

CONFERENCE SCHEDULE

Tuesday, 7 September

9³⁰ – 11⁰⁰

Chairmen: *I.M.Neklyudov*
V.M.Troyanov

PLENARY SESSION OPENING CEREMONY, GENERALS

1. **Introductory**
15 min *I.M.Neklyudov (NSC KIPT, Kharkov, Ukraine)*
2. **Modern problems of radiation material science and “renaissance” of experiments on charged particles accelerators**
30 min *I.M.Neklyudo, V.N.Voyevodin (NSC KIPT, Kharkov, Ukraine)*
3. **Problems posed to scientific organizations by Federal special program “Nuclear power technologies of new generation for period 2010-2015 and for prospective to 2020-“**
30 min *V.M.Troyanov (OAS “VNIINM named by A.A.Bochvar”, Moscow, Russia)*

COFFEE BREAK 15 min

Tuesday, 7 September

11¹⁵ – 14⁰⁰

Chairmen: *V.N.Voyevodin*
F.A.Garner

PLENARY SESSION A:

PHYSICS of RADIATION DAMAGE IN METALS AND ALLOYS

1. **Swelling-induced distortion of thick AISI 304 stainless steels components in EBR-II having gradients in temperature and dpa rate comparable to PWR conditions**
30 min. *F.A.Garner¹, D.L.Porter², J.Wies², Y.Isobe³, M.Sagisaka³, T.Okita⁴ (¹Radiation Effects Consulting, Richland WA USA², Idaho National Laboratory, ³Nuclear Fuel Industries, Osaka Japan, ⁴University of Tokyo, Tokyo, Japan)*
 2. **Atomistic simulation of interaction between radiation damages and micro-structures**
20 min *N.P.Lazarev (NSC KIPT, Kharkov, Ukraine)*
- COFFEE BREAK 15 min**
3. **Role of vacancies generation by gliding dislocations in development of radiation creep**
20min *P.A.Selishchev, T.P.Didenko (KNU named by Taras Shevchenko, Kiev, Ukraine)*
 4. **About recombination consideration in theoretical description of crystal behavior under irradiation**
30mi *V.V.Sliezov¹, P.N.Ostapchuk² (¹NSC KIPT NANU, ²IERT NASU, Kharkov, Ukraine)*
 5. **Analytical description of swelling of steel 18CrNi!Ti on the base of reactor and ion irradiation**
20mi *A.S.Kalchenko, V.V.Bryk, V.N.Voyevodin, N.P.Lazarev (NSC KIPT NASU, Kharkov, Ukraine)*

Tuesday, 7 September

16⁰⁰ – 19⁰⁰
Chairmen: A.S.Bakay
B.A.Kalin

SESSION OF SECTION A:

PHYSICS OF RADIATION PHENOMENA IN METALS AND ALLOYS

6. **Enhancement of irradiation creep of nickel-bearing alloys in thermalized neutron spectra characteristics of LWR and CANDU reactors**
30 min *F.A.Garner¹, M.Griffits² and L.R.Greenwood³ (¹Radiation Effects Consulting, Richland WA USA, ²Atomic Energy of Canada Limited, Chalk River, Ontario, Canada, ³Pacific Northwest National Laboratory, Richland WA USA)*
7. **Tomographic atomic-probe investigation of nano- scaled properties of dispersion hardened steel ODS EUROFER in initial state and after irradiation**
20 min *S.V.Rogozhkin¹, A.A.Aleev¹, A.G.Zaluzhnyi¹, Nikitin¹, N.A.Iskanderov¹, P.Vladimirov², R.Lindau², A.Moslang² (¹State SC RF ITEP, Moscow, Russia; ²Karlsruhe Institute of Technology, Institute for Material Research-1, Karlsruhe, Germany)*
8. **Oscillation of atomic density at vicinal high-angle grain boundaries**
20 min *V.A.Ksenofontov, T.I.Mazilova, I.M.Mikhailovskii, E.V.Sadanov, V.I.Sokolenko, V.N.Voyevodin (NSC KIPT, Kharkov, Ukraine)*

COFFEE BREAK 15 min

9. **Point and extended defects in bulk metallic glasses**
20 min *Yu.Petrusenko, A.Bakai, I.Neklyudov (NSC KIPT, Kharkov, Ukraine)*
10. **New mechanism of materials hydrogenising in active zones of water-water reactors**
20 min *V.V.Gann, A.V.Gann (NSC KIPT NASU, Kharkov, Ukraine)*
11. **On two types of martensitic transformation and brittleness of iron under reactor irradiation**
20 min *A.I.Kalinichenko, I.N.Laptev, A.A.Parkhomenko, V.E.StrInitskii (NSC KIPT NASU, Kharkov, Ukraine)*

Tuesday, 7 September

16⁰⁰ – 19⁰⁰
Chairmen: V.S.Ageev
P.A.Selishchev

POSTER SESSION OF SECTION A

1. **Model of homogeneous semi-coherent phase boundary for hetero phase precipitates in substitution alloys under irradiation**
A.A.Borisenko (NSC KIPT NASU, Kharkov, Ukraine)
2. **Simplified equations for description of clusters formation in materials under irradiation**
M.V.Kobets¹, P.A.Selishchev¹, V.I.Slisenko² (¹KNU named by Taras Shevchenko, ²INR NASU, Kiev, Ukraine)
3. **Forecasting card of swelling of reactor WWER-1000 baffle for period 60 years**
A.S.Kalchenko, V.V.Bryk, V.N.Voyevodin, N.P.Lazarev (NSC KIPT NASU, Ukraine)
4. **Some approaches to the solution of problem of multi scaled modeling of radiation effects in materials of radiation technique**
D.O.Kharchenko (IAP NASU, Sumi, Ukraine)
5. **The influence of irradiation on dislocation motion in quasicrystals**
G.N.Lazareva, A.S.Bakai (NSC KIPT, Kharkov, Ukraine)
6. **Hierarchy stochastic model of radiation effect on life time of reactor materials**
V.V.Riazanov, S.G.Shpirko (INR NASU, Kiev, Ukraine)

7. **Increase of plasticity of metals under electron irradiation**
V.I.Dubinko¹, A.N.Dovbnia¹, V.A.Kushnir¹, V.V.Mitrochenko¹, I.V.Khodak¹, V.P.Lebedev², V.S.Krilovski², S.V.Lebedev², V.F.Klepikov³. (¹NSC KIPT NASU,²KNU named by V.N.Karazin, ³Institute of electrophysics and Radiation technologies NASU, Kharkov, Ukraine)
8. **Diffusion decay of supersaturated solution of impurities in interphases boundaries. Second part**
V.V.Sliezov¹, O.A.Osmaev² (¹Institute of theoretical physics named by ac.A.I. Akhiezer, NSC KIPT NASU; ²Ukrainian State Academia of Railway Transport, Kharkov, Ukraine)
9. **Influence of test temperature on mechanical properties and parameters of deformation hardening of nickel and Ni-Sc alloys after high-energy (e, γ)-irradiation**
A.G.Rudenko, L.S.Ozhigov (NSC KIPT NASU, Ukraine)
10. **Influence of concentration of superdimensional impurity atoms on processes of recovery in zirconium**
V.N.Borisenko, Yu.T.Petrusenko, S.M.Shkirida, D.A.Irzhevski (NSC KIPT NASU, Kharkov, Ukraine)
11. **Relaxation processes on annealing in the range 700-1100°C of deformed hafnium**
M.B.Lazareva, V.S.Okovit, K.V.Kovtun, V.V.Kalinovski, M.P.Starolat, V.I.Sokolenko, L.A.Chirkina, A.A.Vasiliev (NSC KIPT NASU, Kharkov, Ukraine)
12. **Method of quantum molecular dynamics in physics of radiation damage**
I.G.Marchenko¹, I.I.Marchenko² (¹NTU Kharkov polytechnical institute, ²NSC KIPT NASU, Kharkov, Ukraine)
13. **Relaxation processes in ferritic steel after irradiation by X-ray quanta and hydrogenising**
I.P.Chernov, Yu.P.Cherdantsev, N.N.Nikitenkov, N.S.Pushilina, A.M.KhashKhash, A.M.Lider (Tomsk polytechnical University, Tomsk, Russia)
14. **Quantum approach to the investigation of dynamics of failure of non-linear systems "metal+loading+irradiation"**
V.D.Rusov, V.O.Tarasov, T.L.Borikov (Odessa national polytechnical university, Odessa, Ukraine)
15. **Simulation of radiation-induced processes of structure formation in periodical systems by the method of phase field of crystal**
I.O.Lisenko, D.O.Kharchenko (IAP NASU, Sumi, Ukraine)
16. **Phase stability of DUO-particles MA ODS of ferritic-martensitic steels**
V.N.Voyevodin, V.I.Karas, A.O.Kimarov, Yu.E.Kuprianova, N.N.Pilipenko, B.A.Shiliaev (NSC KIPT NASU, Kharkov, Ukraine)
17. **Distinction of hydrogen capture by irradiated materials containing nano precipitates.**
G.A.Raspopova, V.L.Arbutov (Institute of physics of metals URO RAS, Ekaterinburg, Russia)
18. **Quantum nature of temperature variation of deuterium desorption from Mg-Ti composites**
I.M.Neklyudov, N.S.Lomino, A.N.Morozov, V.G.Kulish, V.D.Ovcharenko, A.S.Kuprin (NSC KIPT NASU, Kharkov, Ukraine)
19. **Hydrogen diagnostic of induced phase states of system helium-Hastalloy**
I.M.Neklyudov, A.N.Morozov, V.G.Kulish, S.D.Lavrinenko, V.I.Zhurba (NSC KIPT NASU, Kharkov, Ukraine)
20. **Hydrogen diagnostic of phase states of steel 18Cr10NiTi subjected to quasi-hydro extrusion**
I.M.Neklyudov, A.N.Morozov, V.G.Kulish, P.A.Khaimovich, V.I.Zhurba, V.I.Sokolenko (NSC KIPT NASU, Kharkov, Ukraine)

