National Academy of Science of Ukraine (NASU)
Ukrainian Materials Research Society
National Technological University of Ukraine "KPI"
Frantsevich Institute for Problems of Materials Science of NASU

5-th INTERNATIONAL CONFERENCE

*H*igh*Mat**T**ech*

2015

Informational partners, journals:

"Bulletin of U-MRS" (Ukraine)

Informational partners, journals:

Powder Metallurgy (Ukraine)

Nanostructure Materials Science (Ukraine)

Preliminary Programme
October 5 - 8, 2015
Kiev, Ukraine

OUR SPONSORS

The organizing committee would like to thanks:

- **National Academy of Science of Ukraine**

Ukrainian Materials Research Society

- **National Technical University of UKRAINE "KPI"**
- **Ministry of Education and Science of Ukraine**
- **Frantsevich Institute for Problems of Materials Science of NASU**

CONTENT

ORDER OF FUNCTIONING

Monday, 2015 October, 5

10^{00}-16^{00}	Registration of participants (Block 9, NTUU “KPI”, aud. 122)

Tuesday, 2015 October, 6

9^{00}-11^{00}	Registration of participants (Block 9, NTUU “KPI”)
10^{00}-10^{20}	Opening of the Conference.
10^{20} - 12^{00}	**First Morning Plenary Session**
12^{00}-12^{30}	Coffee-break
12^{30}-14^{00}	**Second Morning Plenary Session**
14^{00}-15^{00}	Lunch
15^{00}-17^{20}	**SECTION A.** Fundamental principles of contemporary materials science. Modeling of the technological processes for making materials and the properties of contemporary materials for various purposes.
17^{20}-17^{50}	Discussion
	Exposition of posters of SECTION «A» from 10^{00} till 16^{00}
18^{00}	Friendly meeting

Wednesday, 2015 October, 7

10^{00}-11^{30}	**SECTION B.** Metallic materials and technologies for production. High-entropy alloys.
11^{30}-12^{00}	Coffee-break
12^{00}-13^{00}	**SECTION B.** Metallic materials and technologies for production. High-entropy alloys. Discussion
13^{00}-14^{00}	Lunch
14^{00}-16^{00}	**SECTION C.** Powder metallurgy: science and industry; modern materials, technologies and properties.
	Exposition of posters of SECTIONS «B» AND «C» from 10^{00} till 16^{00}

Thursday, 2015 October, 8

10^{00}-12^{00}	**SECTION D.** Nanomaterials science: technologies and materials.
12^{00}-12^{30}	Coffee-break
12^{30}-13^{30}	**SECTION E.** Ceramics for functional and constructional purposes. High-temperature and heat-resistant materials.
13^{30}-14^{00}	Lunch
14^{00}-15^{30}	**SECTION G.** Composite materials: special properties and prospects in practical use.
15^{30}-15^{45}	Coffee-break
15^{45}-16^{15}	**SECTION H.** Engineering of surface.
16^{15}-16^{30}	**SECTION I.** Modern technologies of joining of materials.
16^{30}-16^{45}	**SECTION J.** Equipments and methods for characterization materials.
	Discussion

Exposition of posters of SECTIONS «D», «E», «G», «H», «I», «J», «F» from 10^{00} till 17^{00}

17^{00} **Closing of the Conference**

Wednesday, 2015 October 7 – Thursday, 2015 October 8 The Final Meeting on the project of FP7 "NanoMat".

October 7	Location - National Technological University of Ukraine "KPI", classroom 222, beginning at 10^{00}
October 8	Location – Frantsevich Institute for problems of materials Science of NAS of Ukraine, aud. 202, beginning at 10^{00}

Tuesday, 2015 October, 5

10^{00}-11^{30} Opening of the Conference
First Morning Plenary Session

Coordinators: academic of NAS of Ukraine Skorokhod V.V., Solonin Yu.M. (Ukraine), Shabalin I. (Great Britain)

PI 369 PROPERTIES OF GRAPHENE-LIKE d-TRANSITION METAL DICHALCOGENIDES: PROGRESS AND PROSPECTS
Kulikov L.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
20 minutes

PI 380 ANALYSIS OF THE DEFORMATION PROCESS DURING INDENTATION OF MATERIALS
Milman Yu.V., Galanov B.A., Chugunova S.I., Goncharova I.V., Voskoboynik I.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
20 minutes

PI 400 FEATURES OF SOLID-SOLUTION HARDENING IN HIGH-ENTROPY ALLOYS
Firstov S.A., Rogul T.G., Krapivka N.A., Danilenko N.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
20 minutes

PI 1 STABILITY OF NANOSIRUCTURED MATERIALS UNDER DEFOEMATION ACTIONS
Andrievski R.A.
Institute of Problems of Chemical Physics of Russian Academy of Sciences, Chernogolovka, Russia
20 minutes

PI 90 THE MANUFACTURE AND TESTING OF NI-10SC1CESZ ANODE SUPPORTED SOFCS FOR INTERMEDIATE TEMPERATURE OPERATION
McDonald N., Brodnikovskyi I.(1), Vasylyev A.(1), Steinberger-Wilckens R.
Centre for Hydrogen and Fuel Cell Research, School of Chemical Engineering, University of Birmingham, Birmingham, United Kingdom
(1)Frantsevich Institute for Problems of Material Science of NAS of Ukraine, Kyiv, Ukraine
20 minutes

12^{00}-13^{00} **Second Morning Plenary Session**

Coordinators: Solonin Yu.M. (Ukraine), Shabalin I. (Great Britain)

PI 56 NANOTECHNOLOGICAL ADVANCES IN THE HETERO-STRUCTURAL MATERIALS DESIGN OF CERAMICS

Shabalin I.L.
Materials & Physics Research Centre, University of Salford, Manchester, UK

20 minutes

PI 76 THE EFFECT OF LABORATORY-SIMULATED SPACE FACTORS UPON THE STABILITY OF WHEAT SEEDS AND YEAST

Abraimov V.V., Azarenkov N.A.[(1)], Bozhkov A.I.[(1)], Lototskaya V.A., Kuznetsova Yu.A.[(1)], Goltvianskiy A.V.[(1)], Velichko V.A., Zaritskiy I.P., Saltevskiy G.I.
Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine, Kharkov, Ukraine
[(1)]Karazin National University, Kharkov, Ukraine

20 minutes

PI 410 NANOCERAMICS WITH GRAIN SIZE LESS THAN 50 NM

Ragulya A.V.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

20 minutes

PI 411 MATERIAL ASPECTS OF HYDROGEN ENERGY AND MODERN HYDROGEN TECHNOLOGIES

Solonin Yu.M., Skorokhod V.V.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

14^{00}-16^{00} **SECTION A.** Fundamental principles of contemporary materials science. Modeling of the technological processes for making materials and the properties of contemporary materials for various purposes**.**

Coordinator: Krasovskiy V.P. (Ukraine)

A 14 MATHEMATICAL MODELLING OF DIFFUSION PROSESSES OF STRUCTURE FORMATION DURING SINTERING OF TiC–(WC, Mo_2C)–Ni CERMET

Bondarenko V.P., Litoshenko N.V., Matviichuk O.O., Gnatenko I.O.
Bakul Institute of Superhard Materialsof NAS of Ukraine, Kiev, Ukraine

15 minutes

A 46 FEATURES OF MODELING OF THERMAL FIELDS IN HIGH PRESSURE APPARATUS IN OBTAINING PCBN COMPOSITES IN THE cBN-Al SYSTEM

Konoval S.M., Bezhenar M.P., Romanenko Ya.M.
Bakul Institute for Superhard Materials of NAS of Ukraine, Kyiv, Ukraine

15 minutes

A 320 PHYSICOCHEMICAL INTERACTION OF HAFNIUM IN THE BINARY AND TERNARY SYSTEMS WITH REFRACTORY Pt-GROUP METALS

Kriklya L.S., Korniyenko K.Ye., Khorujaya V.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

A 335 METALLIZATION, IMPREGNATION AND SOLDERING OF MATERIALS ON THE BASIS OF COPPER BY FREE-LEAD SOLDERS

Krasovskyy V., Vishnyakov L., Krasovskaya N., Naidich Yu.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

A 409 INTERACTION CERIUM OXIDE WITH YTTERBIA AND ZIRCONIA AT 1500 °C

Andrievskaya E.R.[(1)], Kornienko O.A., Chudinovich O.V.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine
[(1)]National Technical University of Ukraine “Kiev Polytechnic Institute”, Kiev, Ukraine

15 minutes

Discussion

Exposition of posters of SECTION «A» from 10^{00} till 16^{00}

A 17 ENTHALPIES OF MIXING CALCULATIONS FOR BINARY MELTS BASED ON A "SURROUNDED ATOM" MODEL

Golovata N.V., Kotova N.V., Usenko N.I.
Shevchenko Kiev National University, Kiev, Ukraine

A 18 MODELLING OF ENTHALPIES OF MIXING IN LIQUID TERNARY Ce–Ni–Sb SYSTEM

Kotova N.V., Usenko N.I., Golovataya N.V.
Shevchenko Kiev National University, Kiev, Ukraine

