

## Conference Timetable

	Sept. 10, Monday		Sept. 11, Tuesday		Sept. 12, Wednesday		Sept. 13, Thursday
Chairmen	<b>Session I</b> <i>N. Shulga</i> <i>N. Azarenkov</i>		<b>Session IV</b> <i>T. Donne</i> <i>A. Hassanein</i>		<b>Session VII</b> <i>I. Anisimov</i> <i>O. Marchuk</i>		<b>Session X</b> <i>A. Veklich</i> <i>O. Mishchenko</i>
9:00	<b>Opening</b>						<b>Arrival to NSC KIPT</b>
9:15-9:55	<b>I-01 Zagorodny</b>	9:15-9:55	<b>I-06 Mishchenko</b>	9:15-9:55	<b>I-11 Sadowski</b>	9:15-9:55	<b>I-16 Marchuk</b>
9:55-10:35	<b>I-02 Donne</b>	9:55-10:35	<b>I-07 Moiseenko</b>	9:55-10:35	<b>I-12 Castejon</b>	9:55-10:35	<b>I-17 Nowakowska-Langier</b>
10:35-11:15	<b>I-03 Hassanein</b>	10:35-11:15	<b>I-08 Seki</b>	10:35-11:15	<b>I-13 Albert</b>	10:35-10:55	<b>2-01 Herashchenko</b>
						10:55-11:15	<b>4-02 Volkova</b>
11:15-11:40	<b>Coffee break</b>	11:15-11:40	<b>Coffee break</b>	11:15-11:40	<b>Coffee break</b>	11:15-11:40	<b>Coffee break</b>
Chairmen	<b>Session II</b> <i>M. Sadowski</i> <i>A. Zagorodny</i>		<b>Session V</b> <i>Ya. Kolesnichenko</i> <i>A. Sunahara</i>		<b>Session VIII</b> <i>T. Seki</i> <i>A. Czarnecka</i>		<b>Session XI-(Young scientists)</b> <i>I. Garkusha</i> <i>I. Onishchenko</i>
11:40-12:20	<b>I-04 Kolesnichenko</b>	11:40-12:20	<b>I-09 Kubkowska</b>	11:40-12:20	<b>I-14 Zhovtyansky</b>	11:40-12:00	<b>5-07 Vynnyk</b>
						12:00-12:20	<b>5-06 Dadyka</b>
12:20-12:40	<b>1-03 Dreval</b>	12:20-12:40	<b>2-02 Voitsenya</b>	12:20-12:40	<b>4-01 Naiko</b>	12:20-12:40	<b>6-02 Katrechko</b>
12:40-13:00	<b>3-01 Pavlov</b>	12:40-13:00	<b>1-04 Glazunov</b>	12:40-13:00	<b>6-05 Romashchenko</b>	12:40-12:50	<b>Closing</b>
13:00-14:30	<b>Lunch</b>	13:00-14:30	<b>Lunch</b>	13:00-14:30	<b>Lunch</b>	<b>13:00-15:00 Lab Tour</b>  <b>Conference venue:</b>  <i>September 10-12, 2018</i> <b>Conference Hall</b> <b>NORTH BUILDING V.N. Karazin Kharkiv</b> <b>National University (Svobody 6)</b>  <i>September 13, 2018</i> <b>NSC KIPT (Akademichna 1),</b> <b>Conference Hall</b>	
<b>14:30-16:00</b>	<b>Poster Session I</b> (48 posters)	<b>14:30-16:00</b>	<b>Poster Session II</b> (49 posters)	<b>14:30-16:00</b>	<b>Poster Session III</b> (49 posters)		
15:40-16:00	<b>Coffee break</b>	15:40-16:00	<b>Coffee break</b>	15:40-16:00	<b>Coffee break</b>		
Chairmen	<b>Session III</b> <i>I. Girka</i> <i>V. Zhovtyansky</i>		<b>Session VI</b> <i>F. Castejon</i> <i>M. Kubkowska</i>		<b>Session IX</b> <i>K. Nowakowska-Langier</i> <i>V. Voitsenya</i>		
16:00-16:40	<b>I-05 Sunahara</b>	16:00-16:40	<b>I-10 Czarnecka</b>	16:00-16:40	<b>I-15 Veklich</b>		
16:40-17:00	<b>5-01 Onishchenko</b>	16:40-17:00	<b>1-01 Tykhyy</b>	16:40-17:00	<b>6-06 Taran</b>		
17:00-17:20	<b>5-05 Anisimov</b>	17:00-17:20	<b>7-01 Pavlichenko</b>	17:00-17:20	<b>6-04 Chernyak</b>		
17:20-17:40	<b>5-03 Sotnikov</b>	17:20-17:40	<b>7-02 Komarov</b>	17:20-17:40	<b>6-03 Korytchenko</b>		
17:40-18:00	<b>5-04 Maslov</b>	17:40-18:00	<b>1-02 Bochko</b>	17:40-18:00	<b>6-01 Iukhymenko</b>		
18:00-18:20	<b>5-02 Markov</b>	<b>Excursion</b>		18:00-18:20	<b>3-02 Momot</b>		
18:30-21:00	<b>Welcome reception</b>			18:40-22:00	<b>Conference Dinner</b>		

## Monday 10 September

8:00-9:00

**Registration**

**9:00-11:15 SESSION I (CONFERENCE HALL)**

**Chaired by N. Shulga N. Azarenkov**

9.00

*Opening Ceremony*

9.15 **I-01 ELECTROMAGNETIC FIELD ENERGY AND RADIATION INTENSITY IN THE MEDIUM WITH TEMPORAL AND SPATIAL DISPERSION OUTSIDE THE TRANSPARENCY DOMAIN** A.G. Zagorodny, S.A. Trigger

9.55 **I-02 PROGRESS IN EUROPEAN FUSION RESEARCH** T. Donné

10.35 **I-03 COMPREHENIVE SIMULATIONS OF PLASMA TRANSIENT EVENTS AND THEIR EFFECTS ON ALL PLASMA FACING AND NEARBY COMPONENTS** A. Hassanein and V. Sizyuk

**11.15-11.40 Coffee break**

**11.40- 13.00 SESSION II (CONFERENCE HALL)**

**Chaired by M. Sadowski and A. Zagorodny**

11.40 **I-04 OVERVIEW OF KINR RESULTS OBTAINED WITHIN EUROFUSION PROJECTS** Ya.I. Kolesnichenko

12.20 **1-03 LOW FREQUENCY OSCILLATIONS IN U-2M CONDITIONING RF DISCHARGES** M.B. Dreval, A.M. Shapoval, A.A. Beletskii, P.O. Pavlichenko, F.I. Ozherelyev, M.M. Makhov