21. **Mechanisms of redistribution of deuterium atoms in Zr and processes of post implantation thermal-stimulated desorption**
V.V.Ruzhitskii, G.D.Tolstolutskaia, I.E.Kopanets, A.V.Nikitin, S.A.Karpov (NSC KIPT NASU, Kharkov, Ukraine)
22. **Study of radiation resistance of organic dyes under irradiation by heavy energy electron flux and gamma-quanta**
A.Yu.Buki, S.P.Gokov, V.I.Kasilov, S.S.Kochetov, L.A.Makhnenko, P.L.Makhnenko, I.V.Melnitskii, I.L.Semisalov, O.A.Shopen (NSC KIPT NASU, Kharkov, Ukraine)
23. **Study of mechanisms of stable defects production in monocystals of shpinel under electron beams**
*A.I.Buki, S.P.Gokov, *V.T.Gritsina, S.S.Kochetov, Yu.G.Kazarinov, O.A.Shopen (NSC KIPT NASU, *KNU named by Karazin, Kharkov, Ukraine)*
24. **Radiation-induced defects in ceramic of magnesium-aluminum shpinel**
V.Kvachadze¹, M.Galustashvili¹, M.Abramishvili¹, V.Gritsina², S.Gokov³, O.Shopen³ (¹Institute of physics named by E.Andronikashvili, Tbilisi, Georgia; ²KNU named by V.N.Karazin; ³NSC KIPT NASU, Kharkov, Ukraine)
25. **Orientation effects of interaction of ion beams with bulk and surface nanostructures**
S.V.Diuldia, M.I.Bratchenko, M.A.Skorobogatov (NSC KIPT NASU, Kharkov, Ukraine)
26. **X-ray diffraction and roman studies of laminar monocystals InSe and GaSe irradiated by high-energy gamma-neutrons**
Z.D.Kovaliuk, V.G.Tkachenko, I.N.Maksimchuk, O.N.Sidor, O.A.Sidor, V.I.Dubinko¹ (IPMS named by I.N.Frantsevich NASU, Kiev; ¹NSC KIPT NASU, Kharkov, Ukraine)
27. **Influence of temperature on radiation defect production under electron irradiation of crystals InAs**
V.T.Masliuk, I.G.Megela, T.A.Okuneva (IEPh NASU, Uzhgorod, Ukraine)
28. **Deformation interaction of vacancies in FCC-crystals**
O.V.Oliynik, V.A.Tatarenko (Institute of metalphysics named by G.V.Kurdiumov NASU, Kiev, Ukraine)
29. **Influence of irradiation with Fe ions on C₆₀ fullerited**
*O.L.Pavlenko, O.P.Dmytrenko, M.P.Kulich, V.Brusentsov, *B.M.Romaniuk, *V.V.Strelchuk (Kiev National University named by Taras Shevchenko; * V.E.Lashkariov Institute of semiconductor physics, Kiev, Ukraine)*
30. **Study of electrical resistance of polyamid irradiated by fast ions of nitrogen**
V.N.Bondarenko, A.V.Goncharov, V.V.Kuzmenko, V.I.Sukhostavets, A.G.Tolstolutskii (NSC KIPT NASU, Kharkov, Ukraine)
31. **Analysis of proton and ion interaction processes for irradiation of samples in air**
¹A.Plukis, ¹M.Gasparyunas, ¹G.Gervinskis, ¹V.Kovalevskij, ¹R.Plukiene; ²V.Levenets and ¹S. Vaitekoniš (¹Center for Physical Sciences and Technology, Vilnius, Lithuania, ²NSC KIPT, Kharkov, Ukraine)
32. **Radiation damage in two slits BCS-superconductor MgB₂**
A.A.Blinkin, V.V.Derevianko, T.V.Sukhareva, V.L.Uvarov, V.A.Finkel, Yu.N.Shakhov, I.N.Shliakhov (NSC KIPT NANU, Kharkov, Ukraine)
33. **Photoluminescence of TiO₂/ZrO₂/SiO₂ films irradiated with Ti ions**
T.O.Busko¹, O.P.Dmytrenko¹, N.P.Kulich¹, N.V.Vityuk², ³V.V.Strilchuk, ³B.M.Romaniuk (¹Kyiv National University named by Taras Shevchenko, ²Chuiko Institute of Surface Chemistry of NAS of Ukraine, ³V.Lashkarev Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine).
34. **Annealing of radiation defects in crystals YBaCuO**
A.V.Bondarenko, Yu.T.Petrusenko, A.M.Kozirenko, S.M.Shkirida (NSC KIPT NASU, Kharkov, Ukraine)
35. **Variation of parameters of thermal electric modulus from highly alloyed n- and p-Si_{0.7}Ge_{0.3} alloys during reactor tests**
K.G.Barbakadze, G.V.Bokichava, A.I.Guldamishvili (Sukhumi physical-technical institute, Tbilisi, Georgia)

36. **Influence of magnetic treatment on radiation effects under electron irradiation of steel 15Cr2NiMFA**
I.M.Neklyudov, V.I.Sokolenko, V.I.Tkachenko, A.V.mats, V.S.Okovit, V.V.Kalinovskii, V.A.Kiselev, A.F.Linik, V.I.Pristupa (NSC KIPT NASU, Kharkov, Ukraine)
37. **Influence of radiation damage on accumulation and distribution of deuterium in ferritic-martensitic steels**
G.D.Tolstolutskaia, I.E.Kopanets, V.V.Rizhitskii, S.O.Karpov, A.V.Nikitin (NSC KIPT NASU, Kharkov, Ukraine)
38. **Segregation of deuterium in layer with radiation defects**
I.E.Kopanets, G.D.Tolstolutskaia, V.V.Ruzhitskii, S.A.Karpov (NSC KIPT NANU, Kharkov, Ukraine)
39. **Simulation in first principal of electron structure of FCP crystals on the base of zirconium**
V.O.Kharchenko (IAP NASU, Cumi, Ukraine)
40. **Study of defect structure of steel 18Cr10NiTi on simultaneous irradiation by two- and three beams of self ions Cr and ions of He and H**
O.V.Borodin, V.V.Bryk, V.M.Voyevodin, O.S.Kalchenko, V.V.Melnichenko (NSC KIPT NASU, Kharkov, Ukraine)

8 September, WEDNESDAY

9³⁰ – 14⁰⁰

Chairmen: *I.N.Vishnevskii
A.V.Nikulina*

SESSION OF SECTION B:

STRUCTURAL AND FUEL MATERIALS OF THERMAL NEUTRON REACTORS

1. **Aspects of safety during operation of reactors WWER-1000 in the condition of power control**
 20 min *N.I.Vlasenko, O.V.Godun, G.R. Semenov (Separate subdivision "Science-technical center" state enterprise National Atomic Power generating company "Energoatom", Kiev, Ukraine)*
2. **Structural criteria of the choice of recovering annealing of materials of reactors WWER-1000 vessels**
 20 min *B.A.Gurovich, E.A.Kuleshova, S.V.Fedotova (RSC "Kurchatov Institute", Moscow, Russia)*
3. **Use of methodology of testing specimens reconstruction for substantiation of safe operation term of reactor vessels WWER-1000**
 20 min *I.N.Vishnevskii¹, L.I.Chirko,¹ V.N.Revka¹, N.I.Vlasenko², V.Ya.Kozlov², E.N.Chali² (¹INR NASU, ²Science-technical center NAEK "Energoatom", Kiev, Ukraine)*
- COFFEE BREAK 15 min**
4. **Material science aspects of new principles of operational characteristics increase for heat-resistant steels for NPP vessels and their practical realization**
 20 min *G.P.Karzov, I.V. Teplukhina (FSUE CSRI KM "Prometei", Sankt-Petersburg, Russia)*
5. **Critical levels of radiation hardening of vessel metal**
 20 min *S.A.Kotrechko¹, Yu.Ya.Meshkov¹, G.P.Zimina¹, L.I.Chirko², V.N.Revka² (¹Institute of metal physics named by G.V.Kurdyumov NASU, ²INR NASU, Kiev, Ukraine)*

BREAK 15 min

6. **Complex diagnostic control of metal reactor vessels, of equipment and of piping of power generating units of NPS of Ukraine**
20 min *L.S.Ozhigov (NSC KIPT NASU, Kharkov, Ukraine)*

7. **Experimental substantiation of methodology of summing of radiation embrittlement of materials for water-water reactors at unsteady temperature regime of irradiation**
20 min *B.Z.Margolin, A.M.Morozov, D.A.Chistyakov (FSUE Tsniikm KM "Prometey", Sankt-Petersburg, Russia)*

8 September, Wednesday

16⁰⁰ – 19⁰⁰

Chairmen: **A.M.Morozov**
S.A.Kotrechko

SESSION OF SECTION B

8. **State of zirconium alloys development in the world**
20 min *A.V.Nikulina (FSUE VNIINM named by A.A.Bochvar, Moscow, Russia)*

9. **Ways of operational characteristics improvement for cast alloys on the base of zirconium for nuclear power**
20 min *V.N.Voyevodin¹, S.V.Ladokhin², I.M.Neklyudov¹, C.P.Oshkaderov³ (¹NSC KIPT NASU, Kharkov; ²Physical-technical institute of metals and alloys NASU; ³Institute of metal physics named by G.V.Kurdumov NASU, Kiev, Ukraine)*

10. **On possibility of high-temperature strength and heat resistance increase of alloy E110 on optimal alloying by chromium**
20 min *T.L.Kuznetsova, N.P.Brodnikovski, I.V.Orishich, Yu.E.Zubets, S.V.Danko, S.A.Firstov (IPMS named by I.N.Frantsevich NASU, Kiev, Ukraine)*

11. **Evolution of microstructure and deformation stability of alloys Zr-Nb-(Fe,Sn,O) under irradiation**
20 min *V.N.Shishov (OAO "VNIINM" named by A.A.Bochvar, Moscow, Russia)*

COFFEE BREAK 15 min

12. **Characteristics and properties of cladding tubes for FUEL ELEMENS of WWER-1000 with increased uranium content**
20 min *M.M.Peregud¹, V.A.Markelov¹, V.V.Novikov¹, A.Yu.Gusev¹, V.F.Konikov¹, Yu.V.Pimenov², V.A.Agapitov³, M.G.Shtutsa³ (¹OAO VNIINM, Moscow; ²OAO TVEL, Moscow; ³OAO ChMZ, Glazov, Russia)*

13. **Corrosion of alloy E635 in conditions of reactor WWER-1000**
20 min *I.N.Volkova¹, A.E.Novoselov¹, G.P.Kobilianskii¹, A.N.Kostyuchenko¹, V.F.Konkov², V.V.Novikov², M.M.Peregud² (¹OAO "SNC SRIAR" Dimitrovgrad, OAO VNIINM, Moscow, Russia)*