A 20 COMPUTER MODELING OF STRESS-STRAIN AND LIMIT STATE OF HIGH PRESSURE DEVICES MATRICES FOR SINTERING DIAMOND-CARBIDE PLATES

Bondarenko V.P., Shestakov S.I., Yurchuk N.O., Galkov A.V., Botvinko V.P.
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine

A 31 MODELING ATOMIC GEOMETRY OF FIBERS AND BUNDLES OF NANOTUBULAR BORON

Chkhartishvili L.S.
Georgian Technical University, Tbilisi, Georgia

A 36 EFFECT OF COLD ISOSTATIC PRESSING ON THE POWDER PROPERTIES OF REINFORCED CERAMIC MATERIALS

Solovyova T., Loboda P., Akimov G.[(1)]
National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine,
[(1)]Galkin Donetsk Institute for Physics and Engineering of NAS of Ukraine, Kyiv, Ukraine

A 53 PHASE EQUILIBRIA IN THE Tl_2Te-Tl_9GdTe_6-Tl_9SbTe_6 SYSTEM

Imamalieva S.Z., Gasanly T.M.[(1)], Sadygov F.M.[(1)], Babanly M.B.
Nagiyev Institute of Catalysis and Inorganic Chemistry of NASA, Baku, Azerbaijan
[(1)]Bak State University, Baku, Azerbaijan

A 54 THERMODYNAMIC CALCULATION AND 3D VISUALIZATION OF THE LIQUIDUS SURFACE OF THEYbTe IN THE YbTe-Sb_2Te_3-Bi_2Te_3 SYSTEM

Mamedov A.N., Tagiyev E.R., Mashadiyeva L.F., Babanly M.B.
Nagiyev Institute of Catalysis and Inorganic Chemistry of NASA, Baku, Azerbaijan

A 321 PHASE EQUILIBRIA DURING CRYSTALLIZATION OF THE Ru–HfRu–HfRh–Rh PARTIAL SYSTEM ALLOYS

Kriklya L.S., Korniyenko K.Ye., Khorujaya V.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 323 THERMODYNAMIC PROPERTIES OF Yb4Hf3O12 FROM 57 TO 302 K
Kopan' A.R., Gorbachuk N.P., Lakiza S.N., Tyschenko J.S.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 333 WETTING INVESTIGATIONS OF SnO2–CERAMICS BY Ag–Cu MELTS IN AIR
Sydorenko T.V., Lupin B.K., Naidich Y.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 343 PHASE TRANSFORMATIONS AND CHARACTERISTICS OF RECOMBINATION OF PRODUCT DESTRUCTIVE HYDROGENATION OF TITANIUM-BASED INTERMETALLICS
Kucheriavy O.V., Dobrovolsky V.D., Skorokhod V.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 351 PHASE TRANSFORMATIONS AND CHARACTERISTICS OF RECOMBINATION OF PRODUCT DESTRUCTIVE HYDROGENATION OF TITANIUM-BASED INTERMETALLICS
Bereznyak Y.O., Kucheriavy O.V., Skorokhod V.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 392 HIGH-TEMPERATURE β-Mn-LIKE PHASE IN THE Fe–Mo–Cr–C SYSTEM
Velikanova T.A., Karpets M.V., Rudyk N.D., Podrezov Yu.M.[(1)], Zaslavskii A.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]National University of Life and Environmental Sciences of Ukraine, 15, Kyiv, Ukraine

A 396 MODEL OF SLIDING ADHESIVE CONTACT BETWEEN ROUGH ELASTIC BODIES
Galanov B.A., Valeeva I.K.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 401 LOW TEMPERATURE HEAT CAPACITY OF ZrO2: EXPERIMENTAL VERIFICATION OF VASP AB INITIO RESULTS
Vasiliev O.O.[(1)], Muratov V.B.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]National Technical University of Ukraine "Kyiv Polytechnic Institute", Kyiv, Ukraine

A 405 STRUCTURE AND PHASE COMPOSITION OF DETONATION COATINGS FROM THE ALLOYED POWDERS IN BASIC OF COMPOUND Fe3Al
Borisov Yu.S., Asyahov E.A., Borisova A.L., Kildiyi A.I., Zymbalista T.V., Timofeeva I.I.[(1)]
Paton Institute for Electric of Welding the Name of NASU, Kiev,Ukraine
[(1)]Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

A 406 DETONATION COATINGS FROM POWDERS OF INTERMETALLIC COMPOUNDS OF FE-AL OBTAINED BY MCHS
Borisov Yu.S., Astakhov E.A., Borisova A.L., Kildiy A.I., Cymbalista T.V., Vasilkovskaya M.A.[(1)]
Paton Institute for Electric of Welding the Name of NASU, Kiev, Ukraine
[(1)]Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

Wednesday, 2015 October, 6

10^{00}-11^{30} **SECTION B.** Metallic materials and technologies for production. High-entropy alloys.

Coordinator: Firstov S.A. (Ukraine)

B 3 DEVELOPMENT OF HIGH-STRENGTH TITANIUM FASTENERS FOR AEROSPACE APPLICATION PRODUCTION TECHNOLOGY

Ivasishin O.M., Markovsky P.E., Vasilevsky E.T.[(1)], Antonyuk S.L.[(1)], Velichko V.V.[(1)], Gavrysh I.M.[(1)]
Kurdyumov Institute for Metal Physics of NAS of Ukraine, Kyiv, Ukraine
[(1)]State Enterprise «ANTONOV», Kyiv, Ukraine

15 minutes

B 7 TITANIUM-BASED METAL MATRIX COMPOSITES WITH HIGH-MODULUS STRENGTHENING PARTICLES PRODUCED WITH HYDROGENATED POWDERS

Ivasishin O.M., Markovsky P.E., Bagluk G.A.[(1)], Savvakin D.G., Stasiuk A.A.
Kurdjumov Institute for Metal Physics of NAS of Ukraine, Kyiv, Ukraine
[(1)]Frantsevich Institute for Problems of Material Science of NAS of Ukraine, Kyiv, Ukraine

15 minutes

B 75 BIOMECHANICAL REASONING OF APPLICATION OF LOW-MODULUS B(Zr-Ti) ALLOY IN ORTHOPEDICS AND ORAL SURGERY FOR METALLIC OSTEOSYNTHESIS

Skyba I.[(1)], Kopchak A., Shyvaniuk V.[(1)], Mishchenko O.[(2)], Iuhymchuk O.[(4)], Astapenkov V.[(3)]
Bogomolets National Medical University, Kyiv, Ukraine
[(1)]Kurdyumov Institute for Metal Physics of NAS of Ukraine, Kyiv, Ukraine
[(2)]Zaporizhzhia State Medical University, Zaporizhzhia, Ukraine
[(3)]National Technical University of Ukraine “Kyiv Polytechnic Institute”, Kyiv, Ukraine
[(4)]SI Institute of Traumatology and Orthopedics of NAMS of Ukraine, Kyiv, Ukraine

15 minutes

B 353 INFLUENCE OF ELECTRONIC CONCENTRATION MULTICOMPONENT TWO-PHASE ALLOYS ON QUANTITY σ-AND FCC-PHASES

Firstov S.A., Gorban V.F., Krapivka N.A., Pechkovskij E.P., Karpets M.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

12^{00}-13^{00} **SECTION B.** Metallic materials and technologies for production. High-entropy alloys.

Coordinator: Firstov S.A. (Ukraine)

B 354 CRYSTALLIZATION AND PROPERTIES MULTICOMPONENT EQUIATOMIC THREE-PHASE ALLOYS WHICH CONTAIN BCC-, FCC- AND μ-PHASES
Firstov S.A., Gorban V.F., Krapivka N.A., Pechkovskij E.P., Karpets M.V., Sameljuk A.V., Tkach V.N.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
15 minutes

B 357 ANODIC OXIDATION IN SALINE BIOCOMPATIBLE ALLOYS
Kulak L.D., Ulyanchich N.V., Kuzmenko N.N., Talash V.N., Rudenko Y.B.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
15 minutes

B 395 IMPACT SINTERING OF THE "LOW-ACTIVE" POWDERS
Laptiev A.V., Tolochyn A.I., Kovalchenko M.S.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
15 minutes

Discussion

14^{00}-16^{00} **SECTION C.** Powder metallurgy: science and industry; modern materials, technologies and properties.

