BROADBAND MULTILAYER MIRRORS FOR SOFT X-RAY WAVE RANGE

Kislov A.M., Maslov K.V., Romanenko V.G.

Verkin Institute for Low Temperature Physics and Engineering of NASU, Kharkov, Ukraine

H206 BIOCOMPABILITY OF OXYNITRIDED LAYERS PRODUCED UNDER GLOW DISCHARGE CONDITIONS ON THE Ti6Al4V ALLOY

Sobiecki J.R., Ossowski M., Wierchoń T.

Warsaw University of Technology, Warsaw, Poland

H208 THE CONTRIBUTION OF FORM AND PORES SIZE THERMOBARRIER COATINGS ON THEIR HEAT CONDUCTIVITY

Nazarov V.A., Gridasova T.Y., Oliker V.E.⁽¹⁾

Kiev national technical universities «Kiev Polytechnical Institute», Kiev, Ukraine

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

H210 MULTIFUNCTION COMPOSITE COATINGS FROM MECHANICAL ALLOYING POWDERS OF Ti-Al-B

Sirovatka V.L., Oliker V.E., Gridasova T.Ya.⁽¹⁾

Frantsevich Institute for Problems of Materials Sciences of NASU, Kiev, Ukraine

⁽¹⁾Kiev national technical universities «Kiev Polytechnical Institute», Kiev, Ukraine

H212 THE ASSESSMENT OF THE TOTAL AND RESIDUAL SERVICE LIVES OF HIGH-PRESSURE APPARATUSES FOR DIAMOND SYNTHESIS

Shestakov S.I.

Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

H320 LASER PROCESSING OF TIN DIOXIDE DOPED BY ANTIMONY-BASED THICK FILMS

Paustovsky A.V., Rud B.M., Sheludko V.E., Gonchar A.G., Telnikov E.Ya.,

Kremenitsky V.V.⁽¹⁾, Zakharchenko I.V.⁽²⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Technical Center of NASU, Kiev, Ukraine

⁽²⁾Taras Shevchenko Kiev National University, Physical Department, Optics Chair, Kiev, Ukraine

H322 FORMATION OF SURFACE STRENGTHENED STEEL LAYER USING ESD ALLOYING WITH USE OF TiB₂-SiC-BASED ELECTRODE MATERIAL

Umansky A.P., Storozhenko M.S., Panasyuk A.D., Kostenko A.D.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

H344 UTILISATION OF FERROCHROME COMPOSITES WITH BORON CONTENT FOR SPARK TREATMENT ELECTRODES

Baglyuk G.A., Paustovskiy A.V., Pyatachuk S.G., Alfintseva R.A., Kirilenko S.S.,

Gubin Yu.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

Wednesday, October 21, 2009

9³⁰–11³⁰ **Section I. Engineering of surface.**

Chairmen: Maslov V.P. (Ukraine), Fekeshgazi I.V. (Ukraine)

I13 DIFFUSION WELDING OF REFRACTORY METALS AND HEAT-RESISTANT ALLOYS

Lyushinskiy A.V.
OAO «RDC» Ramenskoye, Moscow region, Russia

15 minutes

I326 WETTABILITY AND CONTACT INTERACTION OF MATERIALS OF SYSTEM Al_2O_3 - SiO_2 WITH ALLOYS Nb-Ni AND Nb-Au

Zhuravlev V.S., Koval' A.Ju., Karpets M.V., Naidich Ju.V.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

I323 INVESTIGATION OF WETTING AND CONTACT INTERACTION OF METAL MELTS CONTAINING TITANIUM AND PEROVSKITE CERAMIC

Sidorenko T.V., Naidich Y.V., Durov A.V.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

I105 PROSPECTS OF MAKING OF LAYERED CERAMIC-METAL MATERIALS BY EXPLOSIVE WELDING AND THERMOCHEMICAL SYNTHESIS

Saykov I.V., Pervukhina O.L., Pervukhin L.B.
Institute of Structural Macrokinetics and Materials Science of RAS, Chernogolovka, Russia

15 minutes

I1 GLUE-FREE BONDING AND OPTIMUM TECHNOLOGY OF MANUFACTURING OF HEMISPHERICAL PRECISION DETAILS FROM THE OPTICAL CERAMICS KO-1, KO-12

Maslov V.P.
Institute of semiconductors physics of NASU, Kiev, Ukraine

15 minutes

I211 FATIGUE OF WELDED ELEMENTS: RESIDUAL STRESSES AND IMPROVEMENT TREATMENTS

Kudryavtsev Y., Kleiman J.
Integrity Testing Laboratory Inc., Canada

15 minutes

I23 NEW JOINING METHODS FOR DISSIMILAR MATERIAL COMBINATIONS

Jank N.
Fronius International GmbH, Wels-Thalheim, Austria

15 minutes

Discussion

Wednesday, October 21, 2009

9³⁰–11³⁰ Section K. Equipments and methods for characterization materials.

Chairmen: Maslov V.P. (Ukrain), Fekeshgazi I.V. (Ukraine)

K40 SPACE - ANGULAR AND AZIMUTH DEPENDENCES THE ABSORPTION ABILITY OF HYROTROPIC CADMIUM DIPHOSPHIDE CRYSTALS

Fekeshgazi I.V., Sidenko T.S., Stolyarenko A.V., Sheleg A.U.⁽¹⁾, Trukhan V.M.⁽¹⁾, Golyakevich T.V.⁽¹⁾

Lashkaryov Institute of Semiconductor Physics of NASU, Kiev, Ukraine

⁽¹⁾SPC on Material Sciences of NASB, Minsk, Belarus

15 minutes

K101 PULSE ULTRASONIC STUDY OF ELASTIC PROPERTIES OF CARBON NANOMATERIALS UNDER PRESSURE

Yagafarov O.F., Gromnitskaya E.L., Lyapin A.G., Brazhkin V.V.

Institute for High Pressure Physics of RAS, Troitsk, Russia

15 minutes

K183 DEVELOPMENT OF RESONANCE DEVICE FOR EXPRESS ANALYSIS BY USING EPR METHOD

Golovina I.S., Kolesnik S.P., Geifman I.N.⁽¹⁾

Institute of Semiconductor Physics of NASU, Kiev, Ukraine

⁽¹⁾Quality Engineering Education, Inc., USA

15 minutes

K199 QUANTITATIVE METALLOGRAPHIC ANALYSIS OF EUTECTIC CARBIDES IN COLD-STAMPED TOOL STEEL LIKE X12

Yatsenko M.Y.

State Enterprise «Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys» (GP UKRNIISPETSSTAL), Zaporozhia, Ukraine

15 minutes

Discussion

Wednesday, October 21, 2009

**Exposition posters of Section I from 9³⁰ till 11³⁰,
(в секции К стендовые доклады не представлены)**

I345 BRAZING AND DIFFUSION BONDING OF OXIDE AND NITRIDE CERAMIC USING NIOBIUM AND NIOBIUM CONTAINING ALLOYS

Naidich Y.V., Gab I.I., Durov A.V., Kostyuk B.D., Stetsyuk T.V., Kurkova D.I.
Physico-Technological Institute of Metals and Alloys of NASU, Kiev, Ukraine

I14 DIFFUSION WELDING Ga-Ni OF POWDER COMPOSITION TO COPPER SUBSTRATE

Lyushinskiy A.V., Umerov R.A.⁽¹⁾, Uzakov Ia.M.⁽¹⁾
OAO «RDC», Ramenskoye Moscow region, Russia
⁽¹⁾NPAP «Tezlatgich» Tashkent, Republic Uzbekistan,

I106 EXPLOSIVE WELDING OF LENGTHY CYLINDRICAL CU+TI CLAD ITEMS

Pervukhina O.L., Saykov I.V., Pervukhin L.B.
Institute of Structural Macrokinetics and Materials Science of RAS, Chernogolovka, Russia

Wednesday, October 21, 2009

12⁰⁰–15³⁰ Section C. Powder metallurgy: current status of science and industry; modern materials based on fine powders, fibers, etc.

Chairmen: Loboda P.I. (Ukraine), Bagluyk G.A. (Ukraine)

C130 PHYSICO-CHEMICAL PROCESSES AT ALUMINIUM ALLOYS ATOMIZATION BY WATER

Bechke K.V., Sanin A.F., Lednjanskij A.F.
Gonchar Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

15 minutes

C104 INTRODUCTION OF METHODS OF THE INTENSIFICATION OF PROCESSES OF CONSOLIDATION POWDER STRUCTURE IN LARGE-CAPACITY MANUFACTURE OF BUILDING MATERIALS

Perelman V.E., Zubro S.B.
Lomonosov Moscow state academy of thin chemical technology, Moscow, Russia

15 minutes

C81 MECHANISM OF COMPACTION OF COMPOSITE POWDERS ON THE BASIS OF COPPER OF ANTIFRICTIONAL APPOINTMENT

Stepanchuk A.N., Bogatov A.S., Sakhnenko A.V.
National Technical University of Ukraine, «KPI», Kiev, Ukraine

15 minutes

C64 PROSPECTS OF PRODUCTION OF FINE POWDERS OF SPECIAL STEELS AND ALLOYS

Ternovy Y.F., Hans Soderhjelm ⁽¹⁾, Kononenko A.A., Zubkova V.T., Kuratchenko A.B., Mikael Kejzelman ⁽¹⁾

GP Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhia, Ukraine

⁽¹⁾Hoganas AB, SE-263 83 Hoganas, Sweden

15 minutes

C62 URGENCY OF DOMESTIC PRODUCTION OF NEW GRADES OF POWDER TOOL STEELS OF HIGHER AND HIGH WEAR RESISTANCE

Zubkova V.T., Ternovy Y.F., Sal'nikov A.S. ⁽¹⁾, Zolotareva L.I., Mil'chev V.V. ⁽¹⁾, Gen V.N. ⁽¹⁾

GP Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhia, Ukraine

⁽¹⁾JSC «Kuzmin Electrometallurgical Works «Dneprospetsstal», Zaporozhia, Ukraine

15 minutes

C204 POROUS TITANIUM ELECTRODES AND DEVICES ON THEIR BASES FOR WATER DESALTING IN THE ELECTRICAL FIELD

Pilinevich L.P., Tumilovich M.V., Prokhorov O.A.