14. **Change of texture and structure in the bulk of cladding tubes produced from zirconium alloys during surface ion-plasma treatment**
20 min *Yu.A.Perlovich, M.G.Isaenkova, M.M.Grekhov, O.A.Kramskaya, V.I.Polskii (National Research Nuclear University "MIPI", Moscow, Russia)*

POSTER PAPERS of SECTION B

Chairmen: V.S. Vakhrusheva
L.S.Ozhigov

1. **Impurities and their influence on structure and properties of zirconium pieces for nuclear reactors**
A.V.Nikulina, A.G.Malgin (FSUE VNIINM named by A.A.Bochvar, Moscow, Russia)
2. **Thermal desorption of home-produced zirconium sponge during vacuum heating**
S.D.Lavrinenko, N.N.Pilipenko, P.N.Viygov, Yu.P.Bobrov, A.D.Sushchinskii, A.P.Yatsenko*, K.A.Lindt**, A.F.Bolkov**, V.I.Popov***
*(ISSPMT NSC KIPT, Kharkov; *Institute of titanium, Zaporozhie; **SNPP "Zirconium", Dneprodzherzhinsk, Ukraine)*
3. **Modification of zirconium and alloy Zr1%Nb surface by electron beam of accelerator on the base of magnetron gun**
A.N.Dovbnia, S.D.Lavrinenko, V.V.Zakutin, A.N.Aksenova*, N.G.Reshetniak, N.N.Pilipenko*, V.N.Pelikh* (Science-research complex "Accelerator" NSC KIPT; *ISSPMT NSC KIPT NASU, Kharkov, Ukraine)*
4. **Simulation of heavy accident of nuclear reactor of WWER type in point approximation**
V.A.Tarasov, S.A.Chernegenko, M.N.Khaisin, S.N.Antoniuk, V.D.Rusov, V.I.Skalozubov (Odessa national polytechnical university, Odessa, Ukraine)
5. **Results of computations of operational characteristics of fuel elements of WWER-1000 by code TRANSURANUS and their comparison with results of post reactor investigation**
A.V.Ostapov, I.A.Chernov (STC NFC NSC KIPT, Kharkov, Ukraine)
6. **Microstructural investigation of metal of heat exchanging tubes of vapour generators PGV-1000 after long-term operation**
L.S.Ozhigov, A.S.Mitrofanov, E.A.Krainyuk, V.G.Lesnaia (NSC KIPT NASU, Kharkov, Ukraine)
7. **Investigation of uniformity of element distribution in Zr1%Nb tube of Ukrainian production**
P.N.Vyugov, A.A.Shchur, N.P.Vyugov, V.M.Azhazha, V.V.Levenets, S.D.Lavrinenko, N.N. Pilipenko (NSC KIPT NASU, Kharkov, Ukraine)
8. **Influence of protective cladding of aluminium and chromium on oxidizing of zirconium and its alloys**
I.A.Petelguzov (STC NFC NSC KIPT NASU, Kharkov, Ukraine)
9. **Influence of high-temperature heating in water vapor on properties of AEL**
N.N.Belash, I.A.Petelguzov, L.S.Ozhigov, V.I.Savchenko, A.V.Kushtim (NSC KIPT NASU, Kharkov, Ukraine)
10. **Investigation of oxide films on stainless steels and zirconium alloys on corrosion in conditions simulating composition of heat-transfer agent of first circuit of reactor WWER-1000**
V.S.Krasnorutskii, I.A.Petelguzov, V.M.Gritsina, V.A.Zuek, M.V.Tretyakov, R.A.Rud, N.V.Svichkar, E.A.Slabospitskai, N.I.Ishchenko (STC NFC NSC KIPT NASU, Kharkov, Ukraine)
11. **Orientation distribution of edge dislocations in quenched alloy Zr-2,5%Nb**
D.G.Malikhin, V.V.Korneeva**, V.M.Gritsina**, T.P.Chernyaeva (ISSP MT, **STC NFC NSC KIPT NASU, Kharkov, Ukraine)*
12. **Ultrasonic diagnostics of texture evolution at rolling of alloy Zr1Nb**
V.M.Azhazha, N.A.Dordienko, O.I.Zaporozhets, O.P.Karasevskaia, K.V.Kovtun*, V.A.Mikhailovskii, S.P.Stetsenko*, A.P.Shpak (Institute of metalphysics named by G.V.Kurdumov NASU, Kiev; *NSC KIPT NASU, Kharkov, Ukraine)*

13. **On expediency of standards correction for tubes produced of austenitic corrosion resistant steels for nuclear power plants**
V.S.Vakhrusheva, T.N.Buriak, N.V.Yaroshenko (SE "Science research tube institute named by Ya.E.Osadi, Dniepropetrovsk, Ukraine)
14. **Structure formation and development of processes of phase recrystallization on hot compacting of tubes from alloys Zr1Nb**
V.S.Vakhrusheva, O.A.Kolenkova SE "Science research tube institute named by Ya.E.Osadi, Dniepropetrovsk, Ukraine)
15. **Possibilities of properties improvement in materials of piping produced of corrosion resistant steel for nuclear power**
T.N.Buriak (SE "Science research tube institute named by Ya.E.Osadi, Dniepropetrovsk, Ukraine)
16. **Corrosion express and long-time investigation of fuel tubes of alloy Zr1Nb (0,1%O)**
V.S.Krasnorutskiy, I.A.Petelguzov, V.M.Gritsina, N.I.Ishchenko, E.A.Slabospitskaia, V.M. Azhazha, ¹V.S.Vakhrusheva, S.D.Lavrinenko, P.N.Biygov, N.N.Pilipenko, N.P.Viygov (NSC KIPT NASU, Kharkov; ¹Dniepropetrovsk tube institute named by Osade, Dniepropetrovsk, Ukraine)
17. **Study of interaction of structural materials of the reactor core of water-water type under heavy accidents with melting of the core**
V.S.Krasnorutskiy, N.N.Bekash, V.V.Korneeva, Ya.A.Kushtim, R.A.Matuchenko, E.A.Slabospitskaia (STC NF KIPT NANU, Kharkov, Ukraine)
18. **Formation of singularities in distribution of dust masses in aerosol flux in peletizing medium**
I.M.Neklyudov, O.P.Ledenev, L.I.Fedorova, P.Ya. Poltinin (NSC KIPT NASU, Kharkov, Ukraine)
19. **Super long corrosion tests of fuel tubes of calcium thermal zirconium alloy Zr+1%Nb (Zr1Nb) in water at temperature 350°C and in vapor at temperature 400°C.**
V.S.Krasnorutskiy, I.A.Petelguzov, N.I.Ishchenko, A.G.Rodak, F.A.Pasenov (STC NFC NSC KIPT NASU, Kharkov, Ukraine)
20. **Improved method of production of dispersion zirconium dioxide**
V.A.Kutovoy, A.A.Nikolaenko (NSC KIPT NASU, Kharkov, Ukraine)
21. **X-ray examination of zirconium texture and Zr-Nb alloys on different types of intense plastic deformation (IPD)**
I.V.Kolodiy (NSC KIPT NASU, Kharkov, Ukraine)
22. **Micelles formation phenomena in the process of uranium supercritical fluid extraction**
*B.V.Borts, Y.G.Kazarinov, P.V.Shakhova, S.F.Skoromnaya, *V.I. Tkachenko (National Science Center "Kharkov Institute of Physics and Technology", *V.N.Karazin Kharkiv National University, Kharkov, Ukraine)*
23. **Self-assembling associate formation in supercritical carbon dioxide medium under conditions of uranium extraction process**
*B.V.Borts, Y.G.Kazarinov, P.V.Shakhova, S.F.Skoromnaya, *V.I.Tkachenko (NSC KIPT, *V.N.Karazin Kharkiv National University, Kharkov, Ukraine)*
24. **Dependence of structure and properties of composition materials of system Hf-HfB on composition**
S.V.Chornobuk, V.A.Makara (Study-science center "Physical-chemical material science" Kiev National University named by Taras Shevchenko and NASU, Kiev, Ukraine)
25. **Influence of methods of production and alloying on properties of pellets of dysprosium hafnate**
V.S.Krasnorutskiy, S.Yu. Saenko, N.N.Belach, I.A.Chernov, F.B.Belkin, A.E.Surkov, A.V.Pilipenko, N.D.Rybalchenko, E.B. Valezhniy (NSC KIPT NASU, Kharkov, Ukraine)