12.40 **3-01 FULLY RELATIVISTIC APPROACH TO THE THEORY OF SLOW AND PLASMA ECRF WAVES** S.S. Pavlov, F. Castejon

**13.00-14.30 Lunch**

**14.30-16.00 POSTER SESSION I (CONFERENCE HALL) - 48 posters**

**Topics:** 1 - Magnetic confinement (reports ) 1-05 – 1-12  
2 - ITER and Fusion Reactor Aspects (reports 2-03 – 2-09)  
5 - Plasma Electronics (reports 5-08 – 5-13)  
6 - Low Temperature Plasma and Plasma Technologies (reports 6-07; 6-09; 6-11 – 6-25; 6-27; 6-28; 6-53; 6-54; 6-64)  
7 - Plasma Diagnostics (reports 7-03 – 7-06; 7-12)

**Poster Abstract**  
№ №

**Title**

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|----|--------------------|---|
| 1. | <b><u>1-07</u></b> | <b>MODELING OF TIME BEHAVIOR OF H, H<sub>2</sub> NEUTRAL DENSITIES, AND H<sub>α</sub> LINE INTENSITY IN THE RF PLASMA OF THE URAGAN-3M TORSARTRON</b> V.N. Bondarenko, A.A. Petrushenya |
| 2. | <b><u>1-08</u></b> | <b>MODELING OF DUAL-POLARIZATION INTERFEROMETRY IN STELLARATORS</b> V. Philippov, D. Grekov, N. Azarenkov   |
| 3. | <b><u>1-09</u></b> | <b>FAST ALGORITHM OF MAGNETIC SURFACES RECONSTRUCTION IN STELLARATORS</b> V. Philippov, D. Grekov, V. Olefir  |

## Monday 10 September

Poster №	Abstract №	Title
4.	<u>1-05</u>	<b>2-D ELECTRON SYSTEM IN THE RF-DISCHARGE PLASMA PART I. GENERAL OBSERVATIONS</b> V.L. Berezhnyj
5.	<u>1-06</u>	<b>2-D ELECTRON SYSTEM (TDES) IN THE RF-DISCHARGE PLASMA PART II. SIMILARITY OF TDES IN A SOLID AND IN THE RF DISCHARGE</b> V.L. Berezhnyj
6.	<u>1-10</u>	<b>THE MICRORELIEF STUDIES OF STAINLESS STEEL MIRRORS SPUTTERED WITH AR<sup>+</sup> IONS OF DIFFERENT ENERGY</b> V.N. Bondarenko, V.G. Konovalov, S.I. Solodovchenko, A.F. Shtan', I.V. Ryzhkov, V.S. Voitsenya, P.M. Lytvyn, O.V. Byrka, O.A. Skorik
7.	<u>1-11</u>	<b>EFFECT OF TOROIDAL MAGNETIC FIELD RIPPLE VALUE ON THE <math>l=1, m=1</math> YAMATOR MAGNETIC SURFACES</b> V.G. Kotenko, G.G. Lesnyakov, S.S. Romanov
8.	<u>1-12</u>	<b>TORSATRON U-2M MAGNETIC SURFACES WITH ENHANCED MIRROR RATIO</b> V.G. Kotenko, V.E. Moiseenko, E.L. Sorokovoy
9.	<u>2-03</u>	<b>FEATURES OF SURFACE MODIFICATION OF COPPER-BASED ALLOYS UNDER POWERFUL PLASMA EXPOSURES</b> O. Byrka, N. Aksenov, A. Chunadra, S. Herashchenko, V. Makhlai, S. Malykhin, K. Sereda, S. Surovitskiy, I. Garkusha
10.	<u>2-04</u>	<b>IMPLANTATION OF DEUTERIUM AND HELIUM IONS INTO TANTALUM-COATED COMPOSITE STRUCTURES</b> V.V. Bobkov, L.P. Tishchenko, Yu.I. Kovtunencko, O.B. Tsapenko, A.O. Skrypnik, Yu.E. Logachev, and L.A. Gamayunova
11.	<u>2-05</u>	<b>ON RELATIVISTIC EFFECTS IN ELECTRON TRANSPORT IN THE BANANA REGIME</b> I. Marushchenko, N.A. Azarenkov
12.	<u>2-06</u>	<b>TRITIUM BREEDING RATIO IN TOROIDAL FUSION BLANKET</b> S.V. Chernitskiy, V. E. Moiseenko
13.	<u>2-07</u>	<b>EFFECTS OF WATER BATHING ON OPTICAL PROPERTIES OF METALLIC MIRROR SAMPLES</b> V.G. Konovalov, S.I. Solodovchenko, V.S. Voitsenya, I.V. Ryzhkov, A.F. Shtan', M.N. Makhov
14.	<u>2-08</u>	<b>EFFECTS OF IMPACT OF D<sub>2</sub> AND Ar PLASMA IONS ON MIRROR SAMPLES FABRICATED FROM AMORPHOUS ALLOYS</b> V.S. Voitsenya, D.G. Malykhin, V.G. Konovalov, V.V. Bobkov, F. Gostin, K.V. Kovtun, D. Luzguine-Luzgin, I.V. Ryzhkov, A.N. Shapoval, A.F. Shtan', S.I. Solodovchenko, A.A. Vasil'ev
15.	<u>2-09</u>	<b>EIGENVALUES AND EIGENFIELDS OF A CORRUGATED GYROTRON CAVITY WITH CONDUCTING WALLS</b> T.I. Tkachova, V.I. Shcherbinin, V.I. Tkachenko
16.	<u>5-08</u>	<b>INFLUENCE OF ELECTRON-ION AND ELECTRON-NEUTRAL COLLISIONS ON THE BEAM-PLASMA DISCHARGE DEVELOPMENT</b> D.I. Dadyka, I.O. Anisimov
17.	<u>5-09</u>	<b>OPTIMAL RESONANT ASYMPTOTICS OF WAKEFIELD EXCITATION IN PLASMA BY NON-RESONANT SEQUENCE OF RELATIVISTIC ELECTRON BUNCHES</b> V.I. Maslov, E.O. Bilokon, V.O. Bilokon, I.P. Levchuk, I.N. Onishchenko
18.	<u>5-10</u>	<b>INVESTIGATION OF THE POSSIBILITY OF THE ENERGY TRANSMISSION TO IONS OF PLASMA BY OSCILLATIONS OF LARGE AMPLITUDE IN A MAGNETIC TRAP</b> V.S. Antipov, A.N. Antonov, V.A. Buts, I.K. Kovalchuk, E.A. Kornilov, V.A. Vinokurov
19.	<u>5-11</u>	<b>A QUALITATIVE APPROACH TO EXPLAINING THE MECHANISM OF ION ACCELERATION BY AN ELECTRON BEAM IN PLASMA</b> S.A. Cherenshchykov