Coordinator: Sizonenko O.N. (Ukraine)

C 28 PHYSICAL-TECHNICAL PROCESSES IN TECHNOLOGY OF METAL POWDERS ELECTRIC DISCHARGE TREATMENT

Sizonenko O.N., Tregub V.A., Lipyan E.V., Torpakov A.S.
Institute of Pulse Processes and Technologies of NAS of Ukraine, Mykolaiv, Ukraine

15 minutes

C 30 INVESTIGATION OF PRESSING OF TITANIUM HYDRIDE POWDER

Minitsky A.V., Sosnovsky L.A.(1), Loboda P.I.
National Technical University of Ukraine "KPI", Kierv, Ukraine
(1)Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

15 minutes

C 85 INFLUENCE METHOD OF FORMING A POROUS SAMPLES OF SPONGE TITANIUM POWDER EFFICACY ON PERFORMANCE PARAMETERS E_1

Shelukhina A.I.
SSU IPMS of NAS of Belarus. Minsk. Belarus

15 minutes

C 304 PECULIARITIES OF MEASURING DYNAMIC CHARACTERISTICS OF ELASTICITY IN POWDER MATERIALS

Bezimyanniy Y.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

C 356 OBTAINING BY ELECTRODISCHARGE SINTERING TECHNOLOGY OF DIAMOND-ABRASIVE ELEMENTS WITH CONTENT OF TUNGSTEN-CARBIDE IN BINDER

Derev'yanko O.V., Istomina T.I., Kushnir O.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

C 358 INFLUENCE OF GRAIN STRUCTURE COMPACT ON THE PROGRESS OF THE ELECTRIC SINTERING

Raichenko A.I., Derevyanko A.V., Kushnir O. V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

C 378 EXTENDED RHEOLOGICAL DESCRIPTION AND SINTERING KINETICS FOR MATERIALS CONTAINING SPHERICAL AND OBLATE PORES IN THE FIELD OF EXTERNAL LOADS

Skorokhod V.V, Shtern M.B.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

C 90 THE FEATURES OF PHASE AND STRUCTURE FORMATION AT HYDROGENATION OF TITANIUM, ZIRCONIUM AND HAFNIUM DURING THE SELF-PROPAGATING HIGHTEMPERATURE SYNTHESIS (SHS) PROCESS

Kovalev D.Yu., Sytschev A.Ye., Dekhtyar A.I.[(1)], Sachkova N.V.
Institute of Structural Macrokinetics and Materials Science of RAS, Chernogolovka, Russia
[(1)]Kurdyumov Institute for Metal Physics of NAS of Ukraine, Kyiv, Ukraine

15 minutes

Discussion

Exposition of posters of SECTIONS «B» AND «C» from 10^{00} till 16^{00}

B 25 MANUFACTURE OF NICKEL-BASED HIGHLY POROUS MATERIALS FROM METALLIC HOLLOW SPHERES

Golodok R.P., Mikutski V.A., Smorygo O.L.
Powder Metallurgy Institute of NAS of Belarus, Minsk, Belarus

B 34 THERMAL STABILITY OF ULTRAFINE GRAIN STRUCTURE OF COPPER MICROALLOYED WITH PHOSPHORUS

Piskunov A.V., Chuvildeyev V.N., Lopatin Y.G., Kopylov V.I.[(1)]
Research Physical-Technical Institute of Lobachevsky Nizhny Novgorod State University, Nizhny Novgorod, Russia
[(1)]Institute of Physics and Technology of the NAS of Belarus, Minsk, Belarus

B 37 ION NITRIDING OF TITANIUM ALLOY VT1-0 IN ARC DISCHARGE WITH THERMIONIC CATHODE

Belous V., Nosov G., Klimenko I., Tolmacheva G., Shpagina L.
NSC "Kharkov Institute of Physics and Technology" Kharkov, 61108, Ukraine

B 41 CONSOLIDATION AND MECHANICAL PROPERTIES OF NANOCRYSTALLINE EQUIATOMIC AlCuNiFeTi HIGH ENTROPY ALLOY AFTER MECHANICAL ALLOYING

Chernyavsky V.V., Yurkova A.I., Kalyan B.A.
National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine

B 42 CONSOLIDATION OF POWDERED QUASICRYSTALLINE Al–Fe–Cr ALLOY UNDER QUASI-HYDROSTATIC PRESSURE

Byakova A.V., Yurkova A.I.[(1)], Kravchenko A.I.[(1)], Vlasov A.A.
Frantsevich Institute for Problems of Material Science of NASU, Kyiv, Ukraine
[(1)]National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine

B 44 EFFECTS OF AL AND SI ADDITION ON THE STRUCTURE AND MECHANICAL PROPERTIES OF CUFENI EQUAL ATOMIC RATIO ALLOY

Kushnerov O.I., Bashev V.F.
Gonchar Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

B 51 THE EFFECT OF THERMOMECHANICAL TREATMENT ON MECHANICAL PROPERTIES OF FERROMAGNETIC Fe-Ni-Co-Ti ALLOYS

Titenko A.N., Demchenko L.D.[(1)]
Institute of Magnetism of NAS of Ukraine, Kiev, Ukraine
[(1)]National Technical University of Ukraine “Kyiv Polytechnic Institute”, Kyiv, Ukraine

B 308 EFFECT OF MICROALLOYING AND HEAT TREATMENT ON THE MECHANICAL PROPERTIES AND CORROSION RESISTANCE OF Al–Zn–Mg–Cu ALUMINUM ALLOYS

Milman Yu.V., Zakharova N.P., Muzyka A.A., Iefimov M.O., Goncharuk V.A., Danylenko M.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 310 THE OBTAINING CAST PARTS GTE IN A CORUNDUM MOLD WITH MODELS WHO BURNED

Lashneva V., Maksiuta I.[(1)], Kvasnitskaya Yu.[(1)], Mihnyan E.[(1)], Neima A.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Physico-Technological Institute of Metals and Alloys of NASU, Kyiv, Ukraine

B 312 CHANGES OF STRUCTURE, PHASE COMPOUND AND MICROHARDNESS OF CAST AND QUENCHED TI-XNB-YSI ALLOYS DEPENDING ON NB AND SI CONTENT

Kulak L.D.,Khomenko G.E.,Minakov N.V., Puchkova V.Y., Datskevich O.V., Kuzmenko N.N.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 326 INFLUENCE OF STEPPED AGEING ON MECHANICAL PROPERTIES OF THE CASTING ALLOY OF Al-Mg-Si-Zn-Cu SYSTEM

Voskoboinik I.V., Danylenko V.I., Korzhova N.P., Kotko A.V., Legka T.M.[(1)], Mordovets N.M., Podrezov Yu.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Kurdjumov Institute for Metal Physics of NASU, Kyiv, Ukraine

B 327 ROLE OF STRUCTURE TRANSFORMATION IN FORMING MECHANICAL PROPERTIES OF THE CASTING ALUMINIUM ALLOYS

Grinkevych K.E., Korzhova N.P., Legka T.M.[(1)], Milman Yu.V., Podrezov Yu.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Kurdjumov Institute for Metal Physics of NASU, Kyiv, Ukraine

B 330 INFLUENCE OF DEGREE OF ROLLING ON ELASTICITY, FATIGUE AND MICROHARDNESS TITANIUM VT1-0

Lugovskoi U.F., Nazarenko V.A., Rudick N.D.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 336 LUBRICATION AS THE FACTOR OF Ti−Si BASED ALLOYS WEAR PERFORMANCE

Grinkevych K., Firstov S., Kulak L., Datskevich O., Tkachenko I., Tkachenko S.[(1)], Kozyrieva L.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Brno University of Technology, Faculty of Mech. Eng., Brno, Czech Republic

B 346 EFFECT OF PLASTIC DEFORMATION ON THE FORMATION OF SUBSTRUCTURES IN IRON POWDER

Mamonova A.A., Vlasova O.V., Baglyuk G.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 347 INFLUENCE OF THE HARDENING TO THE DENSITY OF THE RECOMPACTED COPPER-BASED POWDER MATERIALS

Vlasova O.V., Sosnovsky L.A., Homenko L.L.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 348 FEATURES OF PRESSING AND VACUUM SINTERING OF IRON AND SILICON COMPOSITE

Sosnovsky L.A., Vlasova O.V., Baglyuk G.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 359 ELECTRODEPOSITION OF COBALT-MOLYBDENUM (TUNGSTEN) ALLOYS FROM OXIDE MELTS

Uskova N.N.[(2)], Gab A.I.[(1)], Stetsyuk T.V., Malyshev V.V.[(2)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]National Technical University of Ukraine "Kyiv Polytechnic Institute", Kyiv, Ukraine
[(2)]Vernadsky Institute of General and Inorganic Chemistry of NASU, Kiev, Ukraine

B 362 ACHIEVEMENTS AND PROSPECTS OF ELECTRODEPOSITION OF REFRACTORY AND NOBLE METALS FROM LOW- AND MEDIUM-TEMPERATURE MELTS

Malyshev V.V.[(1)], Kochetova S.A.[(1)], Shakhnin D.B.[(1)], Gab I.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Vernadsky Institute of General and Inorganic Chemistry of NASU, Kiev, Ukraine

B 375 EFFECTS OF AVERAGE ELECTRON CONCENTRATION ON THE PHASE COMPOSITION OF THE HIGH ENTROPY ALLOYS FeNiCuCoAlCrx

Karpets M.V., Myslyvchenko O.M., Gorban' V.F., Firstov S.A, Krapivka M.O.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 376 EFFECT OF PHASE COMPOSITION HEA FeCoNiCrVAlx (x = 0; 0,5; 1; 2; 3) ON MECHANICAL PROPERTIES