26. **Influence of large plastic deformation by quasihydroextrusion at cryogenic temperatures on properties of pure zirconium and alloy E 125**
A.N.Velikodnyi, M.A.Tichonovskiy, P.A.Khaimovich (NSC KIPT NASU, Kharkov, Ukraine)
27. **Evolution of microstructure and texture at cold deformation of hafnium of mark GFE-1**
K.V.Kovtun, G.P.Kovtun, D.G.Malichin, M.P.Starolat, S.P.Stetsenko, L.N.Chepurnaya (NSC KIPT NASU, Ukraine)
28. **Kinetics of hafnium corrosion**
V.A.Zuek, V.N.Gulko, I.A.Petelguzov, M.V.Tretiakov, R.A.Rud, I.V.Dikiy, N.V.Svichkar (STC NFC NSC KIPT NASU, Kharkov, Ukraine)
29. **Influence of deformation by rolling on volume rates of ultrasound and texture parameters of hafnium**
R.V.Azhazha, N.A.Dordienko, O.I.Zaporozhets, K.V.Kovtun*, V.V.Lizunov, V.A.Mikhailovskiy, C.P.Oshkaderov (Institute of metal physics named by G.V.Kurdumov NASU, Kiev; *NSC KIPT NASU, Kharkov, Ukraine)*
30. **Investigation of the rate dose effect on change of dislocation structure of vessel steel 15Cr1NiMoFA in conditions of over designed doses**
O.V.Borodin, V.V.Bryk, R.L.Vasilenko, V.N.Voyevodin (NSC KIPT NASU, Kharkov, Ukraine)
31. **Investigation of synthesis conditions of ultradispersed powders HfO₂, Dy₂O₃ and HfO₂.Dy₂O₃ by thermal decomposition of hydroxides**
N.N.Belash, I.A.Chernov, N.V.Svichkar, F.V.Belkin (NSC KIPT NASU, Kharkov, Ukraine)
32. **Development of continuity joints on construction of AE with metallic hafnium absorbent.**
N.N.Belash, V.R. Tatariniv, A.V.Kushtim, I.A.Chernov, N.A.Lavrientiev, N.D.Ribalchenko (NSC KIPT, Kharkov, Ukraine)
33. **Simulation of neutron-physical characteristics and radiation damage of dispersion absorbing materials on pyrocarbon bed**
S.V.Diuldia, M.I.Bratchenko (NSC KIPT NASU, Kharkov, Ukraine)
34. **Low temperature and frequency dependence of absorbing of longitudinal ultrasound in monocrystalline hafnium**
A.S.Bulatov, V.F.Doljenko, P.N.Viugov, V.S.Klochko, O.E.Kojevnikov, A.V.Korniets (NSC KIPT NASU, Kharkov, Ukraine)
35. **High-rate cyclic thermal treatment of cast alloy Zr-1Nb**
S.V.Danko, N.V.Minakov, V.Yu.Puchkova, N.D.Rudik, G.E.Khomenko (Institute of material science problems named by I.N.Frantsevich NASU, Kiev, Ukraine)
36. **Investigation of mechanical characteristics of fuel tubes of alloy Zr1Nb of Ukrainian production in longitudinal and transverse direction in the range 20-700°C**
V.M.Azhazha, L.S.Ozhigov, S.D.Lavrinenko, P.N.Viugov, V.S.Vakhrusheva, V.I.Savchenko, N.N.Pilipenko, N.P.Viugov, A.G.Rudenko, V.N.Pelikh, I.G.Tantsyura (NSC KIPT NASU, Kharkov, Ukraine)
37. **On the question of magnesium refining by the sublimation method**
V.M.Azhazha, Yu.P.Bobrov, V.D.Virich, P.N.Viygov, N.P.Viygov, A.V.Shian
38. **Special structure of quenched alloys Zr-Nb**
T.P.Cherniaeva, V.M.Gritsina, E.A.Mikhailov, R.L.Vasilenko, E.A.Slabospitskaia (NSC KIPT NASU, Kharkov, Ukraine)
39. **Influence of super high-frequency thermal treatment on low-cyclic fatigue resistance of alloy Zr-2.5% Nb**
T.P.Cherniaeva, S.P.Klimenko, V.M.Gritsina, V.A.Dolgii (NSC KIPT NASU, Kharkov, Ukraine)

40. **Survivability of fuel element claddings of alloy Zr-1%Nb on the first stage of maximum designed accident**
V.M.Azhazha, A.P.Redkina, T.P.Cherniaeva, V.M.Gritsina, V.A.Dolgii, S.D.Lavrinenko, N.N.Pilipenko, P.N.Viugov, N.P.Viugov (NSC KIPT NASU, Kharkov, Ukraine)
41. **Influence of treatment methods on the state of thin-walled tubes for reactors NPS**
T.N.Buriak, V.S.Vakhrusheva, E.M.Kuzmichev, A.D.Malish, A.A.Taranenko, N.V.Yaroshenko (SE "Science-research tube institute named by Ya.E.Osada", Dnepropetrovsk, Ukraine)
42. **Influence of fractional composition of active carbon on the value of aerodynamic resistance at simulation of absorber operation of ventilation systems of NPS of Ukraine**
V.G.Kolobrodov, V.I.Sokolenko, M.A.Khazhmuradov, O.I.Volchok, T.K.Grogorova (NSC KIPT NASU, Kharkov, Ukraine)
43. **Dependence of mechanical fretting of active carbon SKT-3I used at filling of adsorbers of air ventilation system of NPS**
V.G.Kolobrodov, V.I.Sokolenko, M.A.Khazhmuradov, R.M.Sibileva, A.A.Chupikov, V.M.Gorbatenko (NSC KIPT NASU, Kharkov, Ukraine)
44. **Influence of preliminary deformation by swaging on mechanical properties in structure of alloy Zr1Nb in temperature range 300-700 K**
*I.N.Butenko, *O.M.Ivasishin, E.V.Karaseva, *P.E.Markovskii, V.I. Sokolenko (NSC KIPT NASU Kharko; *Institute of metal physics named by G.V.Kurdumov NASU, Kiev, Ukraine)*
45. **Influence of structural state on processes of interaction of zirconium with hydrogen**
D.V.Vinogradov, M.A.Tikhonovskii, I.V.Kolodii, A.M.Bovda, O.A.Kostin (NSC KIPT NASU, KHarkov, Ukraine)
46. **Monitoring by direct methods of mechanical properties of the metal of pressure vessels of reactor WWER-1000 in operation**
I.M.Neklyudov, L.S.Ozhigov, S.V.Gozhenko (NSC KIPT NASU, Kharkov, Ukraine)
47. **Operational problems of weld joint #111 of collector welding together to branch pipe of vapor generator PGV-1000**
L.S.Ozhigov, O.A.Borisenko (NSC KIPT NASU, Kharkov, Ukraine)
48. **State of uranium-gadolinium fuel after operation in reactors WWER-1000**
G.V.Shevliakov, V.S.Polenok, D.V.Markov, E.A.Zvir, V.A.Zhitelev, S.V.Kuzmin, O.N.Nikitin ("SNC SRIAR", Dimitrovgrad, Russia)
49. **Influence of thermal treatment regimes on formation of phase composition, crystallographic texture and mechanical properties of alloy Zr-1%Nb**
*S.D.Lavrinenko, I.N.Butenko, V.N.Pelikh, *O.M.Ivasishin, *P.E.Markovskii, *Yu.V.Matviyuchuk (NSC KIPT, Kharkov, *Institute of metal physics named by G.V.Kurdumov NASU, Kiev, Ukraine)*
50. **Investigation of thermal and electrical conductivity of highly pure hafnium at low temperature**
B.A.Merisov¹, G.Ya.Khadzhai¹, P.N.Viugov, O.E.Kozhevnikov (¹ KNU named by V.N.Karazin, NSC KIPT NASU, Kharkov, Ukraine)

8 September, WEDNESDAY

16⁰⁰-19⁰⁰

**Chairmen: V.V.Levenets
V.S.Krasnorutskii**

POSTER PAPERS OF SECTION B1 (RAW)

1. **Development and experience of production of absorbing inserts for dry storage of spent nuclear fuel**
V.S.Krasnorutskii, V.R.Tatarinov, N.N.Belash, N.A.Lavrientiev, R.V.Matyushchenko, V.M.Evseeva, I.A./Chernov, A.V.Kushtim, E.B.Valezhnii (NSC KIPT NASU, Kharkov, Ukraine)

2. **Radiation resistance of materials of geological storage of RAW**
E.P.Berezniak, B.V.Borts, A.O.Komarov, L.A.Saenko, B.A.Shiliaev (NSC KIPT NASU, Kharkov, Ukraine)
3. **Production of articles of structural ceramics on the base of ZrO₂ by the method of electroconsolidation**
S.Yu.Saenko, N.N.Belash, V.A.Shkuropatenko, S.I.Gribov, K.V.Lobach, E.A.Svetlichnii, A.E.Surkov (NSC KIPT NASU, Kharkov, Ukraine)
4. **Measurement of temperature of process of electroconsolidation by sensor method**
S.Yu.Saenko, V.I.Abelentsev, S.I.Gribov, K.V.Lobach, A.V.Pilipenko, A.E.Surkov (NSC KIPT NASU, Kharkov, Ukraine)
5. **Strength analysis of mould for production of radiation-resistant materials by the method of electroconsolidation**
S.Yu.Saenko, Zh.S.Azhazha, S.I.Gribov, A.V.Pilipenko, A.E.Surkov, V.V.Kolosenko, K.V.Lobach, G.A.Kholomeev, (NSC KIPT NASU, Kharkov, Ukraine)
6. **Influence of electron irradiation on structure and optical properties of rock forming micro wedges**
L.A.Saenko, E.P.Berezniak, B.V.Borts (NSC KIPT NASU, Kharkov, Ukraine)
7. **Determination by nuclear-physical methods of analysis on proton beams of heavy metals and radioactive nuclides in the bed of territory adjacent to NOS**
M.Gasparyunas², V.V.Levenets¹, A.P.Omelnik¹, V.M.Pistriak¹, A.Plukis², A.A.Shchur¹ (¹National science center "Kharkov physical-technical institute" Kharkov, Ukraine; ²Institute of Physics, Vilnius, Lithuania)
8. **Change of structure and quartzite properties under electron irradiation**
E.P.Berezniak, L.A.Saenko, B.V.Borts, N.D.Rybalchenko, F.V.Belkin (NSC KIPT NASU, Kharkov, Ukraine)
9. **Distinctions of sintering of composition fluorine – albit for immobilization of radioactive wastes**
F.V.Belkin¹, S.V.Gabelkov², L.M.Litvinenko¹, A.G.Mironova¹, N.S.Poltavtsev¹, R.V.Tarasov¹, V.A.Shkuropatenko (¹NSC KIPT NASU, Kharkov, ²STC of nuclear and radiation safety, Kiev, Ukraine)
10. **Potential risk for human health on permanent effect of SSPE "Zirconium"**
V.V.Levenets, I.L.Rolik (NSC KIPT NASU, Kharkov, Ukraine)
11. **Magnetic-plasma regeneration of spent nuclear fuel**
V.B.Yuferov, A.M.Egorov, S.V.Sharyi, O.S.Drui, V.O.ilicheva, M.O.Shets, E.I.Skibenko, Yu.V.Kovtun, A.S.Svichkar, T.I.Olkhovskaia (NSC KIPT NASU, Kharkov, Ukraine)
12. **Behavior of voids channels and closed voids on sintering of cubic zirconium oxide**
S.V.Gabelkov¹, R.V.Tarasov², A.G.Mironova² (¹State science-technical center on nuclear and radiation safety, Kiev; ²NSC KIPT NASU, Kharkov, Ukraine)