SSI PMI of NASB, Minsk, Belarus

15 minutes

Discussion

Wednesday, October 21, 2009

12⁰⁰–15³⁰ Section C. Powder metallurgy: current status of science and industry; modern materials based on fine powders, fibers, etc.

Chairmen: Stepanchuk A.N. (Ukraine), Ternovy Yu.F. (Ukraine)

C97 COMPARISON OF IRON-SILICON AND IRON-SILICON-CARBON SYSTEMS SINTERED IN DIFFERENT CONDITIONS

Faryj K., Ciaś A.

AGH University of Science and Technology, Krakow, Poland

15 minutes

C305 STUDY OF FERROMANGANESE-COPPER INTERACTION UNDER SYNTHESIS OF POWDERED ALLOYING ADDITIVES OF THE Fe-Mn-Cu SYSTEM

Baglyuk G.A., Uskova N.A., Grishchishyna L.N., Volfman V.I. ⁽¹⁾, Klimentko A.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Kazenny powder metallurgy plant, Brovary, Kiev region, Ukraine

15 minutes

C111 CRYSTAL STRUCTURE AND MECHANICAL PROPERTIES OF NANOCOMPOSITES Al-Al₄C₃

Vorozhtsov S.A., Kulkov S.N., Buyakova S.P.

Institute of Strength Physics and Material Sciences of SB RAS, Tomsk, Russia

15 minutes

C115 COMPOSITES CU-DIAMOND (HEAT SINK) PRODUCED BY PULSE PLASMA SINTERING TECHNIQUE

Rosinski M., Michalski A.

Warsaw University of Technology, Warsaw, Poland

15 minutes

C372 TECHNOLOGICAL CHARACTERISTICS OF POWDERS, THEIR MIXTURES AND STRENGTH OF COMPACTS MANUFACTURING FROM THEM

Radchenko O.K., Voloshchenko S.M., Askerov M.G., Verbilo D.G., Koryak O.S., Evich J.I. Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

Discussion

Wednesday, October 21, 2009

Exposition posters of Section C from 12⁰⁰ till 15³⁰

C20 MICROWAVE SINTERING OF WC AND Co POWDERS

Erol Ayhan, Yonetken Ahmet, Erdogan Muazaffer

Afyon Kocatepe University, Turkey

C177 STABILITY ON AIR OF SOME POWDERY BORIDES

Kudin V.G., Makara V.A., Sudavtsova V.S.

Shevchenko Kiev National University, Kiev, Ukraine

C11 MODIFICATION OF SURFACE OF POWDER-LIKE MATERIALS BY HIGH-VOLTAGE ELECTRIC DISCHARGE

Sizonenko O.N.

Institute of pulse processes and technologies of NASU, Nikolaev, Ukraine

C42 SINTERING OF A POWDER OF ALUMINIUM WITH ADDITIVES UDP COPPER AND NICKEL

Romanov G.N., Tarasov P.P., Dyachkovskii P.K.

Yakut state university, Yakutsk, Russia

C44 MODELING OF WEAR PROCESS FOR MULTICOMPONENT COMPOSITES IN FRICTION AREA

Skachcov V.A., Ivanov V.I., Sergienko S.S., Yanko T.B.

Zaporozhia state engineering academy, Zaporozhia, Ukraine

C60 THE RECEIPT CHEMICALLY THE HOMOGENEOUS DIRECTIONALLY CRYSTALLIZED ALLOYS OF THE SYSTEM Mo-Si-B

Loboda P.I., Krikliyaya I.Yu., Dudka A.I., Byba E.G., Bogomol I.I., Schirskaya V., Tereschenko A.

National Technical University «KPI», Kiev, Ukraine

C61 CREATION OF PRECIPITATION-HARDENING TOOL ALLOYS WITH INTERMETALLIDE STRENGTHENING

Zubkova V.T., Terekhov V.N., Kanyuka V.I., Ternovy Y.F., Nogovitsin A.V.⁽¹⁾

GP Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhia, Ukraine

⁽¹⁾Ministry of Industrial Policy of Ukraine, Kiev, Ukraine

C63 IMPROVEMENT OF MICROSTRUCTURE AND PROPERTIES OF POWDER HIGH-SPEED STEELS WITH USE OF TIME-TEMPERATURE TREATMENT OF MELT BEFORE ATOMIZATION

Ternovy Y.F., Gogaev K.A.⁽¹⁾, Zubkova V.T., Kuratchenko A.B., Itsenko A.I.⁽¹⁾, Zolotareva L.I.

GP Ukrainian Research Institute of Special Steels, Alloys and Ferroalloys, Zaporozhia, Ukraine

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C96 FABRICATION SEMICONDUCTOR CdS FILMS BY SEDIMENTATION FROM THE COLLOID SOLUTION

Osipyonok M.M., Singaevsky A.F., Pekar G.S.

Lashkaryov Institute of Semiconductor Physics of NASU, Kiev, Ukraine

C313 RESEARCH OF TECHNOLOGY FOR MANUFACTURING AND PROPERTIES OF BORON CONTAINING POWDER MASTER ALLOYS

Baglyuk G.A., Napara-Volgina S.G., Piatachuk S.G., Mamonova A.A., Orlova L.N., Kud V.K.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C314 MANUFACTURING OF BORON CONTAINING POWDER MATERIALS OF DIFFERENT PURPOSES WITH APPLICATION OF MASTER ALLOYS

Baglyuk G.A., Napara-Volgina S.G., Orlova L.N., Kud V.K., Kostenko A.D.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C336 FEATURES OF HIGH – ENERGY MILLING OF THE TiH₂-BN POWDERS IN THE DIFFERENT MEDIUMS

Petukhov O., Khobta I., Ragulya A., Isaeva L., Garbuz V., Lobunets T.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine^(c)

C341 ON THE POSSIBILITY OF PREPARING SOFT MAGNETIC MATERIALS BY THE ELECTRODISCHARGE SINTERING METHOD

Derev'yanko O.V., Raychenko O.I., Panasyk O.A., Baglyuk G.A., Kurovskiy V.Ya., Vlasova O.V., Shlychok G.M.

Frantsevych Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C361 ABOUT THE ESTIMATION OF QUALITY OF POROUS MATERIALS ON THE BASIS OF THE POWDER OF THE TITAN

Lugovskoi U.F., Nazarenko V.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C363 DEFORMATION EFFECTS IN REFRACTORY COMPOUNDS AT HIGH PRESSURES COMPRESSION

Bykov A.I., Timofeeva I.I., Klochkov L.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C373 THE MEAN SHEAR YIELD STRESS OF POWDER MATERIAL VS. ITS MEAN-SQUARE-ROOT STRAIN DURING COMPACTION IN A DIE

Radchenko A.K., Kovalchenko M.S., Brodnikovskiy D.N.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C170 INFLUENCE OF NICKEL ON SINTERING TUNGSTEN NANOPOWDERS

Isaeva N.V., Blagoveshchenskiy Y.V., Blagoveshchenskaiy N.V., Melnik Y.I., Levinskiy Y.V.⁽¹⁾, Ryzhkova E.P.⁽¹⁾

Institute of Metallurgy and Materials Science (Baikov Institute) of RAS, Moscow, Russia

⁽¹⁾Lomonosov Moscow State Academy of Fine Chemical Technology, Moscow, Russia

C328 INFLUENCE OF THE SINTERING ATMOSPHERE ON THE MAGNETIC PROPERTIES OF A POWDER MATERIAL ON THE BASE OF Fe-Co-P-B

Panasyuk O.A., Napara-Volgina S.G., Apininskaya L.M., Vlasova O.V., Minitzkiy A.V., Deymontovich V.B., Vergeles N.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C333 MORPHOLOGICAL SPECIAL FEATURES OF POWDERS IN THE SYSTEM CU-FE-CR-C AND SOME THEIR PROPERTIES

Bogatov A.S., Sakhnenko A.V., Kirievskiy B.M.⁽¹⁾, Minakova R.V., Minakov N.V., Golovkova M.E., Kopylova G.E.⁽²⁾

Inter-Contact-Prior, Kiev, Ukraine

⁽¹⁾Physic-Technological Institute of Metal and Alloys of NASU, Kiev, Ukraine

⁽²⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C59 THE BORON INFLUENCE ON REFINEMENT FROM IMPURITIES AND TITANIUM POWDERS SINTERING

Loboda P.I., Byba E.G., Krikliyaya I.Yu., Chernjavskii V.V.