## Monday 10 September

Poster №	Abstract №	Title
20.	<u>5-12</u>	<b>ACCELERATION OF ELECTRONS IN WAVEGUIDE-DIELECTRIC RESONATOR WHEN DEVELOPING OF AUTO-MODULATION</b> A.F. Linnik, O.L. Omelaenko, I.N. Onishchenko, V.I. Pristupa, G.V. Sotnikov
21.	<u>5-13</u>	<b>CHERENKOV RADIATION OF THE ELECTRON BUNCH IN DIELECTRIC MEDIA WITH FREQUENCY DISPERSION</b> V.A. Balakirev, I.N. Onishchenko
22.	<u>6-07</u>	<b>ELECTRODYNAMIC ACCELERATOR OF PLASMA RING IN THE ATMOSPHERIC PRESSURE AIR</b> K.V. Korytchenko, V.F. Bolyukh, O.L. Rezinkin, S.G. Burjakovskij
23.	<u>6-09</u>	<b>USING OF ELECTRON CYCLOTRON RESONANCE DISCHARGE IN ION BEAM SPUTTERING SYSTEMS FOR SPACE CHARGE COMPENSATION</b> A.A. Bizyukov, I.K. Tarasov, A.D. Chibisov
24.	<u>6-11</u>	<b>THE PROPERTIES OF ARGON-ACETYLENE DUSTY PLASMA</b> I.B. Denysenko, S. Ivko, N.A. Azarenkov, G. Burmaka
25.	<u>6-12</u>	<b>NON-SELF-SUSTAINED ARC DISCHARGE IN VAPORS OF CONSTRUCTIONAL MATERIALS OF NUCLEAR POWER ENGINEERING</b> A.G. Borisenko, E.G. Kostin, O.A. Rokytskyi, O.A. Fedorovich
26.	<u>6-13</u>	<b>BEHAVIOR OF MOLYBDENUM TARGET IN CONDITION OF IRRADIATION BY THE HIGH CURRENT RELATIVISTIC ELECTRON BEAM</b> S.E. Donets, V.V. Lytvynenko, Yu.F. Lonin <sup>1</sup> , A.G. Ponomarev, N.Ya. Rokhmanov, R.I. Starovoytov, V.T. Uvarov
27.	<u>6-14</u>	<b>CONVERSION OF CARBON DIOXIDE IN LOW-PRESSURE PLASMA</b> S.V. Dudin, A.N. Dakhov
28.	<u>6-15</u>	<b>COLLISIONAL AND COLLISIONLESS PLASMA SHEATHES IN BOUNDLESS GAS MEDIUM</b> N.A. Azarenkov, A.V. Gapon
29.	<u>6-16</u>	<b>PLASMA-CATALYTIC REFORMING OF RICH ETHANOL-AIR MIXTURES</b> I. Fedirchyk, O. Nedybaliuk, V. Chernyak, V. Demchina
30.	<u>6-17</u>	<b>PHOTOMETRIC DIAGNOSTICS OF PLASMA OF PLANAR CAPACITIVE RF DISCHARGE IN ARGON AT 1 ATM PRESSURE</b> V.Yu. Bazhenov, S.M. Gubarev, V.V. Tsiolko, D. Levko
31.	<u>6-18</u>	<b>HARDWARE-SOFTWARE COMPLEX FOR AUTOMATED CONTROL AND MONITORING OF THE VACUUM SYSTEM OF THE COATING SETUP "BULAT-6"</b> S.P. Gubarev, A.V. Leonovich, R.M. Muratov, Y.N. Nezovibat'ko, G.P. Opaleva, V.S. Taran, M.I. Zolototrubova
32.	<u>6-19</u>	<b>DEVELOPMENT OF AN AUTOMATED RADIATION CONTROL SYSTEM BASED ON SEMICONDUCTOR IONIZING RADIATION DETECTORS</b> S.P. Gubarev, A.V. Klosovsky, G.P. Opaleva., V.S. Taran, M.I. Zolototrubova
33.	<u>6-20</u>	<b>EFFECT OF THE EXTERNAL MAGNETIC FIELD ON THE DYNAMICS AND POWER OF THE SELF-SUSTAINED PLASMA-BEAM DISCHARGE</b> Ya.O. Hrechko, N.A. Azarenkov, Ie.V. Babenko, D.L. Ryabchikov, I.N. Sereda, D.A. Boloto, A.F. Tseluyko
34.	<u>6-21</u>	<b>ION SEPARATION IN A PLASMA MASS FILTER BASED ON BAND GAP FILTER PRINCIPLE</b> V.O. Ilichova
35.	<u>6-22</u>	<b>ELECTRON ENERGY PROBABILITY FUNCTION AND DUST CHARGE IN THE TEMPORAL AFTERGLOW OF A PLASMA WITH LARGE DUST DENSITY</b> I.B. Denysenko, S. Ivko, N.A. Azarenkov
36.	<u>6-23</u>	<b>CHARACTERISTICS OF TiN COATING DEPOSITED BY VACUUM-ARC METHOD ON ROTATING CYLINDRICAL SAMPLE</b> A.I. Kalinichenko, V.E. Strel'nitskij