9 September, Thursday

9³⁰-11⁰⁰

Chairmen: **G.V.Lisichenko**
S.Yu.Saenko

**SESSION OF SECTION B1:
MATERIAL SCIENCE PROBLEMS OF RADIOACTIVE WASTES HANDLING**

1. **State and prospective of uranium industry development in Ukraine**
20 min *G.V.Lisichenko (Institute of geochemistry and environment of NAS and MA of Ukraine, Kiev, Ukraine)*
2. **Problems of handling and burial of radioactive graphite**
20 min *E.Sobotovich, V.Skvortsov, B.Zlobenko, L.Spasova ((Institute of geochemistry and environment of NAS and MA of Ukraine, Kiev, Ukraine)*

3. **Safety control of radioactive wastes storage: technological development and material science research carried out in NSC KIPT**
20 min *S.Yu.Saenko (NSC KIPT NASU, Kharkov, Ukraine)*

4. **Phase formation and isomorphism of pyrochlorine matrix for immobilization of plutonium and strontium**
20 min *B.G.Shabalin*, Yu.O.Titov**, V.V.Chumak**(*Institute of geochemistry and environment of NAS and MA of Ukraine, Kiev, Ukraine; **KNU named by Taras Shevchenko, Kiev, Ukraine)*

Immobilization of cesium and strontium in ceramic gollandite matrix: synthesis, phase formation, isomorphous capacity

B.G.Shabalin, Yu.O.Titov**, V.V.Chumak**, O.A.Vishnevskii***
(*Institute of geochemistry and environment of NAS and MA of Ukraine, Kiev, Ukraine; **KNU named by Taras Shevchenko, Kiev, Ukraine; ***Institute of geochemistry, mineralogy and rock formation named by M.P.Semenenko NASU, Kiev, Ukraine)*

5. **Heat physical aspects of parameters for depth storage of radioactive wastes with high energy emission**
10 min *Zh.S.Azhazha, V.S.Kitchenko, L.N.Ledovskaia, S.Yu.Saenko, A.V.Pilipenko, G.A.Kholomeev (NSC KIPT, Kharkov, Ukraine)*

COFFEE BREAK 15 min

9 SEPTEMBER, THURSDAY

11¹⁵-14⁰⁰

**Chairmen: M.V.Leontieva-Smirnova
V.N.Fedirko**

**SESSION OF SECTION C:
MATERIALS FOR REACTORS OF NEW GENERATIONS**

1. **Structural materials of cores for Russian fast reactors. State and prospective**
20 min *M.V.Leontieva-Smirnova, V.S.Ageev, Yu.P.Budanov, A.G.Ioltukhovskii, N.M. Mitrofanova, A.V.Tselishchev, I.A.Shkabura (FSUE VNIINM, Moscow, Russia)*

2. **Development and investigation of ODS-steels for fuel cladding tubes of fast reactors**
20 min *V.S.Ageev, A.A.Nikitina, M.V.Leontieva-Smirnova, M.M.Potapenko, B.V.Safronov, V.V.Tsvelev, A.P.Chukanov (VNIINM, Moscow, Russia)*

3. **Features of radiation damage of ferritic-martensitic steel EP-450 under irradiation by metal and gaseous ions**
20 min *O.V.Borodin, V.V.Bryk, V.M.Voyevodin, O.S.Kalchenko, Yu.E.Kupriyanova, V.V.Melnichenko (NSC KIPT NASU, Kharkiv, Ukraine)*

COFFEE BREAK 15 min

4. **Anisotropic swelling observed during stress-free reirradiation AISE 304 tubes previously irradiated under stress**
20 min *F.A.Garner¹, J.E.Flinn² and M.M.Hall³ (¹Pacific Northwest National Laboratory, Richland WA, ²Argonne National Laboratory, ³Idaho Bechtel Bettis Company, PA, USA)*

5. **Study of the influence of irradiation by thermal and fast neutrons on martensitic transformation under deformation of steel 12Cr18Ni10Ti and 08Cr16Ni11M3**
20 min
O.P.Maksimkin¹, M.N.Gusev¹, F.A.Garner², S.V.Ruban¹, M.S.Merezhko¹, S.V.Rybin¹ (¹Institute of Nuclear Physics, Almati, Kazakhstan, ²Radiation Effect Consulting, Richland, WA, USA)

6. **Features of phase-structure state of alloy V-4Cr-4Ti at saturation by oxygen**
20 min
O.I.Eliseeva, V.M.Fedirko, O.G.Lukianenko, V.P.Tsisar
Physical-mechanical institute named by G.V.Karpenko NASU, Lvov, Ukraine)

9 SEPTEMBER, THURSDAY

16⁰⁰-19⁰⁰

**Chairmen: A.E.Novoselov
N.A. Azarenkov**

SESSION OF SECTION C:

7. **Supercritical water convection loop (NSC KIPT) for materials assessment for the next generation reactors**
20 min
A.S.Bakai, V.N.Boriskin, A.N.Dovbnya, D.A.Guzonas¹(NSC KIPT, Ukraine; ¹Aecl, Canada)

8. **Comparative investigation of fuel-regenerating characteristics of uranium and thorium by the code MCNPX**
20 min
V.V.Gann, A.M.Abdulaev, A.V.Gann (NSC KIPT, Kharkov, Ukraine)

9. **Changes of substructure, of stressed state and morphology of tungsten under irradiation by hydrogen plasma**
20 min
I.E.Garkusha¹, V.A.Makhlay¹, S.V.Malikhin², A.T.Pugachev²
(¹NSC KIPT NASU, ²National technical university "Kharkov polytechnical institute, Kharkov, Ukraine)

COFFEE BREAK 15 min

10. **Temperature dependence of deuterium retention in radiation damage in self-implanted tungsten**
20 min
O.V.Ogorodnikova, V.Alimov, B.Tyburska
(¹Institute fuer Plasmaphysik, EURATOM Assosiation, Garching, Germany; ²Tritium Technology Group, Japan Atomic Energy Agency, Tokyo, Japan)

11. **Temperature-dose dependencies of helium swelling of BCC and FCC reactor steels**
20 min
I.I.Chernov, B.A.Kalin, S.Yu. Binyukova, M.C.Staltsov Chzh Zin U, O.S.Mezina (National research nuclear university "MIPhI", Moscow, Russia)

12. **Influence of alloying on the behavior of helium and formation of gaseous porosity in vanadium alloys**
20 min
M.S.Staltsov¹, B.A.Kalin¹, I.I.Chernov¹, Chzhi Zin Y¹, O.S.Mezina¹, O.Yu. Mileshkina¹, V.M. Chernov²
(¹National research nuclear university "MIPhI"; ²VNIINM named by A.A.Bochvar, Moscow, Russia)

13. **Mechanisms of the process of sintering of palletized oxide nuclear fuel**
20 min
B.G.Baranov, A.V.Ivanov¹, R.S.Kuzmin, I.V.Petrov¹, A.V.Tenishev, I.S.Timoshin¹, A.VC.Khlunov ("National research nuclear university "MIPhI", Moscow; Engineering plant, Moscow region, Electrostal, Russia)

Poster papers of section C

- 1 **Low activated structural materials for cores of nuclear and fusion power reactors – results of Russia**
V.M.Chernov¹, M.V.Leontieva-Smirnova¹, M.M.Potapenko¹,
D.A.Blokhin¹, V.A.Drobishev¹, A.G.Ioltukhovski¹, L.M.Kryukova¹, E.M.Mozhanov¹,
A.I.Blokhin², N.A.Demin², V.A.Romanov², A.N.Tyumentsev³, B.K.Kardashev⁴,
A.B.Sivak⁵, K.P.Zolnikov⁶, S.G.Psakhie⁶, T.M.Bulanova⁷, V.K.Shamardin⁷,
A.E.Fedoseev⁷ (¹VNIINM, Moscow; ²FSUE SSC RF “PhEI”, Obninsk; ³TSU,
Tomsk; ⁴PhTI RAS, Sank-Petersburg; ⁵RSC “KI”, Moscow; ⁶IPhPM SB of RAS,
Tomsk; ⁷“SRIAR”, Dimitrovgrad, Russia)
- 2 **Influence of proton irradiation on nanohardness of vanadium alloys**
A.G.Guglya, E.S.Melnikova, O.M.Tolmacheva, G.P.Kovtun, Yu.Gorbenko,
V.I.Zelenskaia, O.P.Shcherban (NSC KIPT NASU, Kharkov, Ukraine)
- 3 **Deuterium and Helium implantation in composite materials with tungsten coating**
V.V.Bobkov¹, L.P. Tishchenko¹, R.I.Starovoitov¹, E.N.Zubarev², Yu.I.Kovtunen¹,
Yu.E.Logachev¹, L.A.Gamayunova¹
(¹V.N.Karazin Kharkov National University, ²National Technical University KhPI,
Kharkov, Ukraine)
- 4 **Alloying by chromium and iron of alloys of the system Zr-Nb**
S.A.Firstov, N.P.Brodnikovskii, Yu.E.Zubets, N.A.Krapivka, Y.I.Samsonov,
S.V.Danko (Institute of material science problems named by I.N.Frantsevich
NASU, Kiev, Ukraine)
- 5 **Investigation of corrosion resistance of graphite materials in oxygen medium under electron irradiation**
V.F.Zelenskii, N.P.Odeichuk, I.A.Petelguzov, V.P.Rizhov, V.N.Borisenko,
A.N.Liashenko, V.K.Yakovlev (NSC KIPT NASU, Kharkov, Ukraine)
- 6 **Investigation of corrosion resistance of graphite in oxygen medium**
V.F.Zelenskiy, N.P.Odeichek, I.A.Petelguzov, V.P.Rizhov, V.K.yakovlev (NSC
KIPT NASU, Kharkov, Ukraine)
- 7 **Dependence of characteristics of fracture viscosity and serviceability of hot-pressed beryllium on remainder thermal stresses**
I.I.Papiro¹, P.I.Stoev¹, A.A.Nikolaenko¹, Yu.V.Tuzov², A.M.Khomutov²
(¹NSC KIPT NASU, Kharkov, Ukraine; ²Institute of physical-technical problems,
Dubna, Moscow region, Russia)
- 8 **Radiation microhardness changes in nanostructured SZAV-1 alloy as a result of neutron irradiation in the WWR-K reactor**
S.E.Suslov*, E.A.Stach*, S.Chandrasekar*, O.P.Maksimkin**, L.G.Turubarova**
(*Purdue University, West Lafayette, IN, USA; **Institute of Nuclear Physics, NNC
RK, Almaty, Kazakhstan)
- 9 **Development of OSD steels by the method of vacuum-arc remelting**
B.V.Borts, A.F.Vahzha, V.N.Voyevodin, N.D.Rybalchenko, S.I.Sitin, N.I.Tatarintsev
(NSC KIPT NASU, Kharkov, Ukraine)
- 10 **Mechanisms of plastic deformation and phase-structure changes on tension of steel 12Cr18Ni10Ti irradiated in reactor WWR-K**
O.P.Maksimkin, K.V.Tsai, M.N.Gusev, N.V.Shcherbinina
(Institute of nuclear physics NNC RK, Almaty, Kazakhstan)
- 11 **Regimes with peaking in uranium-plutonium fission medium of technical nuclear reactors and of geology reactor**
V.D.Rusov, V.A.Tarasov, S.A.Chernezhenko (Odessa national polytechnical uni-
versity, Odessa, Ukraine)