National Technical University «KPI», Kiev, Ukraine

C334 THE VOLUME FRACTION EFFECT ON PARTICLE GROWTH RATE IN Cr-Cu COMPOSITE SINTERING IN THE PRESENCE OF LIQUID PHASE

Minakova R.V., Khomenko E.V., Lesnik N.D.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C337 THE INFLUENCE OF ALUMINIUM PARTICLES MORPHOLOGY ON THE PROCESS OF JOINT MILLING WITH TiH₂ IN A PLANETARY-TYPE MILL

Lyudvinskaya T.A., Oleynik G.S., Matsera V.E., Bilash L.D., Uvarova I.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C360 STRUCTURAL FEATURES OF DISPERSED CHARGES OBTAINED BY THERMOLYSIS OF COPRECIPITATED Ag AND Ni OXALATES

Vasylyna A.B., Zatovskii V.G., Kriachko L.A., Minakova R.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

C367 FORMATION OF NITRIDE PHASES IN POWDERS OF IRON AND TITANIUM AT THEIR NITRIDING IN CARBAMIDE ATMOSPHERE

Baglyuk G.A., Mamonova A.A., Kurovskiy V.Ya., Lyudvinskaya T.A., Lvova G.G., Yiakovlev A.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

Thursday, October 22, 2009

9³⁰–12⁰⁰ Section A. Fundamental principles of contemporary materials science. Phase equilibrium diagrams. Modeling of the technological processes for making materials and the properties of contemporary materials for various purposes.

Chairmen: Beznosyuk S.A. (Russia), Metlov L.S. (Ukraine)

A117 NONEQUILIBRIUM THERMODYNAMICS OF SEVERE ACTIONS

Metlov L.S.

Donetsk Institute for Physics and Technology of NASU, Donetsk, Ukraine

15 minutes

A68 COMPUTATIONAL MODELING OF STABILITY AND SUPERFLUOUS ENERGY OF MANGANESE NANOLAYER CRYSTALS

Beznosyuk S.A., Belyaeva N.A., Fomina L.V.⁽¹⁾

Altai State University, Barnaul, Russia

⁽¹⁾Angarsk State Technical Academy, Angarsk, Russia

15 minutes

A30 MASS TRANSFER MECHANISMS, STRUCTURE AND PROPERTIES OF DIAMOND-CONTAINING MATERIALS OF THE Fe–Cu–Ni–Sn–CrB₂ SYSTEM

Bondarenko N.A., Mechnik V.A.

Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

15 minutes

A369 ELECTRONIC STRUCTURE OF CdGa₂Se₄: FIRST-PRINCIPLES CALCULATIONS AND X-RAY SPECTROSCOPY STUDIES

Lavrentyev A.A., Gabrelian B.V., Kulagin B.B., Nikiforov I.Ya., Parasyuk O.V.⁽¹⁾, Khyzhun O.Yu.⁽²⁾

Don State Technical University, Rostov-on-Don, Russian Federation

⁽¹⁾Volyn National University, Lutsk, Ukraine

⁽²⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

A307 SOME PECULIARITIES OF CRYSTALLIZATION OF ALUMINA IN A FOCAL ZONE OF AN OPTICAL FURNACE

Frolov A.A., Voynich E.V., Garbuz V.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

A133 RECRYSTALLIZATION DIAGRAMS OF HOT-DEFORMED AUSTENITE OF SPECIAL STEELS

Spector Ya.I., Kunitskaya I.N.

State enterprise «Ukrainian State Scientific and Research Institute of Special Steels, Alloys and Ferroalloys», Zaporozhye, Ukraine

15 minutes

A9 FULL-SCALE METHODS AND ALGORITHMS OF IDENTIFICATION AND OPTIMIZATION OF MATERIALS PROPERTIES AND COMPOSITION

Starovatskaya S.N., Myshlyaev L.P.

Siberian State Industrial University, Novokouznetsk, Russia

15 minutes

A365 INTERACTION CERIUM OXIDE WITH ZIRCONIA AND GADOLINIA AT 1500 °C

Andrievskaya E.R., Kornienko O.A., Lopato L.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

A49 LOW-TEMPERATURE ULTRASONIC PROPERTIES OF INTENSELY-DEFORMED PURE ZIRCONIUM

Bulatov A.S., Velikhodny A.N., Dolzhenko V.F., Klochko V.S., Kornietz A.V., Tikhonovsky M.A.

National Science Center – Kharkov Institute of Physics & Technology of NASU, Kharkov, Ukraine

15 minutes

A21 ACOUSTICAL AND RESISTIVITY PROPERTIES OF PERSPECTIVE FOR ATOMIC ENGINEERING γ -AUSTENITIC ALLOYS Fe-Cr-Mn IN THE TEMPERATURE REGION 5 – 325 K

Semerenko Yu.A., Pal-Val L.N., Skibina L.V.

Verkin Institute for Low Temperature Physics and Engineering of NASU, Kharkov, Ukraine

15 minutes

A157 SELF-ORGANIZATION OF STRUCTURES AT INTENSIVE PLASTIC DEFORMATION

Pashynskaya E.G., Varyukhin V.N.

Galkin Donetsk Physical-Technical Institute of NASU, Donetsk, Ukraine

15 minutes

Discussion

Thursday, October 22, 2009

Exposition posters of Section A from 9³⁰ till 12⁰⁰,

A110 INFLUENCE OF CHEMICAL COMPOSITION ON THE AMORPHIZATION AND THERMAL STABILITY OF MELT SPUN AND MECHANICALLY ALLOYED NiTiZrCu ALLOYS

Oleszak D., Kulik T.

Warsaw University of Technology, Warsaw, Poland

A178 FORECASTING OF ACTIVITIES OF ALLOYS COMPONENTS FROM PHASE DIAGRAMS

Matejko I.V., Shevchenko M.O., Sudavtsova V.S., Sharkina N.O.

Shevchenko Kiev National University, Kiev, Ukraine

A201 THERMODYNAMICS OF LIQUID ALLOYS OF Al-Ni-IVa-Me SYSTEMS

Sudavtsova V.S., Kotova N.V., Lagodyuk Yu.V.

Shevchenko Kiev National University, Kiev, Ukraine

A202 DESIGN OF THERMODYNAMICS PROPERTIES OF TERNARY MELTS USING TO INFORMATION FOR BOUNDARY BINARY SYSTEMS

Vovkotrub N.E., Sudavtsova V.S., Kotova N.V., Lagodyuk Yu.V.

Shevchenko Kiev National University, Kiev, Ukraine

A109 THERMODYNAMIC PROPERTIES OF LIQUID Al-Ni-Y AND Al(Ni)-Y ALLOYS

Romanova L.A., Sudavtsova V.S.⁽¹⁾, Kotova N.V.⁽¹⁾, Shevchenko M.A.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Shevchenko Kiev National University, Kiev, Ukraine

A349 DILUTED MAGNETIC SEMICONDUCTORS BASED ON INSE<MN> AND $SN_{1-x-y-z}GE_xMN_yGD_zTE$ CRYSTALS

Lashkarev G.V., Radchenko M.V., Sichkovskiy V.I., Slyn'ko V.E., Slyn'ko E.I., Kovalyuk Z.D., Aleshkevych P.⁽¹⁾, Nedelko N.⁽¹⁾, Slawska-Waniewska A.⁽¹⁾, Yakiela R.⁽¹⁾, Knoff W.⁽¹⁾, Story T.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

A17 SPATIOTEMPORAL PERIODIC NANO-STRUCTURES IN PROCESS OF POLYMER CRISTALLIZATION

Krasnyuk I.B., Taranets R.M.⁽¹⁾, Yurchenko V.M.

Galkin Donetsk Institute for Physics and Engineering of NASU, Donetsk, Ukraine

⁽¹⁾Institute of Applied Mathematics and Mechanics of NASU, Donetsk, Ukraine

A28 PHASE DIAGRAMS AND THERMODYNAMIC PROPERTIES OF THE SYSTEMS B^V-S-I (B^V -As, Sb, Bi)

Babanly M.B., Aliyev Z.S., Musayeva S.S., Shikhiyev Yu.M.

Baku State University, Baku, AZ

A67 PHASE DIAGRAMS OF LIQUID-CRYSTALLINE GLASS-FORMING SYSTEMS BASED ON TRANSITION METAL ALKANOATES

Tokmenko I.I., Mirnaya T.A., Yaremchuk G.G.

Vernadskii Institute of General and Inorganic Chemistry of NASU, Kiev, Ukraine

A77 THE INFLUENCE OF DEFORMING CONDITIONS AND CHEMICAL COMPOSITION TO THE PARAMETERS OF STRUCTURE FORMATION OF POROUS POWDER MATERIALS

Ryabicheva L.A., Usatuk D.A., Gaponova O.P.