## Monday 10 September

Poster №	Abstract №	Title
37.	<u>6-24</u>	<b>PROPERTIES OF MICRODISCHARGE PLASMA IN THE VORTEX AIR FLOW</b> V.Y, Chernyak, O.V. Kolomiiets, V.V. Iukhymenko, O.N. Tsymbaliuk, V.O. Khomiak, D.O. Chernysh
38.	<u>6-25</u>	<b>INVESTIGATION OF THE INFLUENCE OF Ar PRESSURE ON VACUUM-ARC PLASMA WITH Cr, Cu AND Zr CATHODES</b> Yu.V. Kovtun, A.S. Kuprin, V.M. Lunev
39.	<u>6-27</u>	<b>LOW-TEMPERATURE OZONE STERILIZER BASED ON REACTOR WITH ELECTROLYTIC CELL</b> V.S. Taran, V.V. Krasnyj, A.S. Lozina, O.G. Chechelnytskyi, A.V. Schebetun
40.	<u>6-28</u>	<b>APPLICATION OF BIPOLAR PLASMA DISCHARGE OVER THE LIQUID SURFACE FOR WATER PURIFICATION FROM CHEMICAL AND BACTERIAL POLLUTION</b> V.O. Liesnoi, A.O. Taran, P.A. Komozynskiy, S.G. Taran, O.P. Kyslytsyn, A.O. Bukariev, O.V. Podshyvalova
41.	<u>6-64</u>	<b>STRUCTURE AND MECHANICAL PROPERTIES OF NANOCRYSTALLINE COMPOSITE TiC-aC:H COATINGS DEPOSITED FROM TITANIUM PLASMA IN BENZENE VAPOR WHEN THE RF POTENTIAL IS APPLIED TO A SUBSTRATE</b> A.O. Omarov, A.A. Luchaninov, V.E. Strel'nitskij
42.	<u>6-53</u>	<b>USE OF A PULSED POWER SOURCE FOR THE DEPOSITION OF POLYCRYSTALLINE DIAMOND COATINGS</b> K.I. Koshevoy, Yu.Ya. Volkov, V.E. Strel'nitskij
43.	<u>6-54</u>	<b>DEVICE FOR THE DEPOSITION OF NANOSTRUCTURAL DIAMOND COATINGS TO THE SURFACE OF DRY GAS DYNAMICS SEALS</b> K.I. Koshevoy, Yu.Ya. Volkov, V.E. Strel'nitskij
44.	<u>7-03</u>	<b>THE STUDY OF THE RADIAL LOCATION OF QUASI-COHERENT MODES BY HEAVY ION BEAM PROBE IN THE TJ-II STELLARATOR</b> A.V. Melnikov, L.G. Eliseev, C. Hidalgo, A.S. Kozachek, L.I. Krupnik, S.E. Lysenko, P.O. Khabanov, N.K. Khartchev, A.A. Chmyga, G.N. Dshko, S.M. Khrebtov, A.D. Komarov, A. Molinero, J.L. dePablos and TJ-II Team <sup>3</sup>
45.	<u>7-04</u>	<b>PLASMA POTENTIAL CORRELATIONS BETWEEN HEAVY ION BEAM PROBE AND LANGMUIR PROBE ON THE T-10 TOKAMAK</b> M.A. Drabinskij, L.G. Eliseev, S.A. Grashin, P.O. Khabanov, N.K. Khartchev, L.I. Krupnik, A.V. Melnikov, V.N. Zenin
46.	<u>7-05</u>	<b>DETERMINING LOCAL INHOMOGENEITIES OF THE ROTATING PLASMA DENSITY VIA MICROWAVE REFRACTION</b> Yu.V. Kovtun, Y.V. Siusko
47.	<u>7-06</u>	<b>A DUAL HEAVY ION BEAM PROBE DIAGNOSTIC ON THE TJ-II STELLARATOR</b> A.A. Chmyga, A.I., E. Ascasibar, J. Barcala, M.A. Drabinskij, L.G. Eliseev, C. Hidalgo, P.O. Khabanov, S.M. Khrebtov, A.D. Komarov, A.S. Kozachek, L.I. Krupnik, S.E. Lysenko, A.V. Melnikov, A. Molinero, J.L. dePablos, S. Perfilov, V.N. Zenin and TJ-II team
48.	<u>7-12</u>	<b>INFLUENCE OF INCREASED SLIDING SPEED ON THE STRUCTURE AND PROPERTIES OF PISTON RINGS WITH ION-PLASMA COATING</b> T.S. Skoblo, A.I. Sidashenko, I.E. Garkusha, A.V. Taran, R.M. Muratov, T.V. Maltsev

15.40-16.00 Coffee break

## Monday 10 September

16.00-18.00 **SESSION III (CONFERENCE HALL)**

Chaired by **I. Girka and V. Zhovtyansky**

- 16.00 **I-05**    **EFFECT OF PRE-FORMED PLASMAS ON TARGET NORMAL SHEATH ACCELERATION FOR EFFICIENT LASER-DRIVEN NEUTRON SOURCES**  
A. Sunahara, T. Asahina, H. Nagatomo, K. Mima, R. Hanayama, H. Tanaka, S. Nakai, Y. Kato, A. Hassanein
- 16:40 **5-01**    **CHERENKOV RADIATION OF THE LASER PULSE IN DIELECTRIC WAVEGUIDE** V.A. Balakirev, I.N. Onishchenko
- 17.00 **5-05**    **QUASI-STATIONARY MODE OF THE BEAM PLASMA DISCHARGE**  
D.I. Dadyka, I.O. Anisimov
- 17.20 **5-03**    **PARAMETERS OF TWO-CHANNEL FIVE-ZONE DIELECTRIC STRUCTURE FOR EXPERIMENTS ON WAKE ACCELERATION IN KIPT**  
D.Yu. Zaleskyi, G.V. Sotnikov
- 17:40 **5-04**    **EXCITATION OF WAKEFIELD BY A LASER PULSE IN A METALLIC-DENSITY ELECTRON PLASMA**  
D.S. Bondar, V.I. Maslov, I.P. Levchuk, I.N. Onishchenko
- 18:00 **5-02**    **INCREASE OF EFFICIENCY OF ACCELERATION OF THE TEST ELECTRON BUNCH BY SEQUENCE OF ELECTRON BUNCHES IN THE DIELECTRIC RESONATOR** P.I. Markov, I.N. Onishchenko, G.V. Sotnikov

**18:30-21:00 WELCOME RECEPTION (cafe BUNKER )**

## Tuesday 11 September

### 9:00-11:15 SESSION IV (CONFERENCE HALL)

Chaired by T. Donne and A. Hassanein

- 9.15 **I-06** **FIRST DIVERTOR OPERATION ON THE W7-X: HIGHER PLASMA DENSITIES, LONGER DISCHARGES** A. Mishchenko for the W7-X Team
- 9.55 **I-07** **STELLARATOR RESEARCH AT IPP KIPT: STATUS AND PROSPECTS**  
V. E. Moiseenko, G.P. Glazunov, A.V. Lozin, A.L. Konotopskiy, D.I. Baron, A.A. Beletskii, M.N. Bondarenko, V.V. Chechkin, M.B. Dreval, L.I. Grigor'eva, M.M. Kozulya, S.M. Maznichenko, Yu.K. Mironov, R.O. Pavlichenko, V.S. Romanov, A.N. Shapoval, V.B. Korovin, V.G. Konovalov, N.V. Zamanov, E.V. Turianska, Yu.S. Kulyk, T. Wauters<sup>1</sup>, A.I. Lysoivan<sup>1</sup>, I.E. Garkusha and the Uragan Team
- 10.35 **I-08** **ION CYCLOTRON RANGE OF FREQUENCY HEATING EXPERIMENTS IN LHD** T. Seki, K. Saito, H. Kasahara, R. Seki, S. Kamio, G. Nomura, and LHD Experiment Group