- 12 **Distribution function of resonance absorbing of neutrons, cross-section of resonance nuclear reactions and multiple integral**
V.D.Rusov, V.A.Tarasov, S.I.Kosenko, S.A.Chernezhenko (Odessa national polytechnical university, Odessa, Ukraine)
- 13 **Monte-Karlo simulation of mutual influence of magnetic and chemical ordering in alloys Ni-Fe**
I.V.Vernigora^{1,2}, D.Ledu², P.Pa², E.M.Zapolski²
(¹Institute of applied physics of NAS of Ukraine, Sumi, Ukraine; ²Groupe de Physique des matériaux, UMR 6634 CNRS-Université de Rouen, France)
- 14 **Study by indentation methods of deformation-plastic behavior of steel 12Cr18Ni10Ti and copper irradiated by neutrons**
O.P.Maksimkin, M.N.Gusev, M.C.Meregko, D.A.Toktogulova, S.V.Ribin
(Institute of Nuclear Physics of NNC RK, Almati, Kazakhstan)
- 15 **Special features of processes of dynamic deformation aging under deformation of armko-iron and steel Sr3 irradiated by neutrons and alpha-particles**
O.P. Maksimkin¹, M.N.Gusev¹, D.A.Toktogulova¹, S.V.Ribin¹, F.A.Garner² (*¹Institute of Nuclear Physics, Almati, Kazakhstan; ²Radiation Effect Consulting, Richland, WA, USA*)
- 16 **Calorimetric and thermal vision investigation of processes at deformation of dissipative processes at deformation of irradiated metallic polycrystals**
O.P.Maksimkin, M.N.Gusev, D.A.Toktogulova (Institute of Nuclear Physics of NNC RK, Almati, Kazakhstan)
- 17 **Kinetic parameters of processes of sintering of pellets of oxide nuclear fuel**
V.G.Baranov, Yu.N.Deviatko, A.V.Tenishev, A.V.Khlunov, O.V.Khomiakov
(National research nuclear university (MIPh), Moscow, Russia)
- 18 **Investigation of influence of temperature of intense plastic deformation on structure and properties of beryllium**
A.V.Babun, K.V.Kovtun, D.G.Malikhin, M.P.Starolat, S.P.Stetsenko
(NSC KIPT NASU, Kharkov, Ukraine)
- 19 **Radiation resistance of beryllium in electron flux with energy 30 MeV**
B.A.Shiliaev, A.V.Babun, A.A.Vasiliev, G.D.Pugachev, M.P.Starolat, K.V.Kovtun
(NSC KIPT NASU, Kharkov, Ukraine)
- 20 **Synergetic effect of irradiation of ferritic-martensitic steels by heavy ions, ions of hydrogen and helium**
I.A.Olemskoi^{1,2}, A.P.Savieliev¹, V.E.Storizhko¹, I.A.Shuda²
(¹IAPh NASU; ²SSU, Sumi, Ukraine)
- 21 **Phase stability of ODS-particles of MA ferritic-martensitic steels**
V.N.Voyevodin, V.I.Karas, A.O.Komarov, Yu.E.Kupriianova, N.N.Pilipenko, B.A.Shiliaev (NSC KIPT NASU, Kharkov, Ukraine)
- 22 **Temperature ranges of helium and hydrogen retention in ferritic-martensitic steels EI-852 and EP-450**
V.V.Ruzhitski, S.O.Karpov, G.D.Tolstolutskaia, V.M.Voyevodin (NSC KIPT NASU, Kharkov, Ukraine)
- 23 **Retention of hydrogen and helium in ferritic-martensitic steels at increased temperatures of irradiation**
G.D.Tolstolutskaia, I.E.Kopanets, V.Rugitskiy, A.V.Nikitin (NSC KIPT NASU, Kharkov, Ukraine)
- 24 **Influence of radiation damage on accumulation of helium in ferritic-martensitic steel EP-450**
V.V.Ruzhitskii, G.D. Tolstolutskaia, V.N.Voyevodin, I.E.Kopanets, S.O.Karpov (NSC KIPT NASU, Kharkov, Ukraine)
- 25 **Influence of neutron irradiation on intercrystalline corrosion and corrosion cracking of low-alloyed aluminium alloy SAB-1**
O.P.Maksimkin, A.V.Yarovchuk, L.G.Turubarova, D.S.Aulova, S.A.Karbysheva, A.V.Rusakova (Institute of Nuclear Physics of NNC RK, Almati, Kazakhstan)

- 26 **Influence of alloying by chromium and iron of alloy Zr-8Al on the increase of heat-resistance and heat-proofness**
N.P.Brodnikovskii, N.E.Poriadchenko, I.V.Orishich, N.A.Krapivka, T.L. Kuznetsova, Yu.E.Zubets, N.D.Bega, S.A.Firstov (IPMS named by I.N.Frantsevich NASU, Kiev, Ukraine)

10 SEPTEMBER, FRIDAY

9³⁰-14⁰⁰

**Chairmen: Yu.A.Perlovich
V.A.Belous**

SESSION OF SECTION D:

PHYSICS OF RADIATION AND ION-PLASMA TECHNOLOGIES

1. **Surface modification of structural and fuel materials**
 25 min *V.A.Belous (NSC KIPT NASU, Kharkov, Ukraine)*
)
2. **Structural changes in the volume of metal materials under influence of surface electron-beam treatment**
 20 min *Yu.A.Perlovich¹, M.G.Isaenkova¹, V.A.Fesenko¹, M.S.Lenski¹, D.A.Keriaev², O.A.Bitzenko², V.I.Engelko³*
(¹National Research Nuclear University "MIPI", Moscow; ²Moscow Aviation Institute, Moscow; ³SRI of Electrophysical Equipment named by D.V.Efremov, Sankt-Petersburg, Russia)
3. **Influence of diffusion processes on structure stability and wear resistance of natural microcomposites**
 20 min *N.A.Azarenkov, V.E.Semenenko, N.G.Stervoedov (KNU named by V.N.Karazin, Ukraine, Kharkov)*

BREAK 15 min

4. **Influence of high temperature annealing on electrophysical and mechanical characteristics of monocrystals Si_{1-x}Ge_x(x≤0,03)**
 20 min *G.Sh.Darsavelidze, G.V.Bokuchava, A.I.Guldamashvili, I.R.Kurashvili, G.G.Chubinidze, A.V. A.V.Sichinava, B.M.Shirokov¹(Sukhumi physical-technical institute named by I.N.Vekua, Tbilisi, Georgia, ¹NSC KIPT NASU, Kharkov, Ukraine)*
5. **Morphology and composition of silicon-germanium films on monocrystals Si and Si-Ge**
 20 min *A.Yu. Zhuravlev, V.D.Virich, V.V.Levenes, N.A.Semenov, S.V.Strigunovski, A.A.Sushchai, *G.V.Bokuchava, G.Sh.Darsavelidze, B.M.Shirokov (NSC KIPT NASU, Ukraine; *Sukhumi Physical-Technical Institute, Tbilisi, Georgia)*
)
6. **On features of processes of ion-plasma coating deposition on the base of titanium nitride in the range of nitrogen pressure 2-10 Pa**
 20 min *V.M.Khoroshikh, S.A.Leonov, V.A.Belous, A.A.Komar, G.N.Tolmacheva (NSC KIPT NASU, Kharkov, Ukraine)*

BREAK 15 min

7. **Methodology of production of high-temperature materials on the base of carbon-carbon for protection from gamma-radiation**
 20 min *V.V.Zemenko, I.V.Gurin, A.N.Bukolov, A.V.Mazilov, I.G.Goncharov, Yu.A.Mazilova (NSC KIPT NASU, Kharkov, Ukraine)*

8. **Investigation of thermal stability of Ti-Al-N coatings deposited from filtered vacuum-arc plasma**
20min
V.A.Belous, V.V.Vasiliev, A.A.Iuchaninov, E.N.Reshetniak, V.E.Strelnitski, G.N.Tolmacheva (NSC KIPT NASU, Kharkov, Ukraine)

10 September, FRIDAY

16⁰⁰-19⁰⁰

**Chairmen: V.E.Storizhko
V.B.Yuferov**

SESSION OF SECTION E:

METHODOLOGY OF EXPERIMENT AND IRRADIATION TECHNIQUE

1. **Thermal vision acoustic thermal graphic defectoscopy of structural materials**
20 min
*N.I.Bazaleev, V.V.Brukhovetski, V.F.Klepikov, V.V.Litvinenko
(Institute of electrophysics and radiation technologies NAS of Ukraine, Kharkov, Ukraine)*

2. **Detectors of ionizing radiations on the base of polycrystalline diamond films**
20min
A.A.Verevkin, V.I.Gritsina, S.F.Dudnik, A.A.Zakharchenko, V.E.Kutni, A.V.Ribka, O.A.Opalev, V.E.Strelnitskii (NSC KIPT NASU, Kharkov, Ukraine)

3. **Determination of hydrogen concentration in metals by the method of recoil nuclei with high resolution**
20 min
*A.B.Kramchenkov¹, V.E.Storizhko¹, H.D.Carstanjen²
(¹Institute of applied physics NASU, Sumi, Ukraine; ²Max-Plank Institute for Metals Research, Stuttgart, Germany)*

BREAK 15 min

4. **Use of Doppler spread of positron annihilation radiation for study of zinc re-crystallization**
20 min
N.P.Dikii, V.D.Zabolotnii, Yu.V.Liashko, V.I.Borovlev (Institute of high energies and nuclear physics of NSC KIPT NASU, Kharkov, Ukraine)