Dal East-Ukrainian National University, Lugansk, Ukraine

A91 INFLUENCE OF ION ENERGY AND SUBSTRATE TEMPERATURE ON STRUCTURE FORMATION AT CARBON COATING DEPOSITION

Kalinichenko A.I., Per epelkin S.S., Strel'nitskij V.E.

National Science Center «Kharkov Institute of Physics and Technology», Kharkov, Ukraine

A118 COMPOSITION DIAGRAMS OF CATHODIC PRODUCTS FOR HALIDE-OXIDE AND OXIDE CARBONATE CONTAINING MELTS AND SYNTHESIS OF MOLYBDENUM AND TUNGSTEN CARBIDES

Malyshev V.V., Gab A.I., Astrelin I.M.⁽¹⁾

Open International University of Human Development «Ukraine», Kiev, Ukraine

⁽¹⁾National Technical University of Ukraine «Kiev Polytechnical Institute», Kiev, Ukraine

A119 AMORPHIZATION AND PHASE TRANSFORMATIONS IN MICROSTRUCTURE OF METALS UNDER DYNAMIC TREATMENT BY HIGH SPEED FLOWS OF MICROPARTICLES

Ovchinnikov V.I., Roman O.V., Petyushik E.E., Kalinichenko A.S.⁽¹⁾, Reut O.P.⁽¹⁾

Research Institute of Impulse Processes, Minsk, Belarus

⁽¹⁾Belarusian National Technical University, Minsk, Belarus

A151 EFFECT OF GAMMA-NEUTRON IRRADIATION ON THE PARAMETERS OF InSe-PHOTODIODES

Kovalyuk Z.D., Sydor O.M., Sydor O.A., Dubinko V.I.⁽¹⁾

Frantsevich Institute for Problems of Material Science of NASU, Kiev, Ukraine

⁽¹⁾National Scientific Center «Kharkov Physico-Technical Institute» of NASU, Kharkov, Ukraine

A213 PHASE EQUILIBRIUMS AND THERMODYNAMIC PROPERTIES OF THE Tl-Hal-X (X-Se,Te; Hal-Cl,Br,I) SYSTEMS

Babanly D.M., Askerova S.V., Yusibov Yu.A., Babanly M.B.

Baku State University, Baku, AZ

A301 HEAT CAPACITY AND ENTHALPY OF Lu₅Si₃

Gorbachuk N.P., Kiriyyenko S.N., Sidorko V.R., Obushenko I.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A303 THE SOLIDUS SURFACE OF THE Al₂O₃—HfO₂—Y₂O₃ PHASE DIAGRAM

Lakiza S.M., Tyschenko Ja.S., Sus A.O.⁽¹⁾, Tkach V.V.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾National Technical University of Ukraine «Kiev Polytechnic Institute», Kiev, Ukraine

A306 CHARACTERISTIC PROCESSES ACCOMPANIED THE OXYGEN RELEASING UPON CRYSTALLIZATION OF YTTRIA AND RARE EARTH ELEMENT OXIDES OF YTTREA SUBGROUP IN THE FOCAL ZONE OF OPTICAL FURNACE

Frolov A.A., Voynich E.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A324 HIGH-TEMPERATURE ENTHALPY OF SELENIDES IN THE HOMOGENEITY REGION (Nd₃Se₄-Nd₂Se₃)

Litvinenko V.F., Kopan A.R.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A329 COMMUNICATION OF ELASTIC – DYNAMIC PROPERTIES OF CHROME SILICIDES WITH PARAMETERS OF THEIR ELECTRONIC STRUCTURE

Goriachev Yu.M., Dekhtyaruk V.I., Malakhov V.Ya., Siman M.I., Fiyalka L.I.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A335 THERMODYNAMIC CHARACTERISTICS OF Sm₂Zr₂O₇ From 60 TO 300 K

Kopan A.R., Gorbachuk N.P., Lakiza S.N., Tischenko J.S.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A343 ENTHALPIES OF MIXING OF NICKEL WITH SAMARIUM

Berezutski V.V., Ivanov M.I., Rafal A.N., Usenko N.I.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Taras Shevchenko National University, Kiev, Ukraine

A351 STRUCTURE AND MECHANICAL PROPERTIES OF Ti-Si-X SYSTEM EUTECTIC COMPOSITES

Gornaya I.D., Valuyskaya K.A., Bega N.D., Kotko A.V., Okun' I.V., Firstov S.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A370 ELECTRONIC STRUCTURE OF DIFFERENT POLYMORPHOUS FORMS OF NIOBIUM DISELENIDES AS STUDIED USING X-RAY PHOTOELECTRON AND EMISSION SPECTROSCOPY

Tyshkovets Zh.I., Sinelnichenko A.K.⁽¹⁾, Izvekov A.V.⁽¹⁾, Khyzhun O.Yu.⁽¹⁾

Volyn National University, Lutsk, Ukraine

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A376 GROWTH AND MICROMORPHOLOGY OF GaSe_{1-x}A_x (A = S, Te) CRYSTALS

Sarkisov S.Yu., Atuchin V.V.⁽¹⁾, Gavrilova T.A.⁽¹⁾, Khyzhun O.Yu.⁽²⁾, Morozov A.N.

Siberian Physical and Technical Institute of Tomsk State University, Tomsk, Russia

⁽¹⁾Institute of Semiconductor Physics of SB RAS, Novosibirsk, Russia

⁽²⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

A377 STRUCTURAL AND ELECTRONIC PARAMETERS OF K₃WO₃F₃

Atuchin V.V., Gavrilova T.A., Kesler V.G., Khyzhun O.Yu.⁽¹⁾, Molochev M.S.⁽²⁾,

Alexandrov K.S.⁽²⁾

Institute of Semiconductor Physics, SB RAS, Novosibirsk, Russia

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽²⁾Institute of Physics of SB RAS, Krasnoyarsk, Russia

A216 THE EFFECT OF TEMPERATURE CONDITIONS IN THE REACTION CELL OF A HIGH-PRESSURE APPARATUS ON THE SYNTHESIS PROCESS AND CHARACTERISTICS OF CUBIC BORON NITRIDE CRYSTALS

Borimsky I.A.

Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

A175 ENERGY STRUCTURE OF DEPECHS IN Pb_{1-x}Cd_xJ₂ и Pb_{1-x}Sn_xJ₂ CRYSTALS

Fur'yer M.S., Beynik I.A., Skubenko P.A., Bukivsky P.M., Gnatenko Yu.P.,

Gamernyk R.V.⁽¹⁾

Institute of Physics of NASU, Kiev, Ukraine

⁽¹⁾Franko National University, L'vov, Ukraine

Thursday, October 22, 2009

12³⁰–13³⁰ Section J. Medical-purpose materials.

Chairmen: Zinchenko V.F. (Ukraine), Besov A.V. (Ukraine)

J92 STABLE AND METASTABLE CONDITIONS OF ERYTHROCYTES AND THEIR RELATION TO OSMOTIC AND TEMPERATURE STABILITY

Belikova E.A., Rotan O.Y., Soklakova N.I., Bondarenko V.A.
Karazin Kharkov National University, Kharkov, Ukraine

15 minutes

J339 ANALYSIS OF INFLUENCE OF MAGNETIC FIELD BY FINE FERROMAGNETICS ON RESISTANCE OF ORGANISMS-CARRIERS OF TUMOR

Raychenko O.I., Kushchevskaya N.F.⁽¹⁾, Mosyenko V.S.⁽²⁾, Derev'yanko O.V.,
Ogorodnikov V.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Dumansky Institute of Colloid and Water Chemistry of NASU, Kiev, Ukraine

⁽²⁾Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology of NASU,
Kiev, Ukraine

15 minutes

Discussion

Thursday, October 22, 2009

Exposition posters of Section J from 12³⁰ till 13³⁰

J6 THE NEW MEDICINAL BIONANOMATERIALS ON BASES OF THE BIOCOMPATIBLE POLYURETHANE WITH PROLONGED DRUG ACTION

Kuksin A.N., Galatenko N.A., Rozhnova R.A.

Institute of Macromolecular Chemistry of NASU, Kiev, Ukraine

J7 POLYMERIC COMPOSITION FOR MANUFACTURE OF FIXING ELEMENTS AT RECONSTRUCTION OPERATIONS IN SURGERY

Kuksin A.N., Galatenko N.A., Rozhnova R.A.