11.15-11.40 Coffee break

### 11.40- 13.00 SESSION V (CONFERENCE HALL)

Chaired by Ya. Kolesnichenko and A. Sunahara

- 11.40 **I9** **W7-X PLASMA DIAGNOSTICS FOR IMPURITY TRANSPORT STUDIES**  
M. Kubkowska, B. Buttenschön, A. Langenberg, and the W7-X team
- 12.20 **2-02** **CLEANING OF METALLIC MIRRORS FROM CARBON-CONTAINING FILMS BY HYDROGEN PLASMA: NEW POSSIBILITIES FOR IN SITU MONITORING** V.S. Voitsenya, V.G. Konovalov, I.V. Ryzhkov, S.I. Solodovchenko, A.F. Shtan', A.N. Shapoval, M.N. Makhov, A.I. Timoshenko, S.M. Maznichenko
- 12.40 **1-04** **IN SITU QUANTIFICATION OF PLASMA FACING SURFACE CONDITIONS IN THE URAGAN-2M TORSATRON** G.P. Glazunov, D.I. Baron, M.N. Bondarenko, V.E. Moiseenko, I.E. Garkusha, A.L. Konotopskiy, A.V. Lozin, A.I. Lysoivan, T. Wauters

13.00-14.30 Lunch

### 14.30-16.00 POSTER SESSION II (Conference hall) - 49 posters

- Topics:
- 1 - Magnetic confinement (reports 1-13 – 1-20 )
  - 3 - Basic Plasma Physics (reports 3-03 – 3-08)
  - 4 - Plasma Dynamics and Plasma–Wall Interaction (reports 4-03 – 4-07)
  - 5 - Plasma Electronics (reports 5-14 -- 5-18)
  - 6 - Low Temperature Plasma and Plasma Technologies (reports 6-29 – 6-35; 6-37 – 6-50; 6-65)
  - 7 - Plasma Diagnostics (reports 7-07; 7-08; 7-13)

Poster Abstract

Title

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1. **1-13** **A NUMERICAL MODEL OF RADIO-FREQUENCY WALL CONDITIONING FOR STEADY-STATE STELLARATORS** Yu.S. Kulyk, V.E. Moiseenko, T. Wauters, A.I. Lysoivan

## Tuesday 11 September

### Poster Abstract

- | <u>№</u> | <u>№</u>    | Title  |
|----------|-------------|--|
| 2.       | <u>1-14</u> | <b>SLOW WAVE PROPAGATION IN PLASMA WITH NON-UNIFORMITY NOT PERPENDICULAR TO THE MAGNETIC FIELD</b> V.E. Moiseenko  |
| 3.       | <u>1-15</u> | <b>POSITIVE-DEFINITE FORM OF TIME-HARMONIC MAXWELL'S EQUATIONS</b> V.E. Moiseenko, O. Ågren  |
| 4.       | <u>1-16</u> | <b>THREE-HALF-TURN ANTENNA PLASMA START-UP EXPERIMENTS</b><br>V.E. Moiseenko, A.V. Lozin, M.M. Kozulia, V.B. Korovin, A.A. Beletskii, D.I. Baron, L.I. Grigor'eva, V.V. Chechkin, Yu.K. Mironov, V.S. Romanov, A.N. Shapoval, M.M. Makhov, V.G. Konovalov, R.O. Pavlichenko, N.V. Zamanov, N.B. Dreval, E.V. Turianska and Uragan team |
| 5.       | <u>1-17</u> | <b>STRUCTURE OF MHD FLUCTUATIONS IN THE TORSATRON U-3M IN STEADY-STATE STAGE OF DISCHARGE</b> V.K. Pashnev, E.L. Sorokovoy, A.A. Petrushenya, F.I. Ozherel'ev  |
| 6.       | <u>1-18</u> | <b>MHD PLASMA ACTIVITY IN THE U-3M TORSATRON DURING THE RF CLEANING MODE WITH A MAGNETIC FIELD <math>B_{\phi}(0) = 0.02</math> T</b> V.K. Pashnev, E.L. Sorokovoy, A.A. Petrushenya, F.I. Ozherel'ev   |
| 7.       | <u>1-19</u> | <b>FINDIF CODE SIMULATIONS OF OP-1.1 WENDELSTEIN 7-X DISCHARGES</b> G. Pełka, R. Zagórski, W. Stępniewski and W7-X Team  |
| 8.       | <u>1-20</u> | <b>EFFECT OF RECYCLING FOR PHYSICAL PARAMETERS OF REACTOR-STELLARATOR</b> V.A. Rudakov   |
| 9.       | <u>3-03</u> | <b>VELOCITY DISPERSION OF DUST PARTICLES CONFINED IN A SHEATH</b> V.I. Zasenکو   |
| 10.      | <u>3-04</u> | <b>CYCLOTRON WAVE-PARTICLE INTERACTIONS IN CURRENT-CARRYING PLASMAS</b> N.I. Grishanov, N.A. Azarenkov   |
| 11.      | <u>3-05</u> | <b>ENERGY DISSIPATION IN HELICON PLASMA AT THE NEAR FIELD OF AN ANTENNA</b> V. Olshansky   |
| 12.      | <u>3-06</u> | <b>PRTICLE SUBENSEMBLES IN RANDOM FIELD WITH FINITE CORRELATION TIME</b> O.M Cherniak, V.I. Zasenکو  |
| 13.      | <u>3-07</u> | <b>RADIATION FROM PLASMA DUE TO PARAMETRIC EXCITATION OF CONVECTIVE CELLS</b> V.G. Panchenko   |
| 14.      | <u>3-08</u> | <b>PROPERTIES OF CHARGED PARTICLE MOTION EQUATIONS IN CROSSED FIELDS AND LARMOR'S THEOREM</b> Yu.N. Yeliseyev  |
| 15.      | <u>4-03</u> | <b>NONDESTRUCTIVE CONTACT OF A CATHODE WITH PLASMA IN CROSSED FIELDS</b> S.A. Cherenshchykov   |
| 16.      | <u>4-04</u> | <b>SPECTROSCOPY OF THE PLASMA STREAMS GENERATED BY QUASI-STATIONARY ACCELERATOR QSPA-M</b> M.S. Ladygina, A.K. Marchenko, V.A. Makhlai, Yu.V. Petrov, D.V. Yeliseev, V.V. Chebotarev, A.N. Shapoval, M.N. Machov, N.N. Aksenov.  |
| 17.      | <u>4-05</u> | <b>EROSION PROPERTIES OF TUNGSTEN AND WTa5 ALLOY EXPOSED TO REPETITIVE QSPA PLASMA LOADS BELOW MELTING THRESHOLD</b> V.A. Makhlai, N.N. Aksenov, O.V. Byrka, I.E. Garkusha, S.S. Herashchenko, S.V. Malykhin, S.V. Surovitskiy, M. Wirtz, M.J. Sadowski  |
| 18.      | <u>4-06</u> | <b>MILLSTEIN-RUNGE-KUTTA ALGORITHM FOR MONTE CARLO SIMULATION OF TWO-DIMENSIONAL POLOIDAL NEOCLASSICAL DIFFUSION</b> A. Gurin, V. Goloborod'ko   |
| 19.      | <u>4-07</u> | <b>ION INDUCED STRUCTURES DEVELOPMENT ON TEXTURIZED TUNGSTEN SURFACE UNDER STEADY-STATE ION BOMBARDMENT</b><br>Y. Balkova, O. Girka, O. Bizyukov, M. Myroshnyk, S. Reva  |