5. **Processing of data of electron microscopy by the method of multi fractional fluctuation analysis**
20 min
S.V.Kokhn (Institute of applied physics NASU, Sumi, Ukraine)

10 September, FRIDAY

16⁰⁰-19⁰⁰

**Chairmen: A.G.Bagmut
A.I.Olemskoi**

POSTER SESSION OF SECTION D

- 1 **Structure properties of the surface of alloy Zr-1%Nb modified by pulsed electron beam and by hydrogen treatment**
*Yu.P.Cherdantsev, I.P.Chernov, A.M.Lider, N.S.Pushilina, O.M.Stepanova
(Tomsk Polytechnical University, Tomsk, Russia)*
- 2 **Investigation of the processes of epitaxial structures Si-Ge production on the base of Si and Si-Ge**
*P.I.Glushko, A.Yu.Zhuravlev, V.L.Kapustin, N.A.Semenov, N.A.Khovanskii,
V.I.Sheremet, B.M.Shirokov, A.V.Shiiian (NSC KIPT NASU, Kharkov, Ukraine)*
- 3 **On change of radiation-stimulated decomposition organic and inorganic substrates on the boundary MBT-TiO₂ under X-ray radiation**
*V.B.Yuferov, I.V.Buravilov, D.V.Vinnikov, A.N.Ponomarev, E.V.Mufel,
B.V.B.V.Borts, A.F.Vanzha (NSC KIPT NASU, Kharkov, Ukraine)*
- 4 **Experimental study of albedo from reflectors of Al,Pb and Be**
*I.I.Aksenov, V.A.Belous, I.G.Goncharov, A.S.Kuprin, N.S.Lomino, A.V.Mazilov,
V.D.Ovcharenko, V.S.Pavlov, B.N.Razsukovanii
(NSC KIPT NASU, Kharkov,Ukraine)*

- 5 **Resistance of ion-plasma TiN=ZrN coatings under influence of abrasive and cavitation**
V.I.Kovalenko, V.G.Marinin (NSC KIPT NASU, Kharkov, Ukraine)
- 6 **Electrical characteristics of pulsed-periodic HF discharge initiated in metallic cutting chamber**
A.N.Derizemlia, P.G.Krishtal, V.I.Radchenko, B.M.Shirokov (NSC KIPT NASU, Kharkov, Ukraine)
- 7 **Pulsed acoustic treatment of water-salt solutions**
V.B.Yuferov, A.N.Ponomarev, E.F.Mufel, A.N.Ozerov, I.V.Buravilov (NSC KIPT NASU, Kharkov, Ukraine)
- 8 **Transport and containment of silicon in Ti-S-N coatings during vacuum-arc deposition**
I.I.Aksenov¹, V.A.Belous¹, Yu.A.Zadnieprovskii¹, N.S.Lomino¹, O.V.Soboľ² (¹NSC KIPT NASU; ²NTU KPI, Kharkov, Ukraine)
- 9 **Influence of fields of internal and external forces in crystals on the dynamic of edge dislocation**
B.V.Borts, S.F.Skoromnaia, V.I.Tkachenko (NSC KIPT NASU, *Kharkov National University named by V.N.Karazin, Kharkov, Ukraine)*
- 10 **Investigation of solid phase joint Nb-Cu-18Cr10NiTi by the method of micro- and nano-hardness**
B.V.Borts, I.M.Korotkova, V.A.Aleksandrov, G.N.Tolmacheva (NSC KIPT NASU, Kharkov, Ukraine)
- 11 **Influence of ion irradiation on collection processes of atomic ordering in FCC films**
I.G.Marchenko, I.I.Marchenko (NSC KIPT NASU; * NTU "Kharkov polytechnical institute", Kharkov, Ukraine)*
- 12 **Instability of shearing stratification flow of heterogeneous metals on their joint rolling in vacuum**
I.M.Neklyudov, B.V.Borts, V.I.Tkachenko (NSC KIPT NASU; *Kharkov national university named by V.N.Karazin, Kharkov, Ukraine)*
- 13 **Bimetals niobium-steel for high-temperature operation**
S.Yu.Didenko (NSC KIPT NASU, Kharkov, Ukraine)
- 14 **Radiation-induced formation of micro voids in nanocrystalline fine film compounds**
V.Brik, R.Vasilenko, V.Voyevodin, A.Goncharov, T.Grogorova, A.Guglia, V.Kolobrodov, M.Litvinenko, I.Marchenko, E.Melnokova, I.Sassa, G.Tolmacheva, Yu.Nikitenko, Yu.Khaidukov* (NSC KIPT NASU, Kharkov, Ukraine; *Joint institute of nuclear research, Dubna, Russia)*
- 15 **Influence of pulsed electron irradiation on formation ultra fine grained structure and parameters of super plastic flow of alloy 6111**
A.V.Poida (Institute of electrophysics and radiation technologies NASU, Kharkov, Ukraine)
- 16 **Electron-microscopic study of films deposited from laser erosion plasma Ni and Pd**
A.G.Bagmut, V.A.Zhuchkov, V.M.Kosevich, G.P.Nikolaichuk, I.G.Shilkova (National technical university "KhP", Kharkov, Ukraine)
- 17 **On possibility of drop sputtering of structural materials under low energy ion irradiation**
A.I.Kalinichenko, S.S.Perepelkin, V.E.Strelnitskii (NSC KIPT NASU, Kharkov, Ukraine)
- 18 **Stationary states and auto model dynamic of gaseous bubbles in liquid media**
S.F.Skoromnay, V.I. Tkachenko (NSC KIPT NASU; *Kharkov national university named by V.N.Karazin, Kharkov, Ukraine)*
- 19 **Characteristics of coatings synthesized by the source of gaseous plasma**
V.A.Belous, V.M.Lunev, G.I.Nosov, G.N.Tolmacheva (NSC KIPT NASU, Kharkov)

- 20 **On the increase of diffusion flux density under pulsed acoustic influence on capillar-porous materials**
V.B.Yuferov¹, A.N.Ozerov¹, A.N.Ponomarev¹, O.M.Safonova²; O.O.Poludnenko²
(¹ NSCKIPT NASU; ²Kharkov National technical university of agriculture named by P. Vasilenko, Kharkov, Ukraine)
- 21 **Structural properties of Mo-Ti condensates obtained from plasma of vacuum-arc discharge**
A.S.Bulatov, V.F.Dolzhenko, Yu.A.Zadnieprovskii, A.S.Kuprin, N.S.Lomino, V.D.Ovcharenko (NSC KIPT NASU, Kharkov, Ukraine)
- 22 **On processes in vacuum – processed liquid under electro hydraulic influence**
V.B.Yuferov, D.V.Vinnikov, I.V.Buravilov, A.N.Ponomarev, E.V.Mufel (NSC KIPT NASU, Kharkov, Ukraine)
- 23 **Dynamic of the size change of spherical precipitates of A-component in A-B alloy under irradiation**
P.A.Selishchev, L.V.Moskalenko (KNU named by Taras Shevchenko, Kiev, Ukraine)
- 24 **On erosion of metals in abrasive medium under pulsed pneumatic acoustic effect**
V.B.Yuferov, A.N.Ozerov, A.N.ponomarev (NSC KIPT NASU, Kharkov, Ukraine)
- 25 **Dynamic of growth of spherical drops of liquid in vapor under irradiation**
P.A.Selishchev (Kiev national university named by Taras Shevchenko, Kiev, Ukraine)
- 26 **Influence of nitrogen pressure on focusing of particles generated by acuum-arc discharge**
V.M.Khoroshikh, S.A.Leonov, G.I.Nosov (NSC KIPT NASU, Kharkov, Ukraine)
- 27 **On influence of different gases on the rate of coatings deposition from vacuum arc plasma**
V.M.Khoroshikh, S.A.Leonov (NSC KIPT NASU, Kharkov, Ukraine)
- 28 **Effect of regenerating additions to oxide alloying composition in formation of uniform distribution of dispersion hardening oxide phase during processes of remelting**
B.V.Borts, A.F.Vanzha, A.K.Maliava (NSC KIPT NASU, Kharkov, Ukraine)
- 29 **Investigation of the process of copper specimens joining by the method of contact-reaction welding**
B.V.Borts, A.T,Lopata, A.A.Lopata (NSC KIPT NASU, Kharkov, Ukraine)
- 30 **Simulation of three atoms molecule dissociation in external radiation fields by its virtual analog**
B.V.Borts, V.I.Tkachenko (NSC KIPT NASU, *Kharkov National University named by V.N.Karazin, Kharkov,Ukraine)*
- 31 **Properties of ion-plasma condensates of the system Ti-Ni**
V.A.Belous, A.S.Bulatov, Yu.A.Zadnieprovskii, V.I.Kovalenko, A.S.Kuprin, N.S.Lomino, V.G.Marinin, T.V.Shcherbinina, V.D.Ovcharenko (NSC KIPT NASU, Kharkov, Ukraine)
- 32 **Main mechanisms of joining of heterogeneous metals in solid phase during vacuum rolling**
B.V.Borts, V.I.Tkachenko (NSC KIPT NASU, Kharkov, Ukraine)
- 33 **Microlaminates: production and mechanical properties**
V.A.Belous, V.N.Voyevodin, S.Yu.Didenko, N.I.Ilchenko, Yu.S.Didenko, Yu.N.Ilchenko (NSC KIPT NASU, Kharkov, Ukraine)
- 34 **Effect of ultrasonic vibration (US) on physical-mechanical properties of bulk metallic glass (BMG)**
S.A.Bakai, Yu.T.Petrusenko, I.M.Neklyudov, P.I.Stoev, V.M.Gorbatenko (NSC KIPT NASU, Kharkov, Ukraine)
- 35 **Structural features of mass transfer during welding in solid phase by the method of hot rolling in vacuum**
Borts B.V. (NSC KIPT NASU, Kharkov, Ukraine)