Institute of Macromolecular Chemistry of NASU, Kiev, Ukraine

J53 NEW IMPLANTATION SYSTEMS IN COMPREHENSIVE TREATMENT PROGRAM FOR PATIENTS WITH LOWER JAW DEFECTS

Antsiferov V.N., Lyudagovsky A.V., Rogozhnikov G.I.⁽¹⁾, Astashina N.B.⁽¹⁾

Research Centre of Powder Materials Science of The state educational establishment of higher vocational training "Perm State Technical University", Perm, Russia

⁽¹⁾The state educational establishment of higher vocational training

Vagner Perm State Medical Academy of Social Development Ministry, Perm, Russia

J123 PHYSICAL PROPERTIES OF MAGNETIC LIQUID WITH MAGNETITE Fe_3O_4
Chernyak N.A., Prydkin B.K., Igantseva T.A., Bovda A.M., Bovda V.A., Repin N.V.⁽¹⁾,
Kiroshka V.V.⁽¹⁾, Levitin E. Ya.⁽²⁾, Onoprienko T.A.⁽²⁾, Vedernikova I.A.⁽²⁾
NSC KIPT, Kharkov, Ukraine
⁽¹⁾IPCC NAS, Kharkov, Ukraine
⁽²⁾NPHA, Kharkov, Ukraine

**J146 VOLUMETRIC NANOSTRUCTURED ALUMINIUM BASED MATERIAL FOR
TRAUMATOLOGY AND ORTHOPEDY**
Shalunov E.P., Karalin A.N.
Ulyanov Shuvash State University, Cheboksary, Russia

**J311 3D MODELING IN TECHNIQUE OF TOOTH REPAIR BY POLYMERIC
AND PLASMA-SPRAYED COATINGS**
Besov A.V., Dolgov N.A.⁽¹⁾, Zubretskaya N.A.⁽²⁾
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine
⁽¹⁾Pisarenko Institute for Problems of Strength of NASU, Kiev, Ukraine
⁽²⁾The Kiev National University of Technologies and Design, Kiev, Ukraine

J127 CERAMIC NANOSTRUCTURED GRAFTING MATERIALS
Ulyanova T.M., Titova L.V., Kru'ko N.P., Evtukhov V.L.⁽¹⁾
Institute of General and Inorganic Chemistry of NASB, Minsk, Belarus
⁽¹⁾Belarusian State Medical University, Minsk, Belarus

J325 TRIBOLOGICAL TESTING OF THE FRICTION PAIRS
Shevchenko A.V., Dudnik E.V., Tsukrenko V.V., Tkachenko U.G.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

Thursday, October 22, 2009

14³⁰–17³⁰ Section G. Composite materials: properties and prospects in practical use.

Chairmen: Gorshkov V.A. (Russia), Sanin A.F. (Ukraine)

G184 RESISTANCE OF POLYMERIC COMPOSITE MATERIALS TO INFLUENCE OF ON-GROUND SIMULATED SPACE FACTORS

Pokhyl Yu.A., Abraimov V.V., Saltevsij G.I., Zaritskij I.P., Lototskaya V.A., Krevsun A.V., Agashkova N.N., Pristjuk M.M., Tikhij V.G.⁽¹⁾, Gusarova I.A.⁽¹⁾, Potapov A.M.⁽¹⁾

Verkin Institute for Low Temperatures Physics & Engineering of NASU, Kharkov, Ukraine
⁽¹⁾Jangel State enterprise «Design office «Yuzhnoye», Dnepropetrovsk, Ukraine

15 minutes

G129 STUDIES INTO PERMEABILITY OF HEAT-PROTECTION COATINGS OF ROCKETRY FACILITIES

Sanin A.F., Khutoryi V.V., Bozhko S.A.

Gonchar Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

15 minutes

G82 CREATION OF COMPOSITE THICK COATING COVERINGS WITH PARTICIPATION OF REFRACTORY CONNECTIONS AND SELF-FLUXING ALLOYS

Stepanchuk A.N., Butrimow R.N.

National technical University of Ukraine, «KPI», Kiev, Ukraine

15 minutes

G15 INFLUENCE OF THE SIZE AND THE FORM OF THE DISPERSE PHASE PARTICLES ON WEAR INTENSITY OF COMPOSITE COATINGS

Valeeva A.Kh., Valeev I.Sh.

Institute for Metals Superplasticity Problems of RAS, Ufa, Russia

15 minutes

G207 PRINCIPLES OF DEVELOPMENT OF EPOXY COMPOSITE MATERIALS WITH CONTROLLED PROPERTIES

Kostomov A.G., Savchuk P.P.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Lutsk National Technical University, Lutsk, Ukraine

15 minutes

G41 PRODUCTION OF CARBON-CARBON FRICTION MATERIALS: PECULIARITIES OF IMPREGNATION AND CARBONIZATION PROCESSES

Antanovich A.A.

Vereshchagin Institute for High Pressure Physics of RAS, Troitsk, Russia

15 minutes

G46 Cr₃C₂-NiAl COMPOSITES FOR DEPOSITION OF COATINGS

Gorshkov V.A., Yukhvid V.I.

Institute of Structural Macrokinetics and Materials Science, Chernogolovka, Russia

15 minutes

G94 PHYSICAL PHENOMENA IN La_{2-x}Ca_xNiO_{4+δ} NICKELATES

Fedorchenko V.P., Lashkarev G.V.⁽¹⁾, Matveenko E.A.

Vitus Bering Kamchatka State University, Petropavlovsk-Kamchatskiy, Russia

⁽²⁾Frantsevich Institute for Problems of Material Sciences, Kiev, Ukraine

15 minutes

G116 PULSE PLASMA SINTERING OF DIAMOND/WC-CO COMPOSITES

Rosinski M., Michalski A.

Warsaw University of Technology, Warsaw, Poland

15 minutes

G342 INFLUENCE OF PULSE ELECTRIC CHARGE ON STRUCTURE FORMATION DURING CONSOLIDATION OF POWDER-LIKE COMPOSITIONS

Raychenko O.I., Sizonenko O.M.⁽¹⁾, Shabalin I.L.⁽²⁾, Derev'yanko O.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Institute for Pulse Processes and Technologies of NASU, Nikolaev, Ukraine

⁽²⁾111/114e, Maxwell Building, Joule Physics Laboratory, Institute for Materials

Research, the University of Salford, Salford, Greater Manchester, UK

15 minutes

G368 THE CONSOLIDATION DIAMOND CONTAINING POWDER COMPOSITIONS UNDER ELECTRIC CURRENT ACTION

Derev'yanko O.V., Raychenko O.I., Istomina T.I., Ershova O.G., Shlychok E.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

G159 STRUCTURE AND MECHANICAL PROPERTIES OF Fe-Cu NANOCOMPOSITES PRODUCED BY VAPOUR DEPOSITION

Ustinov A.I., Olikhovska L.A.⁽¹⁾, Melnychenko T.V., Fesiun E.V., Matvienko Ya.I.⁽¹⁾

Paton Institute for Electric Welding of NASU, Kiev, Ukraine

⁽¹⁾Kurdyumov Institute for Metal Physics of NASU, Kiev, Ukraine

15 minutes

Discussion

G330 INFLUENCE OF THE CAPILLARY STRUCTURE CONTACT WITH SURFACE OF THE HEAT PIPES ON TWO PHASE HEAT TRANSFER

Kostornov A.G., Shapoval A.A., Frolov G.A., Moroz A.L., Shapoval I.V.
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

G22 PROPERTIES OF MULTIFIBRE SUPERCONDUCTING COMPOSITE AFTER SEVERE NONMONOTONOUS PLASTIC DEFORMATIONS

Beloshenko V.A. , Matrosov N.I., Chishko V.V., Gajda D.⁽¹⁾, Dyakonov V.P.⁽²⁾,
Piechota S.⁽²⁾
Galkin Donetsk Institute for Physics and Engineering of NASU, Donetsk, Ukraine
⁽¹⁾International Laboratory of High Magnetic Fields and Low Temperatures Wroclaw,
Poland
⁽²⁾Physics Institute of PAS, Warsaw, Poland

G47 HEAT RESISTANCE AND TRIBOLOGICAL PROPERTIES OF ALUMINUM MATRIX COMPOSITES

Prusov E.S., Panfilov A.V., Panfilov A.A.
Vladimir State University, Vladimir, Russia

G48 APPLICATION OF COMPLEX POWDER-CAST TECHNOLOGY FOR COMPOSITE MATERIALS ON THE BASE OF INDUSTRIAL ALUMINUM ALLOYS PRODUCTION ARMED BY DISCRETE PARTICLES WITH WIDE FRACTURE SIZE AND NOMENCLATURE RANGE

Zatulovskiy S.S., Shcheretskiy V.A.
Phisico-technological institute of metals and alloys of NASU, Kiev, Ukraine

G58 HEAT WORK AS A FACTOR OF THE HIGH FIELD-PERFORMANCE CHARACTERISTICS OF FRICTION BEARINGS FROM BIMETAL «STEEL + ANTIFRICTION COMPOSITE (CCM)»

Zatulovskiy A.S., Romanenko Y.N., Lakeev V.A.
Physico-technological Institute of Metals and Alloys of NASU, Kiev, Ukraine

G79 SYNTHESIS OF RHENIUM-CONTAINING NANOPARTICLES FIXED ON THE SURFACE OF POLYTETRAFLUOROETHYLENE MICROGRANULES

Taratanov N.A., Yurkov G.Yu.
Baikov Institute of Metallurgy and Materials Science of the RAS, Moscow, Russia

G80 ZIRCONIUM DIOXIDE AS AN INTERFACE FOR SiC/SiC COMPOSITES

Utkin A.V., Matvienko A.A.⁽¹⁾, Titov A.T.⁽²⁾, Baklanova N.I.⁽¹⁾
Novosibirsk State University, Novosibirsk, Russia
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Russia
⁽²⁾General Institute of Geology and Mineralogy of SB RAS, Novosibirsk, Russia

**G86 NANOSTRUCTURED CERAMIC MATRIX COMPOSITES C_f/N/C – SIC.
EFFECT OF THE INTERFACE STRUCTURE ON THE BRITTLE FRACTURE
RESISTANCE**

Sapronov R.L., Suvorov S.A.⁽¹⁾, Rumyantsev V.I., Osmakov A.S.