## Tuesday 11 September

### Poster Abstract

- | №   | №           | Title  |
|-----|-------------|--|
| 20. | <u>5-14</u> | <b>DISPERSION PROPERTIES OF THE DIELECTRIC WAVEGUIDE REQUIRED FOR ELECTRON ACCELERATION BY THE LASER PULSE WAKEFIELD</b> V.A. Balakirev, I.N. Onishchenko  |
| 21. | <u>5-15</u> | <b>QUASI-HARMONIC RF OSCILLATIONS IN A GYROTROPIC NONLINEAR TRANSMISSION LINE</b> S.Y. Karelin, V.B. Krasovitsky, I.I. Magda, V.S. Mukhin, and V.G. Sinitsin   |
| 22. | <u>5-16</u> | <b>TWO MECHANISMS OF RESONANCE OVERLAPPING IN EXCITATION OF AZIMUTHAL SURFACE WAVES BY ROTATING RELATIVISTIC ELECTRON BEAMS</b> I.O. Girka, I.V. Pavlenko, M. Thumm  |
| 23. | <u>5-17</u> | <b>EXCITATION OF HIGHER RADIAL MODES OF AZIMUTHAL SURFACE WAVES IN THE ELECTRON CYCLOTRON FREQUENCY RANGE BY ROTATING RELATIVISTIC FLOW OF ELECTRONS IN CYLINDRICAL WAVE-GUIDES PARTIALLY FILLED BY PLASMAS</b> I. O. Girka, I. V. Pavlenko, M. Thumm              |
| 24. | <u>5-18</u> | <b>TRANSITION BETWEEN BEAM-PLASMA AND BEAM-DISSIPATIVE INSTABILITY REGIMES IN THE INTERACTION OF RELATIVISTIC LARGE LARMOR ORBIT ELECTRON BEAMS AND AZIMUTHAL SURFACE WAVES ABOVE THE UPPER-HYBRID FREQUENCY IN COAXIAL PLASMA WAVEGUIDES</b> I.O. Girka, M. Thumm |
| 25. | <u>6-29</u> | <b>INFLUENCE OF VOLTAGE PULSE DURATION ON IGNITION OF GLOW DISCHARGE IN AIR</b> V.A. Lisovskiy, P.P. Platonov, S.V. Dudin  |
| 26. | <u>6-30</u> | <b>INVESTIGATION OF DC GLOW DISCHARGE IN CO<sub>2</sub> USING OPTICAL EMISSION SPECTROSCOPY</b> V.A. Lisovskiy, H.H. Krol, S.V. Dudin  |
| 27. | <u>6-31</u> | <b>STRUCTURE AND MODES OF DC GLOW DISCHARGE IN NITROGEN WITH HOLLOW CATHODE OR ANODE</b> V.A. Lisovskiy, R.O. Osmayev, D.I. Khilko, V.D. Yegorenkov  |
| 28. | <u>6-32</u> | <b>FLAT ELECTRODE DIAMETER EFFECT ON GLOW DISCHARGE STRUCTURE AND PROPERTIES</b> V.A. Lisovskiy, R.O. Osmayev, V.D. Yegorenkov   |
| 29. | <u>6-33</u> | <b>HYBRID MODEL OF THE PLASMA ACCELERATOR WITH OPEN WALLS AND CLOSED ELECTRON DRIFT</b> I. Litovko, A. Goncharov, A. Dobrovolsky, I. Najko, L. Najko   |
| 30. | <u>6-34</u> | <b>INVESTIGATION OF ELECTRON CUT-OFF IN A CILINDRICAL ELECTRODE SYSTEM IN PULSED MAGNETIC FIELD OF AN INDUCTOR</b> I.M. Drozd, A.I. Kuzmichev, S. Maykut, L.Yu. Tsybulsky  |
| 31. | <u>6-35</u> | <b>MULTIBEAM SYSTEM SIMULATION</b> P.A. Martynenko   |
| 32. | <u>6-37</u> | <b>PLASMA PARAMETERS ESTIMATION IN THE NON-SELF-SUSTAINED GAS DISCHARGE WITH HOLLOW ANODE</b> I.O. Misiruk, O.I. Tymoshenko, V.S. Taran  |
| 33. | <u>6-38</u> | <b>PLASMA-CATALYTIC SYSTEM WITH WIDE-APERTURE ROTATING GLIDING DISCHARGE</b> O.A. Nedybaliuk, I.I. Fedirchuk, V.Ya. Chernyak   |
| 34. | <u>6-39</u> | <b>INFLUENCE OF CORONA DISCHARGE ON PARAFFIN COMBUSTION</b> O.A. Nedybaliuk, I.I. Fedirchuk, V.Ya. Chernyak  |
| 35. | <u>6-40</u> | <b>DC GLOW DISCHARGE FOR SYNTHESIS DIAMOND FILMS WITH HIGH GROWTH RATE</b> V.I. Gritsyna, O.A. Opalev, V.E. Strel'nitskij  |
| 36. | <u>6-65</u> | <b>COMPARISON OF BLISTERING UNDER H<sub>2</sub>, D<sub>2</sub> AND He PLASMA IRRADIATION OF BULK W AND W COATINGS</b> A.S. Kuprin, G.D. Tolstolutskaya, A.V. Nikitin, R.L. Vasilenko, V.D. Ovcharenko, I.V. Kolodiy, G.N. Tolmachova, V.N. Voyevodin, V.A. Belous  |