- 36 **Influence of production conditions and of thermal treatment of gas phase layers of tungsten on its strength and crack resistance**
A.D.Osipov, B.M.Shirokov (NSC KIPT NASU, Kharkov, Ukraine)
- 37 **Radiation-protecting properties of elastomer materials from penetrating radiation in low and middle range of energies**
E.A.Dzhur, F.A.Chmilenko, Yu.A.Krikun, N.M.Smityuk (PTF of DNU, Dnepropetrovsk, Ukraine)
- 38 **Messbauer spectroscopy of zirconium alloys**
N.A.Azarenkov, V.N.Voyevodin, V.G.Kirichenko, *G.P,Kovtun, S.V.Litovchenko (Kharkov National University named by V.N,Karazin; *NSC KIPT, Kharkov, Ukraine)*
- 39 **Messbauer spectroscopy of steels**
N.A.Azarenkov, V.N.Voyevodin, G.P,Kovtun, S.V.Litovchenko (Kharkov National University named by V.N,Karazin; *NSC KIPT, Kharkov, Ukraine)*
- 40 **Ion and lazer treatment of steel surface**
N.A.Azarenkov, V.G.Kirichenko V.N.Leonov (Kharkov National University named by V.N,Karazin; *NSC KIPT, Kharkov, Ukraine)*
- 41 **Influence of implantation on structure of ferrogarnet films**
N.A.Azarenkov, V.G.Kirichenko, O.V.Kovalenko S.V.Litovchenko (Kharkov National University named by V.N,Karazin, Kharkov, Ukraine)
- 42 **Optical registration of Messbauer spectra of solid surfaces** *N.A.Azarenkov, , S.V.Litovchenko, V.G.Kirichenko, S.V.Eremin (Kharkov National University named by V.N,Karazin; Kharkov, Ukraine)*
- 43 **Structure of nanometric surface layers of graphite**
N.A.Azarenkov, V.G.Kirichenko, E.S.Melnikova, S.V.Litovchenko (Kharkov National University named by V.N,Karazin; Kharkov, Ukraine)
- 44 **Lazer treatment of surface of deformed and annealed zirconium alloys**
N.A.Azarenkov, V.G.Kirichenko (Kharkov National University named by V.N,Karazin, Kharkov, Ukraine)
- 45 **Influence of technologic factors on thermal-mechanical properties of ceramic $Al_2O_3-ZrO_2$**
N.A.Azarenkov V.V.Ivanisenko, V.G.Kirichenko, S.V.Litovchenko, G.M.Litovchnko, V.A.Chishkala (Kharkov National University named by V.N,Karazin, Kharkov, Ukraine)
- 46 **Erosion resistant coatings on the base of silicon containing eutectic compositions**
N.A.Azarenkov, V.M.Beresnev, Yu.S.Bukatseva, V.G.Kirichenko, S.V.Litovchenko, V.A.Chishkala (Kharkov National University named by V.N,Karazin, Kharkov, Ukraine)

10 September, FRIDAY

16⁰⁰-19⁰⁰

Chairmen: **V.I.Sokolenko**
A.G.Ponomarev

POSTER SESSION OF SECTION E

- 1 **Experimental equipment for study of elastic-plastic properties of structural materials under ion irradiation**
S.N.Dubnyuk¹, B.V.Zaitsev¹, O.V.Kalmikov¹, A.F.Kobets¹, I.N.Laptev¹, K.V.Pavlii¹, V.V.Panov¹, A.A.Parkhomenko¹, M.S.Romanov²
(¹NSC KIPT NASU; ²National air cosmic university named by N.E.Zhukovskii "KhAI), Kharkov, Ukraine)
- 2 **Methodology and installation for investigation of radiation plastic characteristics of fuel materials by the method of three points cyclic bending**
S.N.Dubnyuk, B.V.Zaitsev, O.V.Kalmikov, A.F.Kobets, K.V.Pavlii, V.V.Panov (NSC KIPT NASU, Kharkov, Ukraine)

- 3 **Investigation of characteristics of nanostructured materials at cesium sorption**
N.P.Dikii¹, A.N.Dovbnia¹, Yu.V.Liashko¹, E.P.Medvedeva¹, D.V.Medvedev¹, V.L.Uvarov¹, I.D.Fedorets², N.P.Khlapova² (¹NSC KIPT NASU; ²Kharkov National University named by V.N.Karazin, Kharkov, Ukraine)
- 4 **Determination of coating thickness, of surface layers of solids by the method XPI**
V.V.Levenets, A.A.Shchur, B.M.Shirokov (NSC KIPT NASU, Kharkov, Ukraine)
- 5 **Measurement of the density of neutron flux with energies in the range 0,1-1 MeV obtained in threshold reactions of the type (p,n) on electrostatic accelerator**
V.V.Levenets¹, A.A.Shchur¹, V.M.Pistriak¹, Yu.I.Graba², N.I.Kravchenko², O.V.Yakovlev² (¹NSC KIPT NASU; ² NSC "Institute for metrology", Kharkov, Ukraine)
- 6 **Investigation of element content and distribution of film components on the base of silicon and germanium with proton beam**
V.V.Levenets, A.A.Shchur, B.M.Shirokov (NSC KIPT NASU, Kharkov, Ukraine)
- 7 **Singularities of radio luminescence on registration of short path ionizing radiation by scintillation detectors**
Yu.T.Vidaii, V.A.Tarasov, T.E.Gorbacheva (Institute for scintillation materials, STC "Institute of monocrystals" NASU, Kharkov, Ukraine)
- 8 **Production of self-carrier polycrystalline diamond films for detectors of ionizing radiation**
E.P.Berezniak, A.A.Verevkin, I.I.Virovets, V.I.Gritsina, S.F.Dudnik, V.E.Kutnii, O.A.Opalev, A.S.Ribka, V.E.Strelnitskii (NSC KIPT NASU, Kharkov, Ukraine)
- 9 **Physical and technical aspects of production and use of planar coordinate detectors**
N.I.Maslov (NSC KIPT NASU, Kharkov, Ukraine)
- 10 **Methods for investigation and testing of planar multi channel coordinate detectors**
G.P.Vasiliev, V.K.Voloshin, A.A.Kaplii, N.I.Maslov, V.D.Ovchinnik, S.M.Potin, V.I.Yalovenko (NSC KIPT, Kharkov, Ukraine)
- 11 **RBS and optical analysis of multilayered optical coatings**
M.Gaspariunas¹, A.V.Goncharov², V.V.Levenets², V.Kovalevskij¹, A. Plukis¹ (¹Center for Physical Sciences and Technology, Vilnius, Lithuania; ²National Science Center Kharkov Institute of Physics & Technology, Kharkov, Ukraine)
- 12 **Investigation of elements distribution in structural materials by the method μ -PIXE**
A.G.Ponomarev, D.V.Magilin, K.I.Melnik, A.V.Romanenko, V.I.Miroshnichenko, V.E.Storozhko (IAP NASU, Sumi, Ukraine)
- 13 **Study of acoustic emission of zirconium at indentation**
P.I.Stoev, I.I.Papirov, I.N.Butenko (NSC KIPT NASU, Kharkov, Ukraine)
- 14 **Acoustic emission on deformation of rolled hafnium**
P.I.Stoev, M.P.Starolat, A.A.Vasiliev, S.V.Khovrich, K.V.Kovtun (NSC KIPT NASU, Kharkov, Ukraine)
- 15 **Influence of rolling direction and annealing regimes on acoustic emission of hafnium**
P.I.Stoev, M.P.Starolat, A.A.Vailiev, S.V.Khovrich, K.V.Kovtun, R.V.Azhazha, L.N.Chepurnaia (NSC KIPT NASU, Kharkov, Ukraine)
- 16 **Primary characteristics of the beam of multi charge ions source for ESA "SOKOL"**
L.S.Glazunov, A.V.Zats, S.G.Karpus, V.V.Kuzmenko, V.M.Pistriak (NSC KIPT NASU, Kharkov, Ukraine)
- 17 **Methodology of clearing of drain off water containing beryllium**
M.A.Vernoslov, P.G.Dolia, A.I.Lavra, Yu.A.Mazilova (NSC KIPT NASU, Kharkov, Ukraine)

- 18 **Study of element distribution uniformity in experimental ingots of ODS- steel**
V.V.Levenets, A.P.Omelnik, A.A.Shchur, E.A.Chernov, B.V.Borts, A.F.Vanzha, V.N.Voyevodin, N.I.Tatarintsev (NSC KIPT NASU, Kharkov, Ukraine)
- 19 **Choice of the method of uranium compositions precipitation from nitrate solutions**
E.A.Slabospitskaia, N.V.Svichkar, F.V.Belkin (NSC KIPT NASU, Kharkov, Ukraine)
- 20 **About safe “Gamma-stimulator”-based radiation benches**
*A.N.Dovbnaya, V.F.Zelenskyi, I.M.Neklyudov, V.A.Stratienko
 National Science Center “Kharkov Institute of Physics &Technology”, Kharkov, Ukraine*
- 21 **On the interaction of dense microbeams of electrons and secondary radiation with substance.**
A.N.Dovbnaya, V.F.Zelenskyi, I.M.Neklyudov, V.A.Stratienko. National Science Center “Kharkov Institute of Physics &Technology”, Kharkov.
- 22 **On temperature of specimens of materials irradiated by ion and electron beams**
V.A.Stratienko (NSC KIPT NASU, Kharkov, Ukraine)
- 23 **Low temperatures and gamma-radiation for production of devitalized vessel scaffolds**
D.V.Buzov, E.N.Pushkova, O.P.Sinchikova, I.P.Mikhailova, B.P.Sandomirskii (Institute for problems of cryobiologie and cryo medicine, Kharkov, Ukraine)

11 September, Saturday

10⁰⁰-13⁰⁰

**Chairmen: I.M.Neklyudov
 V.N.Voyvodin**

GENERALS. CONFERENCE CLOSING

1. **Physical principals of prospective fast reactor operating in the regime of the wave of nuclear combustion**
 25 min *S.P.Fomin, Yu.P.Melnik, V.V.Pilienko, A.S.Fomin, N.F.Shulga
 (Institute for theoretical physics named by A.I.Akhiezer of NSC KIPT, Kharkov, Ukraine)*
2. **Material`s Challenges for Traveling Wave Reactors**
 25 min *K.D.Weaver¹, T.Ellis¹, J.R.Gilleland¹ and F.A.Garner²
 (¹Terra Power, LLC, Bellevue WA USA, ²Radiation Effects Consulting, Richland WA USA)*
3. **IAEA activities on examination and development of advanced fueland structural materials for nuclear power reactors**
 25min *V.Inozemtsev, A.Zeman (International Atomic Energy Agency, Vienna, Austria)*
4. **Reports of sections chairmen**
 40min

GENERAL DISCUSSION