VIRIAL Ltd., Saint-Petersburg, Russia

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**G87 NANOSTRUCTURED CERAMIC MATRIX COMPOSITES C_f/N/C – SIC.
PHYSICAL, MECHANICAL AND TRIBOTECHNICAL PROPERTIES**

Sapronov R.L., Suvorov S.A.⁽¹⁾, Rumyantsev V.I., Osmakov A.S., Ponomarenko G.A.

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⁽¹⁾Saint-Petersburg State Technological Institute (Technical University), Saint-Petersburg, Russia

**G121 COMPOSITION RARE EARTH ELEMENTS BASE TARGETS FOR
OBTAINING SENSORY NANOSTRUCTURES**

Koleshko V.M., Gulay A.V., Shevchenok A.A.⁽¹⁾, Gulay V.A.

Belarussian National Technical University, Minsk, Belarus

⁽¹⁾SSI «Powder metallurgy Institute», Minsk, Belarus

**G122 THE PRODUCTION OF SUPERFINE ZINC OXIDE FILMS FOR SENSORY
NANOSTRUCTURES**

Koleshko V.M., Gulay A.V., Shevchenok A.A.⁽¹⁾, Gulay V.A.

Belarussian National Technical University, Minsk, Belarus

⁽¹⁾SSI «Powder metallurgy Institute», Minsk, Belarus

**G124 TRIBOLOGICAL PROPERTIES OF LAMINATED BIMETALS OF SYSTEM
“STEEL + ANTIFRICTIONAL COMPOSITE (CCM)”**

Najdek V.L., Zatulovskiy A.S., Kosinskaia A.V., Kostenko A.D.⁽¹⁾

Physico-technological Institute of Metals and Alloys of NASU, Kiev, Ukraine

⁽¹⁾Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

**G125 MODIFICATION OF EPOXYALUMINIUMPHOSPHATE COMPOSITES BY
HETEROPO-LYACIDES**

Matkovska O.K., Mamunya Ye.P., Shandruk M.I., Zinchenko O.V., Lebedev Ye.V.

Institute of Macromolecular Chemistry, Kiev, Ukraine

**G128 CONNECTIVE SPREADING IN POLYMERIC COMPOSITION MATERIALS
TAKING INTO ACCOUNT ELECTRIZATION OF WETTABLE SURFACES**

Scherbina S.A., Sanin A.F.

Gonchar Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

G138 PHOTSENSITIVE HETEROSTRUCTURES AND POLYMER COMPOSITES BASED ON SOLUBLE PHTHALOCYANINE DERIVATIVES

Syromyatnikov V., Pomaz I., Perminov R., Verbitsky A. ⁽¹⁾, Vertsimakha Ya. ⁽¹⁾, Nespurek S. ⁽²⁾, Pocheraylov S. ⁽²⁾

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⁽²⁾Institute of Macromolecular Chemistry of Academy of Sciences of the Czech Republic, Praga

G148 OPTICAL TRANSPARENT PHOTOCURED GLUE

Jarovaja N.V., Todosijchuk T.T., Kosjanchuk L.F.

Institute of Macromoleculare Chemistry of NASU, Kiev, Ukraine

G152 OPTICAL TRANSPARENT POLYURETHANE

Kosjanchuk L.F., Todosijchuk T.T., Shmyreva A.N. ⁽¹⁾, Antonenko O.I.

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G174 EPOXY BINDERS FOR POLYMERIC COMPOSITE MATERIALS

Filipovych A.Y., Barantsova A.V., Grishchenko V.K.

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G189 CAST COMPOSITE MATERIALS ON THE BASIS OF ZIRCONIUM WITH THE AMORPHOUS MATRIX

Shcheretsky A.A., Lakhnenko V.L., Shumikhin V.S.

Physico-technological Institute of Metals and Alloys of NASU, Kiev, Ukraine

G198 DISSIPATIVE PROPERTIES OF NANOCOMPOSITES BASED ON Fe-Cu SYSTEM

Ustinov A.I., Skorodzievskii V.S. ⁽¹⁾, Taranenko V., Telichko V.A.

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⁽¹⁾Kurdyumov Institute of Metal Physics of NASU, Kiev, Ukraine

G332 PHASE COMPOSITION AND PROPERTIES OF HOT-PRESSED COMPOSITES OF THE BNC-ZrO₂-SiO₂ SYSTEM

Grigoriev O.N., Beha N.D., Dubovyk T.V., Shcherbina O.D., Subbotin V.I., Kotenko V.A.,

Rogozinska A.A., Mosina T.V., Berezhynskii I.L., Lychko V.V., Dekhtiaruk V.I.

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G354 DEVELOPMENT OF WEAR RESISTANT ALUMINUM ALLOY BASED SiC PARTICLE REINFORCED MATERIALS

Vishnyakov L.R., Moroz V.P., Sinaiskiy B.M., Romashko I.M., Varchenko V.T.,

Voropaev V.S.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

G357 TO JUSTIFICATION OF COMBINE ELECTRODES FOR CONTACT WELDING

Minakova R.V., Khomenko E.V., Bankovskiy O.I., Lukovich V.V., Iluschenko V.M.⁽¹⁾, Anoschin V.A.⁽¹⁾, Vasilega O.P.⁽²⁾

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⁽¹⁾Paton Institute of Electric Welding, NASU, Kiev, Ukraine

⁽²⁾National technical university of Ukraine «KPI», Kiev, Ukraine

G366 DISSIPATION OF MECHANICAL ENERGY IN POLYMER COMPOSITE MATERIALS BASED ON CARBON FIBERS

Vishnyakov L.R., Mozgovoy A.V.⁽¹⁾, Sinayskiy B.N., Moroz V.P.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Kotsyubinskiy Vinnitsa State Teacher's Training University, Ukraine

G374 HIERARCHY OF STRUCTURAL LEVELS OF IMPREGNATED THERMOCATHODES

Getman O.I., Skorokhod V.V.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

Friday, October 23, 2009

9³⁰–11³⁰ Section D. Nano-scale materials science: technologies and materials.

Chairmen: Lyushinskiy A.V. (Russia), Prikhna T.A. (Ukraine)

D156 STRUCTURE, PHASE STATE AND HIGH STRAIN RATE SUPERPLASTICITY IN Al-Li NANOSTRUCTURAL ALLOYS SUBJECTED TO SEVERE PLASTIC DEFORMATION

Myshlyaev M.M.

Baikov Institute of Metallurgy and Material Science of RAS, Moscow, Russia

Institute of Solid State Physics of RAS, Chernogolovka, Russia

15 minutes

D356 ZnO AS PROSPECTIVE SEMICONDUCTING MATERIAL FOR NANOELECTRONICS

Lashkarev G.V., Lazorenko V.I., Karpyna V.A., Khranovskyy V.D., Ievtushenko A.I., Yakimova R.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Linköping University, Linköping, Sweden

15 minutes

D179 EFFECT OF HIGHER BORIDES AND OXYGEN INHOMOGENITY ON CRITICAL CURRENT DENSITY IN HIGH PRESSURE SYNTHESIZED MAGNESIUM DIBORIDE-BASED SUPERCONDUCTORS

Prikhna T.A., Gawalek W.⁽¹⁾, Savchuk Ya.M., Tkach V.N., Weber H.⁽²⁾,
Habisreuther T.⁽¹⁾, Eisterer M.⁽²⁾, Wendt M.⁽¹⁾, Sergienko N.V., Moshchil V.E.,
Kozyrev A.V., Karau W.⁽³⁾, Nagomy P.A., Schmidt Ch.⁽¹⁾, Melnikov V.S., Dellith J.⁽¹⁾,
Litzkendorf D.⁽¹⁾, Tkach S.V., Sverdun V.B.

Institute for Superhard Materials of NASU, Kiev, Ukraine

⁽¹⁾Institut für Photonische Technologien, Jena, Germany

⁽²⁾Atomic Institute of the Austrian Universities, Vienna, Austria

⁽³⁾H.C. Starck GmbH, Goslar, German

15 minutes

D176 NANOPOWDERS OF ZIRCONIUM DIOXIDE

Vereshchak V.G.

Ukrainian State Chemical Technology University, Dnepropetrovsk, Ukraine

15 minutes

D190 SYNTHESIS OF GRAPHENE SHEETS BY ELECTRIC PLASMA DISCHARGE IN A LIQUID ETHANOL

Sergiienko R., Shibata E., Nakamura T., Kim S., Hayasaka Y.

Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku

University 1, Japan

15 minutes

D12 PROPERTIES OF NANOPOWDERS OBTAINED THROUGH THERMAL DECOMPOSITION OF BINARY MIXTURES OF METALS FORMATES

Lyushinskiy A.V.

OAO «RDC» Ramenskoye, Moscow region, Russia

15 minutes

D37 GEOOMETRIES OF BORON NITRIDE LAYERED NANOSYSTEMS

Chkhardtisvili L.S., Berberashvili T.M.