Karpets M.V., Makarenko E.S., Rokitskaya E.A., Gorban' V.F., Krapivka N.A., Tsebrii R.I.[(1)], Kantsyr E.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Ternopil National Economic University, Ternopil, Ukraine

B 377 REPLACEMENT PARTS MADE OF BEINIT HIGH-RESISTANT PIG-IRON FOR SOIL-CULTIVATION FARM MACHINES

Voloshchenko S.M., Gogayev K.A., Askerov M.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 386 QUALITY ASSURANCE OF NEW COMPOSITE ANTIFRICTION METAL-POLYMER MATERIALS FOR FRICTION UNITS NODES IN THE PRINTING INDUSTRY

Askerov M.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 391 THE INFLUENSE OF SILICON CONTENT, QUENCHING TEMPERATURE ON THE STRUCTURE AND HARDNESS OF BIOCOMPATIBLE MATERIALS OF THE Ti–Nb–Si SYSTEM

Kulak L.D., Shevchenko O.M., Homenko G.E., Datskevich O.V., Kuzmenko N.N., Tereschenko T.P.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 397 HOT FORGING OF Fe–15Al–5Ti INTERMETALLIC ALLOY

Tolochyna O.V., Bagliuk G.A., Tolochyn O.I., Yakovenko R.V., Kud V.K., Mamonova A.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 403 FABRICATION OF CARBIDE-CONTAINING Al-Ti-C MASTER ALLOYS BY THERMAL SYNTHESIS

Shishkina Y.A., Baglyuk G.A., Mamonova A.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 404 THE INTERACTION IN ALLOYS OF THE Al–NI–LA SYSTEM

Sudavtsova V.S., Shevchenko M.A., Subotenko P.M., Kudin V.G.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

B 91 THERMODYNAMIC APPROACH FOR DESIGN OF HIGH-ENTROPY Nb-Mo-Ta-W-V AND Nb-Mo-Ta-W ALLOYS

Melnick A.B., Soolshenko V.K.
Kurdyumov Institute for Metal Physics of NAS of Ukraine, Kyiv, Ukraine

C 32 ANALYSIS OF APPLICATION OF CONTINUUM-TYPE PLASTICITY THEORY FOR CALCULATING THE DEPENDANCE OF GREEN BLANKS STRENGTH ON POROSITY
Gorokhov V.M.
Powder Metallurgy Institute, Minsk, Belarus

C 33 CREATING NEW MARKS POWDER OF SYNTHETIC DIAMOND
Oleynik N.A., Ilnitskaya G.D., Petasyuk G.A., Bazalii G.A., Shamraeva V.S., Sizonenko O.N.[(1)], Lipljan E.V.[(1)]
Bakul Institute of Superhard Materials of NAS of Ukraine, Kiev, Ukraine
[(1)]Institute of Pulse Processes and Technologies of NAS of Ukraine, Nikolaev, Ukraine

C 61 INFLUENCE OF DISPERSION POWDER TITANIUM HYDRID ON KINETIC OF COMPACTION PROCESS DURING PRESSING
Byba Ie.G., Loboda P.I.
National Technical University “KPI”, Kyiv, Ukraine

C 79 RESISTANCE AGAINST CORROSION OF IRON ALLOYS–CAMOFLOUGE ALLOY IN SULFURIC ACID SOLUTIONS
Stepanchuk A.N., Rumyantseva Y.G., Severniuk T.W, Demidenko A.A.
National Technical University of Ukraine "KPI", Kiev, Ukraine

C 81 WEAR OF COMPOSITE MATERIALS BASED ON IRON IN GAS-ABRASIVE CONDITIONS
Stepanchuk A.N., Savchuk O.W., Demydenko A.A., Smyk W.M.
National Technical University of Ukraine "KPI", Kyiv, Ukraine

C 83 PROSPECTIVE WAYS OF INCREASING EFFICIENCY POROUS POWDER MATERIALS FROM A NON-SPHERICAL TITANIUM POWDER
Savich V.V.
SSU IPMS of NAS of Belarus. Minsk. Belarus

C 317 ELECTROPHORETIC DEPOSITION OF BARIUM TITANATE NANOPOWDERS
Zhygotsky A.G., Zagorny M.N., Pidsosonnyi V.I., Ivanchuk A.A., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 318 THE SELF-ORGANIZATION PROCESS OF BARIUM TITANATE NANOPARTICLES ON SOLID SURFACE
Zagorny M.N., Zhygotsky A.G., Ivanchuk A.A., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 325 COPPER POWDER GRINDING PROCESS INTENSIFICATION
Goncharuk A.A., Baglyuk G.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 331 FORMATION OF PHASE COATINGS OBTAINED BY NON-VACUUM SINTERING Ti-Al COMPACTS
Bagliuk G. A., Mamonova A. A., Marych M. V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 332 REINFORCED PHASES IN CARBIDE STEELS BASED ON WASTE ShKh15
Bagliuk G.A., Mamonova A.A., Bezdorozhev O.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 342 INFLUENCE OF COOLING RATE AND LIQUID MELT OVERHEATING ON POWDER PARTICLES STRUCTURE OF TOOLSTEEL P6M5Ф3
Ulshin S.V., Ulshin V.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 345 ASYMMETRICAL ROLLING — THE NEW TECHNOLOGY OF POWDER MATERIALS ROLLING
Gogaev K., Kalutsky G., Voropaev V.,Kolpakov A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 371 OBTAINING AND PROPERTIES OF TOROIDAL MAGNETODIELECTRICS BASED ON AMORPHOUS AND NANOCRYSTALLINE POWDERS
Baytalyuk B., Maslyuk V., Kotlyar S.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

C 402 SYNTHESIS AND ATTESTATION OF NANOCRYSTALLINE ALUMINUM DODECABORIDE α-AlB12 POWDER
Muratov V.B., Garbuz V.V., Mazur P.V., Kartuzov Ye.V., Vasiliev O.O.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]National Technical University of Ukraine “Kyiv Polytechnic Institute”, Kyiv, Ukraine

Thursday, 2015 October, 7

10^{00}-12^{00} **SECTION D.** Nanomaterials science: technologies and materials.

Coordinator: Zinchenko V.F. (Ukraine)

D 5 IR SPECTROSCOPIC RESEARCH OF NANO-STRUCTURIZATION IN SYSTEMS OF GERMANIUM OXIDES

Zinchenko V.F., Chygrynov V.E.
Bogatsky Physico-Chemical Institute (PCI) of NAS of Ukraine, Odessa, Ukraine

15 minutes

D 38 THE INFLUENCE OF SURFACE NANOCRYSTALLINE STRUCTURE ON CONTACT FATIGUE OF STEELS

Kyryliv V.I., Chaikovskyj B.P.[(1)], Maksymiv O.V., Schalko A.V[(1)], Kret N.V.
Karpenko Physico-Mechanical Institute of NAS of Ukraine, Lviv, Ukraine
[(1)]Gzhytsky National Veterinary and Biotech University, Lviv, Ukraine

15 minutes

D 45 FORMATION OF THE PHASE COMPOSITION AND STRUCTURE IN NANOSIZED THERMOELECTRIC FILMS BASED SKUTTERUDITE $CoSb_3$

Makogon Yu.N., Sidorenko S.I., Shkarban R.A.
Kyiv Polytechnic Institute of National Technical University of Ukraine, Kyiv, Ukraine

15 minutes

D 316 PARTICULARITIES OF SiC FORMATION UNDER SHOCK COMPRESSION OF Si + C MIXTURES

Kurdyumov A.V., Britun V.F., Yarosh V.V., Danilenko A.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

D 370 INFLUENCE OF BATIO3 NANOPARTICLES ADDITION ON THE RHEOLOGY OF HIGH-CONCENTRATED POLYMER SUSPENSIONS

UmerovaS.A., Dulinal.A., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

D 388 EVOLUTION OF PARTICLE SIZE DISTRIBUTION AND STRUCTURAL CHARACTERISTICS FOR Ni/NiO NANOPOWDERS

Dulina I.O., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

D 398 FORMATION OF TANTALUM BORIDE IN A PLANETARY MILL

Savyak M.P., Timofeeva I.I., Ivchenko V.I., Vasil'kivskaya M.A., Udovyk O.O., Dubchak S.Yu.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

12^{30}-13^{30} **SECTION E.** Ceramics for functional and constructional purposes. High-temperature and heat-resistant materials.