## Tuesday 11 September

### Poster Abstract

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Title

- 37.6-41** FEATURES OF IGNITION AND COMBUSTION OF PULVERIZED COAL IN THE FORM OF A GAS SUSPENSION. S.G. Orlovskaya, O.N. Zuj, V.Ya. Chernyak
- 38.6-42** ON THE MECHANISM OF THE ELECTRIC FIELD INFLUENCE ON THE ALKANI COMBUSTION SPEED S.G. Orlovskaya, F.F. Karimova, M.S. Shkoropado, V.Ya. Chernyak
- 39.6-43** NUMERICAL SIMULATIONS OF SECONDARY STREAMER PROPAGATION IN CATHODE DIRECTED STREAMER CHANNEL V. Ostroushko
- 40.6-44** THE MECHANISM OF THE PLASMA ARC TRANSITION FROM THE DIFFUSE TO THE CONTRACTED ATTACHMENT TO THE SURFACE OF THE HOLLOW THERMIONIC CATHODE AT ATMOSPHERIC PRESSURE D.A. Brega, S.I. Iankovsky
- 41.6-45** ON THE PECULIARITIES OF ELECTRICAL CONDUCTIVITY IN ARC PLASMA CONTAINING STAINLESS STEEL AND TUNGSTEN P.V. Porytsky
- 42.6-46** STRESS AND TEXTURE FORMATION IN METAL NITRIDE COATINGS DEPOSITED FROM FILTERED VACUUM-ARC PLASMA UNDER CONDITIONS OF ION IMPLANTATION A.I. Kalinichenko, E. Reshetnyak, V. Strel'nitskij
- 43.6-47** THE ANTIMICROBIAL ACTIVITY OF MAGNETRON SPUTTERED OXIDE COATINGS DOPED BY DIFFERENT Ag CONCENTRATIONS V. Safonov, A. Zykova, N. Donkov, E. Moraliiski, H. Naidenski, S. Dudin, K. Koev, S. Yakovin
- 44.6-48** METHOD OF INCREASING THE LONGITUDINAL CURRENT OF H<sup>+</sup> IONS FROM PIG WITH METAL HYDRIDE CATHODE I.N. Sereda, A.F. Tseluyko, D.L. Ryabchikov, Ya.O. Hrechko, A. Krupka
- 45.6-49** HYDROGEN INJECTOR BASED ON PENNING DISCHARGE WITH METAL HYDRIDE CATHODE I.N. Sereda, N.A. Azarenkov, Ya.O. Hrechko, D.L. Ryabchikov, A.F. Tseluyko
- 46.6-50** ELECTROLYTE-PLASMA PROCESSING OF A SURFACE MODIFIED BY A HIGH-CURRENT RELATIVISTIC ELECTRON BEAM R.I. Starovoytov, O.V. Mihal, O.V. Moroz, B.A. Mazilin, S.E. Donets, V.V. Lytvynenko, Yu.F. Lonin, A.G. Ponomarev, V.T. Uvarov
- 47.7-07** DIAGNOSTICS OF OPTICAL CHARACTERISTICS OF GAS- DISCHARGE PLASMA IN A MIXTURE OF ZINC DIODIDE VAPOR WITH HELIUM A. A. Malinina, A.N. Malinin, O.K. Shuaibov
- 48.7-08** FEATURES OF MAGNETIC DIAGNOSTICS APPLICATION IN THE U-2M TORSATRON V.K. Pashnev, A.A. Petrushenya, E.L. Sorokovoy, F.I. Ozherel'ev
- 49.7-13** SPATIAL ENERGY CHANNELLING IN PLASMAS WITH FAST IONS Ya.I. Kolesnichenko, Yu.V. Yakovenko, M.H. Tyshchenko

15.50-16.10 Coffee break

## Tuesday 11 September

### 16.00-18.00 SESSION VI (CONFERENCE HALL)

Chaired by F. Castejon and M. Kubkowska

- 16.00 I10** **STUDIES OF IMPURITIES BEHAVIOUR FOR THE OPTIMIZATION OF PLASMAS AND HEATING SCENARIOS AT TOKAMAKS IN PERSPECTIVE FOR ITER** A. Czarnecka and JET Contributors
- 16:40 1-01** **GENERATION OF INWARD ENERGY FLUX BY ALFVÉN EIGENMODES DRIVEN BY PLASMA INHOMOGENEITY** Ya.I. Kolesnichenko, A.V. Tykhyy
- 17:00 7-01** **A HIGH SPEED 140 GHZ MICROWAVE INTERFEROMETER FOR DENSITY FLUCTUATION MEASUREMENTS IN URAGAN-2M STELLARATOR**  
R.O. Pavlichenko, M.V. Zamanov, A.E Kulaga. and team Uragan-2M
- 17:20 7-02** **DEVELOPMENT OF LIGHT ATOMIC INJECTOR FOR BEAM EMISSION SPECTROSCOPY (BES) DIAGNOSTIC OF URAGAN-2M TORSATRON**  
L.I. Krupnik, A.A. Chmyga, G.N. Deshko, A.V. Klosovskiy, A.A. Komarov, A.S. Kozachek, S.M. Khrebtov, V.A. Volkov
- 17:40 1-02** **MOMENTUM-SPACE ANALYSIS OF SUPRATHERMAL ELECTRONS GENERATION UNDER CONDITIONS OF GAS PUFFING DURING RUNAWAY TOKAMAK DISCHARGES** I.M. Pankratov, V.Y. Bochko

**18:00-19:00** Excursion to Museum

## Wednesday 12 September

### 9:15-11:15 SESSION VII (CONFERENCE HALL)

Chaired by I. Anisimov and O. Marchuk

- 9.15 I-11 COMMENTS ON RECENT ACHIEVEMENTS OF RESEARCH ON DENSE MAGNETIZED PLASMAS IN POLAND M.J. Sadowski
- 9.55 I-12 PREDICTED AND VALIDATED THEORETICAL RESULTS FOR STELLARATORS IN THE FRAME OF EUROFUSION WPS2  
F. Castejón and the EUROfusion WPS2 Team
- 10.35 I-13 MODELLING OF NEOCLASSICAL TOROIDAL VISCOUS TORQUE IN TOKAMAK PLASMAS WITH PERTURBED AXISYMMETRY  
C.G. Albert, M.F. Heyn, G. Kapper, S.V. Kasilov, W. Kernbichler, A.F. Martitsch

11.15-11.40 Coffee break

### 11.40- 13.00 SESSION VIII (CONFERENCE HALL)

Chaired by T. Seki and A. Czarnecka

- 11.40 I-14 ENERGY EQUATION IN THE PROBLEM OF ELECTRIC ARC PLASMA STATE DETERMINING V. Zhovtyansky, Yu. Lelyukh and Ya. Tkachenko
- 12.20 4-01 EFFECT OF PLASMA-OPTICAL SYSTEM ON CHARACTERISTICS OF LOW ENERGY DENSE ION PLASMA FLOW A. Goncharov, V. Bazhenov, A. Dobrovolskiy, I. Litovko, I. Naiko
- 12.40 6-05 DYNAMICS OF MACROPARTICLE IN A WEAKLY COLLISIONAL PLASMA E.V. Romashchenko, A.A. Bizyukov, I.O. Girka

13.00-14.30 Lunch

### 14.30-16.00 POSTER SESSION III (Conference hall) - 49 posters

- Topics:
- 1 - Magnetic confinement (reports 1-21 – 1-28)
  - 3 - Basic Plasma Physics (reports 3-09 – 3-13)
  - 4 - Plasma Dynamics and Plasma–Wall Interaction (reports 4-08 – 4-13)
  - 5 - Plasma Electronics (reports 5-19 -- 5-23)
  - 6 - Low Temperature Plasma and Plasma Technologies (reports 6-08; 6-10; 6-26; 6-36; 6-51; 6-52; 6-55 – 6-63; 6-66 –6-72)
  - 7 - Plasma Diagnostics (reports 7-09; 7-10; 7-11)