Georgian Technical University, Tbilisi, Georgia

15 minutes

D310 FORMATION REGULARITIES AND STRUCTURE OF HIGH-PRESSURE PHASES SYNTHESIZED BY SHOCK COMPRESSION

Kurdyumov A.V., Britun.V.F., Yarosh.V.V., Borimchuk N.I.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

Discussion

Friday, October 23, 2009

12⁰⁰–13³⁰ Section D. Nano-scale materials science: technologies and materials.

Chairmen: Sidorenko S.I. (Ukraine), Lyapin A.G. (Russia)

D312 SIMULATIONS OF NANOLAYERED SYSTEMS: TWINNED SILICON STRUCTURES

Ivashchenko V.I., Shevchenko V.I.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

D181 GROWTH AND CONFINED SUPERCONDUCTIVITY IN Pb-NANOISLANDS STUDIED BY STM

Fokin D., Cren T., Debontridder F., Dubost V., Bozhko S.⁽¹⁾, Roditchev D.

Institute for Nano-Sciences of Paris, CNRS, University Pierre et Marie Curie

⁽¹⁾Institute for Solid State Physics, Russian Academy of Sciences

15 minutes

D160 CONDITIONS OF PRODUCING AND PROPERTIES OF VACUUM CONDENSATES OF FCC-METALS WITH NANOTWINNED SUBSTRUCTURE

Fesiun O.V., Ustinov A.I.

Paton Electric Welding Institute of NASU, Kiev, Ukraine

15 minutes

D169 ELECTRO-CHEMICAL TEMPLAT SYNTHESIS NANOSTRUCTURES AND NANOCOMPOSITES: CORROSION ROLE UNDER IMPULS ELECTROPRECIPITATION

Globa P.G., Sidel'nikova S.P., Tsyntsaru N.I., Dikusar A.I.

Institute for Applied Physics of Moldova Academy of Science, Kishinev, Moldova

15 minutes

D25 THERMODYNAMICS AND KINETICS OF GRAIN BOUNDARIES AND BOUNDARY JUNCTIONS AND STABILITY OF NANOCRYSTALLINE SYSTEMS

Shvindlerman L.S., Gottstein G.⁽¹⁾

Institut für Metallkunde und Metallphysik, RWTH, Germany

⁽¹⁾Institute of Solid State Physics of RAS, Russia

15 minutes

D10 FEATURES OF FORMATION OF NANODIMENSIONAL TRANSITION METAL SILICIDE FILMS ON MONOCRYSTALLINE SILICON

Sidorenko S.I., Makogon Iu.N., Pavlova O.P.

National Technical University of Ukraine «Kiev Polytechnic Institute», Kiev, Ukraine

15 minutes

Discussion

Friday, October 23, 2009

14³⁰–16³⁰ Section D. Nano-scale materials science: technologies and materials.

Chairmen: Ustinov A.I. (Ukraine), Lashkarev G.V. (Ukraine)

D51 PHOTOPHYSICAL PROCESSES IN 2D STRUCTURES OF MACROPOROUS SILICON WITH NANOCOVERINGS

Ivanov V.I., Karachevtseva L.A., Lytvynenko O.O., Parshyn K.A., Stronska O.J.
Lashkaryov Institute of semiconductor physics of NASU, Kiev, Ukraine

15 minutes

D362 HYDROXYL GROUPS AND WATER MOLECULES IN ZIRCONIUM DIOXIDE NANOPARTICLES DEDUCED BY NMR DATA

Bykov I.P., Kalinichenko A.M., Brik A.B.⁽¹⁾, Paschenko E.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Institute of Geochemistry, Mineralogy and Ore Formation of NASU, Kiev, Ukraine

15 minutes

D162 GENERATION OF SURFACE NANOSTRUCTURE IN STEELS BY THE MECHANICAL-PULSE TREATMENT

Kyryliv V.I., Nykyforchyn H.M.

Karpenko Physico-mechanical Institute of NASU, Lvov, Ukraine

15 minutes

D195 APPLICATION OF ENERGY DISPERSIVE X-RAY DIFFRACTION TO NANOSTRUCTURED CARBON PHASES UNDER PRESSURE

Lyapin A.G., Brazhkin V.V., Popova S.V., Varfolomeeva T.D., Kondrin M.V.,
Katayama Y.⁽¹⁾, Inamura Y.⁽²⁾

Institute for High Pressure Physics of RAS, Troitsk, Russia

⁽¹⁾Japan Atomic Energy Agency (JAEA), Hyogo, Japan

⁽²⁾JAEA, Japan

15 minutes

D66 YIELD STRENGTH OF METALS AT NANOSCALE

Dub S.N., Shmegeera S.V., Zasimchuk I.K.⁽¹⁾

Institute for Superhard Materials of NASU, Kiev, Ukraine

⁽¹⁾Institute for Metal Physics of NASU, Kiev, Ukraine

15 minutes

D171 LOW TEMPERATURE MECHANICAL PROPERTIES OF NANO-CRYSTALLINE TITANIUM PREPARED BY CRYOMECHANICAL TREATMENT

Moskalenko V.A., Smirnov A. R.

Verkin Institute for Low Temperature Physics and Engineering of NASU, Kharkov,
Ukraine

15 minutes

D108 ANALYSIS OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF TUNGSTEN CARBIDE OBTAINED BY SPARK PLASMA SINTERING

Chuvil'deev V.N., Moskvicheva A.V., Lopatin Yu.G., Shotin S.V.,
Blagoveschenskiy Yu.V.⁽¹⁾, Isaeva N.V.⁽¹⁾

Lobachevsky Physical-Technical Research Institute (PTRI) of State University of Nizhni Novgorod (UNN), Nizhni Novgorod, Russia

⁽¹⁾Baykov Institute of Metallurgy and Materials Science of RAS, Moscow, Russia

15 minutes

D153 EFFECT OF A NANOTUBE FUNCTIONALIZATION WITH ADSORBED INCOMMENSURATE MOLECULAR STRUCTURES ON THE CHARGE-CARRIERS SPECTRA

Lykah V.A., Syrkin E.S.⁽¹⁾

National Technical University «Kharkov Polytechnic Institute», Kharkov, Ukraine

⁽¹⁾Institute for Low Temperature Physics and Engineering of NASU, Kharkov, Ukraine

15 minutes

D113 SPHERICAL NANO-SIZED X-RAY PHOSPHORS ON THE BASIS OF $\text{Lu}_2\text{O}_3:\text{Eu}^{3+}$

Yermolayeva Yu.V., Korshikova T.I., Vovk O.M., Tolmachev A.V.

Institute for Single Crystals of NASU, Kharkov, Ukraine

15 minutes

D218 SOL-GEL SYNTHESIS AND PROPERTIES OF METAL OXIDES WITH MESOPOROUS STRUCTURE

Zima T.M., Baklanova N.I., Lyakhov N.Z.

Institute of Solid State Chemistry and Mechanochemistry of SB RAS, Novosibirsk, Russia

15 minutes

Discussion

Friday, October 23, 2009

Exposition posters of Section G from 9³⁰ till 16³⁰

D173 DISCRETE ABSORPTION IN CRYSTALLINE NANOFILMS

Mirjanic D., Škipina B., Pelemis S.⁽¹⁾, Šetrajcic J.⁽²⁾, Vučenović S.

University of Banja Luka, Republic of Srpska, Bosnia and Herzegovina

⁽¹⁾University of Eastern Sarajevo, Republic of Srpska, Bosnia and Herzegovina

⁽²⁾Algeria University of Novi Sad, Vojvodina, Serbia

D26 STRUCTURE FORMATION OF SHS POWDERS BASED ON NICKEL MONOALUMINIDE WITH NANOADDITIVES IN THE CHARGE MIXTURE

Talako T.L., Vitiaz P.A., Letsko A.I., Yakovleva M.S.⁽¹⁾

Powder Metallurgy Institute, Minsk, Belarus

⁽¹⁾Institute for Problems of Materials Science of NASU, Kiev, Ukraine

D27 MORPHOLOGY OF DISPERSED METALS, DEPOSITED BY PULSE ELECTROLYSIS

Kuntyi O.I., Bilan' O.I., Okhremchuk Ye.V., Zozula G.I., Bukliv R.L.
L'vov Polytechnic National University, L'vov, Ukraine

D32 FRACTAL MICRO- AND NANOSTRUCTURES IN LANTHANIDE—DOPED LITHIUM NIOBATE SINGLE CRYSTALS GROWN IN HIGHLY UNSTEADY CONDITIONS

Palatnikov M.N., Shcherbina O.B., Sidorov N.V.
Institute of Chemistry, Kola Science Centre of RAS, Apatity, Murmansk Region, Russia

D55 NANOCOMPOSITE METAL-OXIDE SUPERCAPACITOR

Prokhorov I.Yu.
Donetsk Physical & Technical Institute of NASU, Donetsk, Ukraine

D72 OBTAINING AND PROPERTIES OF NANOCRYSTALLINE MANGANITES

Prylypko S.Yu.
Donetsk Physical & Technical Institute of NASU, Donetsk, Ukraine

D76 PRIMARY BATTERIES $\text{Li/Cu}_4\text{Bi}_6\text{S}_{11}$

Dudyak O.V., Zasloukin A.V., Kovalyuk Z.D., Mintyansky I.V., Savytsky P.I.
Chernivtsi Department of the Frantsevich Institute for Problems of Materials Science of NASU, Chernivtsi, Ukraine