Coordinator: Shemet V. (Germany)

E 26 WEAR OF PARTIALLY STABILIZED ZIRCONIUM DIOXIDE CERAMICS AT ITS DRY FRICTION AGAINST STEEL

Akimov G.Ya., Chayka E.V.
Galkin Donetsk Institute for Physics and Engineering of NAS of Ukraine, Kyiv, Ukraine

15 minutes

E 27 EXCESS MANGANESE AS A FACTOR IN THE STABILIZATION OF PHASE COMPOSITION OF MANGANITE CERAMICS

Novokhatska A.A., Akimov G.Ya.
Galkin Donetsk Institute for Physics and Engineering of NAS of Ukraine, Kyiv, Ukraine

15 minutes

E 40 PREPARATION, STRUCTURE AND PROPERTIES OF DIRECTIONALLY CRYSTALLIZED COMPOSITES OF B_4C-TiB_2-SiC SYSTEM

Bogomol I., Loboda P., Holovenko Y.
National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine

15 minutes

E 89 COMPARISON OF THERMALLY GROWN CHROMIA SCALES ON PURE CHROMIUM AND ITS ALLOYS AT HIGH TEMPERATURES: SCALING KINETICS AND MICROSTRUCTURE

Shemet V., Hänsel M.
FZ Jülich GmbH, Jülich, Germany

15 minutes

E 368 WETTING PROCESS BY AVIATION OILS OF MOLYBDENUM DISULFIDE GRAPHENE-LIKE NANOPARTICLES

Kulikov L.M., Sidorenko T.V., Konig-Ettel' N.B., Shevchuk N.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

E 381 THE FEATURES OF STRUCTURE AND MECHANICAL PROPERTIES OF RAPID SOLIDIFICATED INTERMETALLIC Ni3Al

Istomin B.V., Iefimov M.O., Golubenko A.A., Milman Yu.V., Chugunova S.I., Goncharova I.V., Goncharuk V.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

14^{00}-15^{30} **SECTION G.** Composite materials: special properties and prospects in practical use.

Coordinator: Grechanyuk V.G. (Ukraine)

G 2 CORROSION RESISTANT COMPOSITE MATERIALS Cu-Mo (W) -Zr-Y FOR ELECTRICAL CONTACTS

Grechanyuk V.G., Kostornov A.G.[(1)], Chornovol V.O.
Kyiv National University of Construction and Architecture, Kiev, Ukraine
[(1)]Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine

15 minutes

G 6 RADIATION GROWTH ON THE SURFACE OF ION IRRADIATED WIDE-BAND-GAP CORUNDUM SINGLE CRYSTALS

Harutyunyan V.V., Aleksanyan E.M., Baghdasarian V.S.
Alikhanian National Scientific Laboratory (Yerevan Physics Institute), Yerevan, Armenia

15 minutes

G 58 IMPROVE OF THE HIGH-SPEED STEEL WEAR RESISTANCE USING BORON COATING

Korbut E.V., Labunets V.F.[(1)], Radko O.V.[(1)], Zagrebelnyi V.V.[(1)], Yakobchuk O.E.[(1)]
National Technical University of Ukraine «KPI», Kiev, Ukraine
[(1)]National Aviation University, Kiev, Ukraine

15 minutes

G 59 HEAT-RESISTANT TITAN-ALUMINIUM COMPOSITE

Korzhov V.P., Karpov M.I., Zheltyakova I.S.
Institute of Solid State Physics of Russian Academy of Sciences, Chernogolovka, Russia

15 minutes

15^{45}-16^{15} **SECTION H.** Engineering of surface.

Coordinator: Grechanyuk V.G. (Ukraine)

H 9 PHYSICOCHEMICAL BASIS OF THE LIGHT STRUCTURAL ALLOYS SURFACE HARDENING BY ULTRASONIC IMPACT TREATMENT AT CRYOGENIC TEMPERATURES

Sidorenko S.I., Voloshko S.M., Burmak A.P.
National Technical University of Ukraine "Kyiv Polytechnic Institute", Kyiv, Ukraine

15 minutes

H 355 CHARACTERIZATION OF PECVD a-SiCN:H FILMS: AN EFFECT OF SUBSTRATE TEMPERATURE

Kozak A.O., Porada O. K., Ivashchenko V.I., Ivashchenko L.A., Malakhov V.J., Tomila T.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

16^{15}-16^{30} **SECTION I.** Modern technologies of joining of materials.

Coordinator: Grechanyuk V.G. (Ukraine)

I 313 THE EFFECT OF ADDITION OF NICKEL INTO THE COPPER BRAZED MELT ON MICROSTRUCTURE AND HIGH TEMPERATURE STRENGTH OF BRAZED JOINTS: NIOBIUM - Al2O3 MATERIALS

Zhuravlev V.S.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

15 minutes

I 412 INVESTIGATION OF THE USE OF AVKM IN THE DIAMOND CROWNS AND THEIR IMPROVEMENT

Naidich Yu.V., Bugaev A.A., Umanskiy V.P., Konovalenko T.B.
Frantsevichs Institute for Problems of Materials Science of NASU, 3, Krzhyzhanovsky str., Kyiv, 03142, Ukraine

15 minutes

16^{30}-16^{45} **SECTION J.** Equipments and methods for characterization materials.

Coordinator: Grechanyuk V.G. (Ukraine)

J 84 FACILITY FOR TESTING OF MATERIALS AND DEVICES AT A SPACE ENVIRONMENT CONDITIONS

Yeritsyan H.N., Sahakyan A.A., Grigoryan N.E., Harutunyan V.V., Sahakyan V.A.[(1)]

Alikhanyan National Science Laboratory (YerPhI), Yerevan, Armenia

[(1)]Institute of Metrology Armenia Republic, Yerevan, Armenia

15 minutes

Exposition of posters of SECTIONS «D», «E», «G», «H», «I», «J», «F» from 10^{00} till 17^{00}

D 4 DISPERSIONS FROM TRIGLYCERIDE NANOSTRUCTURES AND TERTIARY AMINES

Mikhalovsky J.S., Tarasevich V.A.[(1)], Agabekov V.E.[(1)]
The Belarus State Economic University, Minsk, Belarus
[(1)]The Institute of Chemistry of New Materials of the NAS of Belarus,Minsk, Belarus

D 8 SYNTHESIS, MORPHOLOGY AND STRUCTURE OF THE DENSE $(Y_{1-x}Eu_x)_2O_3$ SPHERICAL SHAPE PARTICLES

Matveevskaya N.A., Tolmachev A.V., Bezkrovnyi O.S.
Institute for Single Crystals of NAS of Ukraine, Kharkiv, Ukraine

D 22 PREPARATION OF ACTIVATED POROUS CARBON FROM FEEDSTOCK OF PLANT ORIGIN AND ELECTRODES FOR SUPERCAPACITORS

Kovalyuk Z.D., Yurcenyuk S.P., Semenchuk I.I.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Chernivtsi Department, Chernivtsi, Ukraine

D 35 THE STRUCTURE AND PHYSICAL PROPERTIES OF THE FePt-BASED FILMS

Gusevik P.S., Ryabtsev S.I., Kurdyukova K.E.
Dnipropetrovsk National University, Dnipropetrovsk, Ukraine

D 48 INFLUENCE OF INTERMEDIATE Ag, Au, Cu LAYERS IN NANOSCALE $Fe_{50}Pt_{50}$ BASED FILM COMPOSITION ON $L1_0$- FePt PHASE FORMATION AND ITS MAGNETIC PROPERTIES

Fihurna O.V., Verbytska M.Yu., Makogon I.N., Sidorenko S.I, Verbytska T.I.
Kyiv Polytechnic Institute of National Technical University of Ukraine, Kyiv, Ukraine

D 73 ELECTRIC-SPARK SYNTHESIS OF SILICON PARTICLES

Sergiienko R.A., Polischuk A.V.[(1)], Aftandilyants Y.G.[(1)], Lopatko K.G.[(1)], Verkhovliuk A.M.
Physico-technological institute of metals and alloys of NAS of Ukraine, Kyiv, Ukraine
[(1)]National university of life and environmental sciences of Ukraine, Kyiv, Ukraine

D 78 THERMAL STABILITY OF POWDERY B, Ni_3B, TiB_2 HfB_2 AND ZrB_2 ON AIR

Kudin V.G.
Shevchenko Kiev National University, Kiev, 01033, Ukraine

D 300 TEMPERATURE EFFECTS IN STRUECTURE FORMATION OF NANOCOMPOSITE C-CU FILMS

Onoprienko A.A., Yanchuk I.B.[(1)]
Frantsevich Institute for Problems of Materials Science of NASU, Kiev, Ukraine
[(1)]Lashkaryov Institute of Semiconductor Physics of NASU, Kiev, Ukraine

D 307 CHARACTERIZATION OF Al–Mg–B FILMS PREPARED BY MAGNETRON SPUTTERING

Ivashchenko V.I., Scrynskyy P.L., Butenko O.O., Kozak A.O., Dub S.M., Timofeeva I.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 309 THE Al–Fe–Cr WELDABLE ALLOYS REINFORCING WITH NANOQUASICRYSTALLINE PARTICLES FOR USING AT TEMPERATURES UP 300 °C

Milman Yu.V., Zakharova N.P., Sharovsky A.O., Iefimov M.O., Poklyatsky A.G.[(1)], Fedorchuk V.E.[(1)], Goncharuk V.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Paton Electric Welding Institute of NASU, Kiev, Ukraine

D 328 INFLUENCE OF DEGREE OF DEFORMATION IN COLD ROLLING OF STEEL 20 X ON DISLOCATION STRUCTURE AND RESISTANCE TO FATIGUE

Lugovskoi U.F, Nazarenko V.A., Podrezov U.N. Danilenko N.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 329 METHOD FOR QUALITATIVE EVALUATION OF INTERLAMINAR STRENGTH LAMINATES WITH THEIR REZONANS VIBRATION

Lugovskoi U.F, Nazarenko V.A., Nishenets V.N., Spiridonov S.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 339 MAGNETIC PROPERTIES OF THE NANOPOWDERS FORMED ON THE STEEL SURFACE CONTACTING WITH WATER COOPER AND COBALT SULFATE SOLUTIONS

Lavrynenko O.M.[(1,2)], Dudchenko N.O.[(3)], Brik A.B.[(3)]
[(1)]Ovcharenko Institute of Bio-Colloid Chemistry of NASU, Kyiv, Ukraine
[(2)]Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(3)]Semenenko Institute of Geochemistry, Mineralogy and Ore Formation of NASU, Kiev, Ukraine

D 365 EFFECT OF CONCENTRATED LIGHT ON BORON AND INDIUM

Sartinska L.L., Voynich Y.V., Frolov G.A., Timofeeva I.I., Eren T.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Yildiz Technical University, Chemistry Department, Davutpasa Campus, 34220, Esenler, Istanbul, TURKEY

D 372 PREPARATION OF HIGHLY DISPERSE COMPOSITE POWDERS IN BORIDE-SILICIDE SYSTEMS

Makarenko G.N., Krushinskaya L.A., Matsera V.E., Timofeeva I.I., Vasilkovskaya M.A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 373 STRUCTURAL FEATURES OF FORMAION OF BARIUM tITANATE IN THE PROCESS OF SYNTHESIS IN DIFFERENT REGIMES

Lobunets T.F., Tomila T.V., Frankfurt V.M., Shirokov O.V., Patsui V.I., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 387 TAPE CASTING OF FERROELECTRIC FILMS WITH THICKNESS LESS THAN FIVE MICRONS

Ivanchenko S.E., Dulina I.O., Umerova S.O., Nikulin A.G., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

D 65 THE FORMATION OF NANOSCALE CHROMIUM CARBIDES IN CHROMIUM STEEL DURING TEMPERING

Bobyr S.V., Levchenko G.V., Nefed'eva O.E., Pljuta V.L.
Nekrasov Institute of Ferrous Metallurgy of NAS of Ukraine, Dnepropetrovsk, Ukraine

D 413 NEW PHENOMENA IN FERROMAGNETIC NANOCOMPOSITES Co/Al_2O_3 AND EFFECT OF MAGNETIC FIELD ON THEIR GROWTH AND PROPERTIES

Lashkarev G.V., Radchenko M.V., Bugaiova M.E., Dmitriev A.I. Krushynskaya L.A. [(1)], Stelmakh Y.A.[(1)], Knoff W.[(2)], Story T.[(2)], Slynko E.I., Ivanov V.I.
Frantsevych Institute for Problems of Material Scienceof NAS of Ukraine, Kiev, Ukraine
[(1)]Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine
[(2)]Institute of Physics of Polish Academy of Sciences, Warsaw, Poland

E 11 WEAR RESISTANCE OF DETONATION NANOCOMPOSITE COATINGS Cr-Si-B IN CONDITIONS OF HIGH TEMPERATURES

Nedaiborshch S.D.
State Enterprise „PLANT 410", Kiev, Ukraine

E 16 THE KINETIC REGULARITIES OF HOT PRESSING MATERIALS SiC–B4C(–TiC)

Ivzhenko V.V., Kaidash O.N., Sarnavskaya G.F.
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine

E 19 ELECTROPHYSICAL PROPERTIES OF ScSZ CERAMICS: EFFECT OF SMALL Bi_2O_3 aDDITIVES

Komysa Yu., Akimov G.
Galkin Donetsk Institute for Physics and Engineering of NAS of Ukraine, Kyiv, Ukraine

E 39 PREPARATION, STRUCTURE AND PROPERTIES OF SPUTTERED POWDER OF THE EUTECTIC B4C-TiB2 ALLOY

Bogomol I., Loboda P., Holovenko Y., Biliy O.[(1)]
National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine
[(1)]Paton Electric Welding Institute of NAS of Ukraine, Kyiv, Ukraine

E 47 DETERMINATION OF THE HEAT OF FUSION OF REFRACTORY BORIDE

Kysla G.P., Kozyarsky B.M.
Kyiv Polytechnic Institute of National Technical University of Ukraine, Kyiv, Ukraine

E 302 PECULARITIES OF ANODIC OXIDATION OF TITANIUM CARBIDE IN 3% NaCL SOLUTION AFTER CATHODIC POLARIZATION

Shvets V.A., Lavrenko V.A., Talash V.N., Rudenko Yu.B.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 303 TRIBOLOGICAL CHARACTERISTICS OF SUPERHARD MATERIALS CUBIC BORON NITRIDE

Adamovskyi A.A., Kostenko A.D., Varchenko V.T.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 311 USING COMPLEX-MODIFICATION CERAMICS BASED ON CORUNDUM TO CASTING OBTAIN DESIGNS OF MEDICAL APPOINTMENTS

Lashneva V., Maksiuta I.[(1)], Kvasnitskaya Yu.[(1)], Mihnyan E.[(1)], Neima A.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Physico-Technological Institute of Metals and Alloys of NASU, Kyiv, Ukraine

E 314 MECHANICAL PROPERTIES OF INTERMETALLIC Al_3Sc IN THE WIDE TEMPERATURE RANGE

Milman Yu.V., Golubenko A.A., Goncharova I.V., Iefimov M.O., Kuprin V.V., Chugunova S.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 319 CONSOLIDATION OF REFRACTORY COMPOSITES OF TIB2–B4C BY AN ELECTRIC CURRENT

Zamula M.V., Derevyanko A.V., Kolesnichenko V.G., Varchenko V.T., Umerova S.A., Zgalat-Lozynskyy O.B., Ragulya A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 338 INFLUENCE OF HEAT TREATMENT ON THE TEMPERATURE DEPENDENCE OF TIN DIOXIDE-BASED THICK FILMS RESISTIVITY

Gonchar A.G., Siman N.I., Telnikov E.Ya, Fiyalka L.I., Marchuk A.K.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 344 MICROSTRUCTURAL TYPES OF SUPERHARD MATRIALS BASED ON INITIAL WURTZITE BORON NITRIDE

Oleynik G.S.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 349 STRENGTH AND TRIBOLOGICAL PROPERTIES OF PRESSURE SINTERED β-Si3N4-BASED CERAMICS

Tkachenko Yu.G., Yurchenko D.Z., Kovalchenko M.S., Ochkas L.F.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 360 SYNTHESIS OF DISPERSED POWDERS OF MOLYBDENUM AND TUNGSTEN SILICIDES BY ELECTROLYSIS OF HALIDE-OXIDE MELTS

Shakhnin D.B.[(1)], Podyman A.S.[(1)], Gab I.I, Malyshev V.V.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Vernadsky Institute of General and Inorganic Chemistry of NASU, Kiev, Ukraine

E 383 THE MECHANICAL PROPERTIES OF P-TERPHENYL STUDIED BY INDENTATION METHOD

Milman Yu.V., Galunov N.Z., Chugunova S.I., Lazarev I.V., Istomin B.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 389 HEAT-RESISTANT ELECTRICALLY INSULATING COMPOSITE MATERIAL BASED ON ALUMINUM NITRIDE

Kovalchenko M.S., Dubovik T.V., Subbotin V.I., Itsenko A.I., Rogozinskaya A.A., Grebenok T.P., Zyatkevich N.P.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 399 A MODEL FOR PENETRATION RESISTANCE IN BRITTLE MATERIALS TAKING INTO ACCOUNT STRAIN HARDENING OF SOLID PHASE IN COMMINUTED MATERIAL

Galanov B.A., Kartuzov V.V., Ivanov S.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

E 414 OPTICAL AND ELECTRICAL PROPERTIES OF ZnO:Al FILMS PREPARED BY ATOMIC LAYER DEPOSITION PROCESS ON Si SUBSTRATE

Lashkarev G.V., Karpyna V.A., Dranchuk M.V., Popovych V.I., Dovbeshko G.[(1)], Dmytruk I.M.[(1)], Romanyuk V.R.[(2)], Dmytruk N.L.[(2)], Kondratenko O.S.[(2)]

Frantsevich Institute for Problems of Material Science of NAS of Ukraine, Kiev, Ukraine
(1)Institute of Physics of NAS of Ukraine, Kiev, Ukraine
(2)Institute of Semiconductor Physics of NAS of Ukraine, Kiev, Ukraine

G 10 THE MANAGEMENT OF TRIBOLOGICAL PROPERTIES IN THE SYSTEM OF PROCESSED MATERIAL–TOOL

Kukharenko S.
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine

G 13 AN INFLUENCE OF SOLID LUBRICANT IN MATERIALS BASED ON SILUMIN ALLOY WASTE FOR TRIBOTECHNICAL PROPERTIES OF PRINTING EQUIPMENT'S CONTACT PAIRS