D90 CATALYST FREE DEPOSITION OF CARBON-NITRIDE FILM NANOFIBERS

Prudnikov A.M., Varyukhin V.N., Shalaev R.V., Ul'yanov A.N., Olickiy L.N.
Donetsk Institute for Physics and Engineering of NANU, Donetsk, Ukraine

D95 THE RESEARCH OF DEFORMATION AND FRACTURE PROCESSES IN Ni_3Al NANOFIBERS OF DIFFERENT ORIENTATIONS

Starostenkov M.D., Yashin A.V.
Altai state technological university, Barnaul, Russia

D114 TUNGSTEN CARBIDE BASED NANOCRYSTALLINE HARD METALS

Gachechiladze A., Mikeladze A., Jalabadze N., Gabunia D., Tsagareishvili O., Chedia R., Antadze M.
Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia

D131 NANOGRAULES THIN FILM STRUCTURES FORMATION

Cheshko I.V., Protsenko S.I., Zlenko V.O.
Sumy State University, Sumy, Ukraine

D135 RESEARCH OF MULTI-LAYERED THIN FILM'S SYSTEMS BASED ON Ag/Co USING ELLIPSOMETRY METHOD

Demydenko M.G., Protsenko S.I., Siffalovic P.⁽¹⁾

Sumy State University, Sumy, Ukraine

⁽¹⁾Institute of Physics of Slovak Academy of Sciences, Bratislava, Slovak Republic

D139 MECHANICAL PROPERTIES OF NANOCOMPOSITE MATERIALS BASED ON CARBON NANOTUBES AND POLYPROPYLENE

Onanko A.P., Grabovskiy Y.E., Onanko Y.A., Lyashenko O.V., Onanko A.Y.

Shevchenko Kiev National Research University, Kiev, Ukraine

D140 NANOSTRUCTURED DIAMOND GROWTH THROUGH LIQUID PHASE EPITAXY IN THE HYDROTHERMAL CONDITIONS UNDER HIGH 1GPA PRESSURE

Korablov S., Yamasaki N.⁽¹⁾, Kawasaki A., Korablova I.⁽¹⁾, Yokosawa K.⁽¹⁾, Korablov D.⁽¹⁾

Tohoku University, Graduate School of Engineering, Japan

⁽¹⁾Tohoku University, Graduate School of Environmental Studies, Japan

D143 SYNTHESIS AND REDOX BEHAVIOR OF CHROMIUM SILICIDES NANORODS

Malyshev V.V., Gab A.I.⁽¹⁾, Gritsay V.P.⁽²⁾

Open International University of Human Development "Ukraine", Kiev, Ukraine

⁽¹⁾National Technical University of Ukraine "Kiev Polytechnical Institute", Kiev, Ukraine

⁽²⁾Zaporizhzhya State Engineer Academy

Zaporizhzhya, Ukraine

D144 NANOSTRUCTURING OF THE MATERIALS BY REACTIONARY MECHANICAL ALLOYING

Shalunov E.P.

Ulyanov Shuvash State University, Cheboksary, Russia

D145 STRENGTHENING OF PRECIPITATION HARDENED MATERIALS BY REACTIONARY MECHANICAL ALLOYING

Shalunov E.P., Smirnov V.M., Matrosov A.L.

Ulyanov Shuvash State University, Cheboksary, Russia ⁽¹⁾Research Center of Innovation Materials and Technologies DISCOM Co.,Ltd, Cheboksary, Russia

D161 STOCHASTIC MODELLING OF NANOMATERIALS MICROSTRUCTURES AND THE IMPACTS ON THE MECHANICAL PROPERTIES OF THE NANOMATERIALS

Tengen T.B., Iwankiewicz R.⁽¹⁾

Vaal University of Technology, South Africa

⁽¹⁾Institute of Mechanics and Ocean Engineering, Hamburg University of Technology, Hamburg, Germany

D168 GROWTH OF NANOCRYSTALS IN AN AMORPHOUS ALLOY

Kozhemyakin G.N., Shapovalov V.A.⁽¹⁾, Nikitenko Y.A.⁽¹⁾, Ivanov O.N.⁽²⁾,
Kolesnikov D.A.⁽²⁾, Maradudina O.N.⁽²⁾

Dal Eastern Ukrainian National University, Lugansk, Ukraine

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⁽²⁾Joint Research Center of Belgorod State University Belgorod, Russia

D191 POLYCRYSTALS BASED ON DIAMOND POWDERS SYNTHESIZED IN SYSTEM Mg–Zn–B–C

Svirid E., Bochechka O., Gavrilova V., Romanko L.

Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

D193 LAWS OF MIGRATION OF FUSIONS BASED ON COBALT IN MEDIA OF DIAMOND POWDERS OF VARIOUS DISPERSION

Lutsak E., Bochechka O., Romanko L.

Bakul Institute of Superhard Materials of NASU, Kiev, Ukraine

D194 SINTERING DIAMOND NANOPOWDERS OF DETONATION SYNTHESIS WITH ADDITIVES OF REFRACTORY METALS AND THEIR OXIDES

Nazarchuk S.N., Bochechka A.A., Gadzyra N.F.⁽¹⁾, Gavrilova V.S., Romanko L.A.,
Beljavina N.N.⁽²⁾

Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

⁽¹⁾Frantsevich Institute For Problems of Materials Science of NASU, Kiev, Ukraine

⁽²⁾Taras Shevchenko National University, Kiev, Ukraine

D300 STRUCTURE AND MORPHOLOGY OF MULTILAYER Ni/Y₂O₃ NANOFILMS GROWING IN MAGNETIC FIELDS

Andreeva A.F., Kasumov A.M.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

D308 AUGER-SPECTROSCOPY OF BORON NITRIDE WHISKERS PRODUCED IN OPTICAL FURNACE WITHOUT CATALYSTS

Sartinska L.L., Stonis V.V.⁽¹⁾, Frolov A.A.

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⁽¹⁾Kurdyumov Institute for Metal Physics of NASU, Kiev, Ukraine

D309 OXYGEN AND STRUCTURE TRANSFORMATIONS OF h-BN IN FOCAL ZONE OF OPTICAL FURNACE

Sartinska L.L., Tinkov V.A.⁽¹⁾, Frolov A.A.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Kurdyumov Institute for Metal Physics of NASU, Kiev, Ukraine

**D315 POROUS STRUCTURE AND PHOTOCATALYTIC ACTIVITY
INVESTIGATION OF DIOXIDE TITANIUM NANOPOWDERS**

Zhygotsky A.G., Zagorny M.N., Lobunets T.F., Klymenko V.P., Ragulya A.V.,
Rynda E.F.⁽¹⁾, Mischuk N.A.⁽¹⁾, Kochkodan V.M.⁽¹⁾

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⁽¹⁾Dumansky Institute of Colloid and Water Chemistry of NASU, Kiev, Ukraine

D318 INORGANIC GRAPHEN-LIKE 2H-MoSe₂ AND 2H-WSe₂ NANOPARTICLES

Kulikov L.M., Konig N.B., Akselrud L.G.⁽¹⁾, Davydov V.N.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Franko L'viv National University, L'viv, Ukraine

**D319 TRIBOLOGICAL PROPERTIES OF INORGANIC GRAPHEN-LIKE 2H-MoSe₂
AND 2H-WSe₂ NANOPARTICLES AS NANOLUBRICANTS ADDITIVES TO
INDUSTRIAL OIL**

Grinkevich K.E., Kulikov L.M., Konig N.B., Akselrud L.G.⁽¹⁾, Davydov V.N.⁽¹⁾

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾Franko L'viv National University, L'viv, Ukraine

D338 PREPARATION OF NANOSTRUCTURE Cu-Fe COMPOSITE

Radchenko P.Ya., Homza Yu.P.⁽¹⁾, Skiba I.A., Zukrenko V.V.

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⁽¹⁾Institute of Macromolecular Chemistry of NASU, Kiev, Ukraine

**D347 MECHANICAL PROPERTIES OF NANOCRYSTALLINE IRON RESULTED
FROM SEVERE PLASTIC DEFORMATION UNDER DIFFUSION FLOW OF
NITROGEN**

Yurkova A., Byakova A.⁽¹⁾, Milman Yu.

Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

⁽¹⁾National Technical University of Ukraine «KPI», Kiev, Ukraine

**D348 INFLUENCE OF DIFFUSION FLOW OF NITROGEN ON THE FORMATION
OF IRON STRUCTURE DURING SEVERE PLASTIC DEFORMATION**

Yurkova A., Byakova A., Belots'ky A.⁽¹⁾, Milman Yu.

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**D353 MAGNETIC PROPERTIES OF Nd-Fe-B NANOCOMPOSITE WITH LOW Nd
CONTENT**

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**D358 PREPARATION OF POWDERS OF A SOLID SOLUTION IN THE Cr-Ta-Si
SYSTEM**

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D375 SYNTHESIS OF FUNCTIONAL MOLYBDENUM OXIDE NANOCRYSTALS

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D107 METAL-CONTAINING POLYMER NANOCOMPOSITES

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