Roik. T.A., Gavrish A.P., Vitsuk Yu.Yu.
National Technical University of Ukraine "Kyiv Polytechnic Institute", Kyiv, Ukraine

G 21 MICROSTRUCTURE AND PROPERTIES OF TiAl-B4C SYSTEM COMPOSITE

Loboda P.I., Sysoyev M.A., Gubay I.O., Tereschenko A.S.
National Technical University of Ukraine "Kiev Polytechnic Institute", Kiev, Ukraine

G 23 HETEROJUNCTIONS GRAPHITE-N-INSE

Kovalyuk Z.D., Katerenchuk V.N., Potsiluiko R.L.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Chernivtsi Department, Chernivtsi, Ukraine

G 24 FABRICATION, PROPERTIES AND APPLICATION OF NANOCOMPOSITE MATERIALS BASED ON A LAYERED CRYSTALS A3B6 AND A SOLID ELECTROLYTE RbNO3

Kovalyuk Z.D., Bakhtinov A.P., Vodop'yanov V.N., Netyaga V.V.,Kudrynskyi Z.R.
Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Chernivtsi Department, Chernivtsi, Ukraine

G 29 COMPOSITE MATERIAL FOR THE GRINDING TOOL

Ilnitskaya G.D., Lavrinenko V.I., Pasechnyj O.O., Smokvina V.V., Romanko L.A., Zaitseva I.N., Ushchapovskiy U.P., Ishchenko E.V.[(1)], Gaidai S.V.[(1)]
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine
[(1)]Shevchenko Kiev National University, Kiev, Ukraine

G 43 Al-Ni-Fe FILLERS FOR MACROHETEROGENEOUS COMPOSITES

Sukhovaya E.V., Ustinova K.V.
Gonchar Dnepropetrovsk National University, Dnepropetrovsk, Ukraine

G 49 STRUCTURE AND PROPERTIES OF CERAMIC-METAL COMPOSITE OF LaB6 – TiB2 – Al

Solovyova T., Stovbun Y., Loboda P.
National Technical University of Ukraine "Kyiv Polytechnic Institute" Kiev, Ukraine

G 57 PROTECTIVE PROPERTIES OF EPOXY-TITANIA COMPOSITES OF CATIONIC POLYMERIZATION

Sayfutdinova M.V., Lyga R.I., Mikhal'chuk V.M.
Donetsk National University, Donetsk, Ukraine

G 80 THE INTERACTION OF SELF-FLUXING ALLOYS MELTS AND IRON

Stepanchuk A.N., Demydenko A.A., Klecov A.A.
National Technical University of Ukraine "KPI", Kiev, Ukraine

G 82 GROWTH OF KDP:L-ARGININE CRYSTALS AND STUDY OF THEIR OPTICAL AND STRENGTH PROPERTIES

Kostenyukova E.I., Bezkrovnaya O.N., Pritula I.M.
SSI “Institute for Single Crystals” of NAS of Ukraine, Kharkov, Ukraine

G 86 REACTION SINTERING AT HIGH PRESSURES OF PRODUCTS FROM COMPOSITES OF cBN-Al SYSTEM

Borimskyi I.O., Bykov O.I.[(1)], Borimskyi O.I., Korichev S.F.[(1)]
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine
[(1)]Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

G 87 HIGH-PRESSURE-REACTION-SINTERING OF PRODUCTS FROM cBN-Al-siC(w) COMPOSITES

Borimskyi O.I., Aleksandrova L.I., Borimskyi I.O., Bykov A.I.[(1)], Mel'niychuk G.A., Sorochenko T.A.
Bakul Institute for Superhard Materials of NAS of Ukraine, Kiev, Ukraine
[(1)]Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

G 301 BIOGENIC HYDROXYAPATITE DOPED WITH NANOMAGNETITE USING CONDENS PHYSICO-CHEMICAL METHOD

Otychenko O.[(1,2)], Parkhomey A.[(1)], Babutina T.[(1)], Uvarova I.[(1)]
Frantsevich Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(2)]National Technical University of Ukraine «Kyiv Polytechnic Institute», Kyiv, Ukraine

G 305 PECULIARITIES OF BRITTLE MATERIALS POWDERS DENSIFICATION BY PRESSING

Hrebenok T., Koval’chenko M., Brodnikovskij N., Rogozinskaya A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 363 BEHAVIOUR OF LYMPHOCYTES IN THE ORGANISMS WITH TUMOURS UNDER CRYOMAGNETIC ACTION IN VIVO

Raichenko O.I., Mosienko V.S.[(1)], Derev’yanko Olena V., Yanish Yu.V.[(1)], Chernenko L.I., Karnaushenko O.V.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology of NASU, Kiev, Ukraine

G 366 SINTERABILITY AND STRUCTURAL AND MECHANICAL PROPERTIES OF COMPOSITES BASED ON BIOGENIC HYDROXYAPATITE AND SODIUM BOROSILICATE GLASS WITH DIFFERENT PARTICLE FINENESS

Parkhomey O.R., Pinchuk N.D., Sych O.E., Tovstonoh H.B., Kuda O.A., Gorban' V.F., Kolesnichenko V.G., Evych Ia.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 374 EFFECT OF DEFORMATION METHOD ON MICROSTRUCTURE TYPE AND PROPERTIES OF Cu-W PSEUDOALLOYS WITH NANOSIZED PARTICLES OF REFRACTORY PHASE

Getman O.I., Skorokhod V.V., Radchenko P.Y. Panichkina V.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 384 FLAT HEAT PIPES WITH LOW TEMPERATURE RANGE FOR TRANSPORT EQUIPMENT COOLING

Kostornov A.G., Moroz A.L., Shapoval A.A., Shapoval I.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 385 DEVELOPMENT OF A LIGHTNING PROTECTION SYSTEM FOR WIND POWER UNIT BLADES

Vishnyakov L.R., Kokhana I.M., Kokhaniy V.O., Andrienko O.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 390 CONSTRUCTIONAL COMPOSITE MATERIAL BASED ON SILICON NITRIDE

Kovalchenko M.S., Dubovik T.V., Yurchenko D.Z., Ochkasov L.F., Vinokourov V.B., Subbotin V.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 393 POWDER ALUMINOCOMPOSITES MODIFIED WITH CARBON-CONTAINING NANOPARTICLES

Vishnyakov L.R., Kokhaniy V.O., Voropaev V.S., Moroz V.P., Varchenko V.T., Obodeeva I.M.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

G 408 INFLUENCE OF GRAPHENE ON THE CONDUCTIVITY OF THERMOSTABLE FLUORINE-CONTAINING POLYAMIDE

Paustovsky A.V., Rud B.M., Sheludko V.E., Telnikov E.Ya., Smertenko P.S.[(1)], Tarasyuk O.P.[(2)], Rogalsky S.P.[(2)], Sheludko E.V.[(2)], Bogomolov Yu.I.[(2)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Lashkaryov Institute of Semiconductor Physics of NASU, Kiev, Ukraine
[(2)]Institute of Bioorganic Chemistry and Petrochemistry of NASU, Kiev, Ukraine

H 12 PROPERTIES OF AMORPHOUS-CRYSTALLINE COATINGS Zr-Al-B AT BOUNDARY LUBRICATION OVER WIDE LOAD AND SPEED FRICTION REGIMES
Kharchenko O.
National Aviation University, Kyiv, Ukraine

H 15 BORIDE COATINGS OBTAINED UNDER THE CONDITIONS AN EXTERNAL MAGNETIC FIELD
Chernega S., Poliakov I., Krasovskiy M.(1), Grinenko E.
National Technical University of Ukraine "Kiev Polytechnic Institute", Kiev, Ukraine
(1)Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, Kiev, Ukraine

H 50 EXPERIMENTAL ANALISYS OF THE WEAR AND ROUGHNESS
Sayah T., Bouti S., Hamouda K.
USTHB, Faculty of Mechanical Engineering, Algiers, Algeria

H 55 THE EFFECT OF PRELIMINARY PLASTIC DEFORMATION ON STRUCTURE AND PROPERTIES OF Fe–BASED ALLOYS AFTER DIFFUSION SATURATION BY NITROGEN AND CARBON
Demchenko L.D., Titenko A.N.(1)
National Technical University of Ukraine “Kyiv Polytechnic Institute”, Kiev, Ukraine
(1)Institute of Magnetism of NAS of Ukraine, Kiev, Ukraine

H 66 CORROSION RESISTANCE OF DETONATION COATINGS BASED ON Fe-Al
Borisov Yu.S., Astakhov E.A., Ipatova Z.G., Iantsevitch C.V., Kildiy A.I.
Paton Electric Welding Institute of the NAS of Ukraine, Kiev, Ukraine

H 67 POWDER COATING OF DETONATION SYSTEM OF INTERMETALLIC COMPOUNDS Fe-Al, OBTAINED BY MHS
Borisov Yu.S., Astakhov E.A., Borisova A.L., Kildiy A.I., Tsimbalista T.V., Vasylkivska M.A.
(1)Institute of Electric them. Paton NAS of Ukraine, Kiev, Ukraine
(1)Institute of Materials im.I.N. Frantsevich NAS of Ukraine, Kiev, Ukraine

H 68 STRUCTURE AND PHASE COMPOSITION DETONATION COATINGS OF ALLOY POWDERS BASED ON INTERMETALLIC COMPOUNDS FE3AL
Borisov Yu.S., Astakhov E.A., Borisova A.L., Kildiy A.I., Tsimbalista T.V., Timofeeva A.I.
Institute of Electric them. Paton NAS of Ukraine, Kiev, Ukraine

H 69 PRODUCING FeAl COATINGS BY MAGNETRON SPUTTERING
Borisov Yu.S., Kuznetsov M.V., Tkachenko B.T., Volos A.V., Zadoya V.G.
Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine

H 70 INVESTIGATION OF THE STRUCTURE AND PROPERTIES OF SPRAYING PARTICLES, PRODUCED UNDER THE CONDITIONS OF ACTIVATED LASER-MICROPLASMA SPRAYING

Borisov Yu.S., Kuzmych-Ianchuk Ie.K., Voynarovych S.G., Kyslytsia A.N.
Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine

H 71 SUPERSONIC AIR-GAS PLASMA SPRAYING OF CLAD (Ti,Cr)C-32%Ni POWDER
Borisov Yu.S., Kolomytsev M.V., Masiuchok O.P.
Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine

H 72 DEGREE OF SPRAYING MATERIAL UTILIZATION AT MICROPLASMA DEPOSITION OF TiO2 COATINGS
Borisov Yu.S., Voinarovich S.G., Kislitsa A.N., Kalyuzhnii S.N.
Paton Electric Welding Institute of NAS of Ukraine, Kiev, Ukraine

H 74 SMOOTHING OF METAL SURFACE IN THERMAL PEAKS AT ION BOMBARDMENT
Kalinichenko A.I., Perepelkin S.S., Strel'nitskij V.E.
National Science Center "Kharkov Institute of Physics and Technology", Kharkov, Ukraine

H 88 HARDENING OF SURFACE DETAILS OF FRICTION UNIT FOR STEAM TURBINE ALLOCATOR BY COMBINED METHOD OF TREATMENT
Belous V.A., Lomino N.S., Zadneprovskiy Y.A., Ermolenko I.G.
National Science Center Kharkov Institute of Physics and Technology,Kharkov, Ukraine

H 306 THE STATISTICAL APPROACH TO THE STUDY OF THE PLASMA-SPRAYED COATINGS STRENGTH
Besov A.V., Dolgov N.A.[(1)], Ivanchenko A.V.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Pisarenko Institute for Problems of Strength of NASU, Kiev, Ukraine

H 324 ACCELERATION OF DARK REACTION OXIDATION OF WATER BY THIN MnO2 LAYERS DEPOSITED ON OXIDIXZED TITANIUM ANODES
Korablov S., Khyzhun O., Korablov D., Solonin Yu.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

H 337 EFFECT OF LASER PROCESSING AND CHROMIUM ALLOYING ON THE CAST IRON STRUCTURE AND TRIBOLOGICAL PROPERTIES
Tkachenko I., Grinkevych K., Minakov N., Bloschanevich A.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

H 340 WEAR- AND HEAT-RESISTANT COATINGS OBTAINED USING TITANIUM HYDRIDE
Barabash V.A., Demidik O.N., Syrovatka V.L., Yakovleva M.S., Vasylkivska M.O., Galtsov K.N., Bondarenko O.A., Terentiev O.Ye., Kostenko O.D.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

H 350 INFLUENCE OF THE CURRENT STRENGTH AND VOLTAGE ON HEAT FLOW INTENSITY TO THE CATHODE
Belik V.D., Kovalchenko M.S., Rogozynska A.O.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

H 361 INCREASE OF HEAT-RESISTANT PROPERTIES OF TUNGSTEN BY ITS SILICONIZING AND BORONIZING

Podyman A.S.[(2)], Shakhnin D.B.[(2)], Gab A.I.[(1)], Stetsyuk T.V., Malyshev V.V.[(2)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]National Technical University of Ukraine "Kyiv Polytechnic Institute", Kyiv, Ukraine
[(2)]Vernadsky Institute of General and Inorganic Chemistry of NASU, Kiev, Ukraine

H 407 HEAT-RESISTANCE OF SPARK COATINGS OF Ni-Cr-Al-Y ALLOYS SYSTEM

Paustovskiy A.V., Alfintseva R.A., Gubin Yu.V., Kurinnaya T.V., Tereschenko V.S.
Frantsevich Institute for Problems of Materials Science of NASof Ukraine, Kyiv, Ukraine

I 322 DEVELOPMENT OF THE CONSTRUCTION OF BRAZED AND WELDED ADHESIVE-MECHANICAL JOINING OF OXIDE MATERIALS WITH METALS

Gab I.I., Stetsyuk T.V., Kostyuk B.D., Martynyuk S.I., Naidich Yu.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

I 334 WETTING BY Ag-Cu-O MELTS, AIR BRAZING AND METALLIZATION OF PEROVSKITE PNZT-CERAMICS

Sidorenko T.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

I 352 FEATURES OF PHASE COMPOSTION AND SUBSTRUCTURES IN BORIDE LAYERS OF SINTERED POWDER STEEL

Baglyuk G.A., Mamonova A.A., Piatachuk S.G., Khomenko A.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

I 367 SOME NEW DATA ABOUT METAL MELTS TO NON-STOICHIOMETRIC ZIRCONIA INTERACTION

Durov A.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

J 52 RESEARCH AND CONTROL METHODS of surface layers of Tribounits
Zakharchenko A.V.
University “Ukraine”, Kyiv, Ukraine

J 315 THE STUDY OF MECHANICAL BEHAVIOR OF DIAMOND BY INDENTATION METHOD
Galanov B.A., Milman Yu.V., Chugunova S.I., Golubenko A.A., Ivakhnenko S.A.[(1)], Suprun E.M.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Bakul Institute for Superhard Materials of NASU, Kiev, Ukraine

J 341 METHOD FOR DETERMINING THE JOINT CAPILLARY AND HYDRAULIC CHARACTERISTICS OF THE POROUS STRUCTURE
Ludanov K.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

J 364 LABORATORY FACILITY FOR CHECKING AND TESTING OF THE HINGE JOINT SERVICE LIFE OF FEMORAL PROSTHESIS
Lashneva V.V., Lichko V.V., Ryabov K.I.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Public Corporation “Motor Sich” Zaporizhia, Ukraine

J 379 THEORETICAL PLASTICITY OF MATERIALS
Goncharova I.V., Milman Yu.V., Chugunova S.I.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

J 382 ON THE PROBLEM OF DETERMINATION OF THE ULTIMATE HARDNESS OF MATERIALS
Firstov S.A., Milman Yu.V., Chugunova S.I., Goncharova I.V.
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine

F 60 ANTIFRICTION COMPOUNDS AND COATINGS BASED ON NONISOCYANATE EPOXYPOLYURETHANES

Filipovych A.Y., Grishchenko V.K., Bazalyuk L.V.
Institute of Macromolecular Chemistry of NAS of Ukraine, Kyiv, Ukraine

F 62 SYNTHESIS AND PROPERTIES OF BLOCK COPOLYMERS OF VEGETABLE OILS USING OLIGOMERIC POLYAZOINITIATORS

Bus'ko N., Grishchenko V., Barantsova A., Kochetova Ya., Silchenko U., Gudzenko N.
Institute of Macromolecular Chemistry of NAS of Ukraine, Kiev

F 63 FUNCTIONAL OLYGOSTYRENS FOR POLYMER COATINGS

Gudzenko N.V., Bubnova A.S., Busko N.A., Barantsova A.V., Grishchenko V.K.
Institute of Macromolecular Chemistry of NAS of Ukraine, Kiev, Ukraine

F 64 SYNTHESIS FUNCTIONAL DERIVATIVE VEGETABLE OILS AND DEVELOPMENT OF POLYMERIC MATERIALS ON THEIR BASE

Barantsova A.V., Grishchenko V.K., Bus'ko N.A., Gudzenko N.V., Falchenko Z.V., Filipovych A.Y.
Institute of Macromolecular Chemistry of NAS of Ukraine, Kyiv, Ukraine

F 77 EFFECT OF DEFORMATION SPEED ON LOW TEMPERATURE MECHANICAL PROPERTIES OF POLYIMIDE FILMS KAPTON-H

Abraimov V.V., Lototskaya V.A., Saltevskiy G.I., Zaritskiy I.P.
Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine, Kharkov, Ukraine

F 394 PROTECTION PROPERTIES OF CERAMICS-POLYMER INTERCEPTORS HAVING VARIOUS MATRICES FOR USE IN BACKING

Vishnyakov L.R., Mazna A.V., Neshpor O.B., Brovko A.A.[(1)], Yaschenho L.N.[(1)]
Frantsevichs Institute for Problems of Materials Science of NASU, Kyiv, Ukraine
[(1)]Institute of High Molecular Compounds of NASU, Kyiv, Ukraine