Poster Abstract

Title

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1. 1-21 AMPLIFICATION OF THE RUNAWAY ELECTRONS FLOW IN THE TORSATRON "URAGAN-3M" I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov, V.B. Korovin, A.V. Lozin, Yu.K. Mironov, V.S. Romanov, R.O. Pavlichenko, N.V. Zamanov, A.G. Kulaga, A.N. Shapoval, M.M. Makhov, I.G. Goncharov, V.M. Listopad, N.V. Lyamar
2. 1-22 INFLUENCE OF INJECTION OF IMPULSE GAS AND FLUCTUATIONS OF THE MAGNETIC FIELD ON THE RUNAWAY ELECTRONS DYNAMICS IN THE TORSATRON URAGAN-3M I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov, V.B. Korovin, A.V. Lozin, A.N. Shapoval, M.M. Makhov, Yu.K. Mironov, V.S. Romanov, R.O. Pavlichenko, N.V. Zamanov, I.G. Goncharov, V.M. Listopad, N.V. Lyamar

## Wednesday 12 September

Poster Abstract

Title

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|----------|-------------|--|
| 3.       | <u>1-23</u> | <b>MASS-SPECTROMETER DIAGNOSTICS ATTACHED TO CRYOGENIC NITROGEN TRAP</b> S.A. Tsibenko, E.D. Kramskoj, V.B. Korovin, A.V. Yevsyukov, A.V. Lozin, V.E. Moiseenko, G.A. Kholomyeyev, M.M. Kozulya, S.M. Maznichenko A.Yu. Krasnyuk, D.I. Baron, V.Yu. Grybanov and the Uragan-2M team.   |
| 4.       | <u>1-24</u> | <b>CONCERNING SPACE DISTRIBUTION OF THE ION ENERGY IN U-3M</b> O.V. Turianska, M. Dreval, A.S. Slavnyj   |
| 5.       | <u>1-25</u> | <b>COMPUTER SIMULATION OF ELECTRIC FIELD EVOLUTION NEAR HF ANTENNA INSIDE MAGNETIZED PLASMA</b> O.I. Kelnyk  |
| 6.       | <u>1-26</u> | <b>WALL CONDITIONING DISCHARGES DRIVEN BY T-SHAPED ANTENNA IN URAGAN-2M</b> A.V. Lozin, M.M. Kozulia, V.B. Korovin, A.A. Beletskii, G.P. Glazunov, A.L. Konotopskiy, D.I. Baron, V.E. Moiseenko, L.I. Grigor'eva, V.V. Chechkin, A.N. Shapoval, M.M. Makhov, V.G. Konovalov  |
| 7.       | <u>1-27</u> | <b>A SCENARIO OF PULSED ECRH WALL CONDITIONING IN HYDROGEN FOR THE WENDELSTEIN 7-X HELIAS</b> V.E. Moiseenko, A.A. Beletskii, T. Wauters, A. Gorjaev, R. Brakel, A. Dinklage, S. Brezinsek, T. Stange, H. Laqua, S. Lazersson and the W7-X Team  |
| 8.       | <u>1-28</u> | <b>TRITIUM BREEDING CALCULATION IN A STELLARATOR BLANKET</b> S.V. Chernitskiy, V. E. Moiseenko   |
| 9.       | <u>3-09</u> | <b>GROUP ANALYSIS OF CHARGED PARTICLE MOTION EQUATIONS IN CROSSED FIELDS</b> Yu.N. Yeliseyev   |
| 10.      | <u>3-10</u> | <b>MODELLING OF THE ELECTROMAGNETIC SURFACE WAVES PROPAGATION ON THE INTERFACE BETWEEN THE LEFT-HANDED METAMATERIAL AND THE DISSIPATIVE DIELECTRIC</b> V.K. Galaydych, N.A. Azarenkov, V.P. Olefir, A.E. Sporov  |
| 11.      | <u>3-11</u> | <b>LIMITS OF APPLICABILITY OF THE WEAKLY-RELATIVISTIC APPLICATION IN THEORY OF PLASMA WAVES</b> S.S. Pavlov, F. Castejon   |
| 12.      | <u>3-12</u> | <b>DISCRETIZED COLLISION OPERATOR FOR SIMULATIONS OF FUSION NON-MAXWELLIAN PLASMA RELAXATION</b> O.A. Shyshkin, D.V. Vozniuk, I.O. Girka   |
| 13.      | <u>3-13</u> | <b>ELECTROMAGNETIC MODEL OF GAS DISCHARGE IN LONG TUBE OF SLIGHTLY VARYING RADIUS</b> N.A. Azarenkov, V.P. Olefir, A.E. Sporov   |
| 14.      | <u>4-08</u> | <b>INFLUENCE OF DIFFERENT TYPES OF HYDROGEN TREATMENT ON HYDROGEN RETENTION AND RELEASE FROM 12X18H10T STEEL</b> M.N. Bondarenko, G.P. Glazunov, A.L. Konotopskiy, A.V. Lozin, V.E. Moiseenko, N.N. Aksenov I.E. Garkusha, S.S. Herashchenko, V.A. Makhhlaj  |
| 15.      | <u>4-09</u> | <b>ANOMALOUS DIFFUSION OF PLASMA IN THE LOWER HYBRID CAVITIES OBSERVED IN THE TERRESTRIAL IONOSPHERE</b> N.A. Azarenkov, D.V. Chibisov   |
| 16.      | <u>4-10</u> | <b>INFLUENCE OF MOVABLE B<sub>4</sub>C-LIMITER ON CHARACTERISTICS OF RF DISCHARGE PLASMA IN THE URAGAN-2M TORSATRON</b> G.P. Glazunov, A.V. Lozin, A.L. Konotopskiy, D.I. Baron, A.A. Beletskii, M.N. Bondarenko, V.V. Chechkin, M.B. Dreval, L.I. Grigor'eva, M.M. Kozulya, S.M. Maznichenko, V.E. Moiseenko, Yu. K. Mironov, R.O. Pavlichenko, V.S. Romanov, A.N. Shapoval |
| 17.      | <u>4-11</u> | <b>SPECTROSCOPIC STUDIES OF TUNGSTEN SAMPLES EXPOSED TO INTENSE DEUTERIUM AND ARGON PLASMA STREAMS</b> A. Marchenko, E. Skladnik-Sadowska, K. Nowakowska-Langier, D. Zaloga, M.J. Sadowski, V. Makhhlai  |

## Wednesday 12 September

Poster Abstract

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Title

18. 4-12 **DISCHARGE CHARACTERISTICS IN THE MPC CHANNEL IN PRESENCE OF EXTERNAL LONGITUDINAL MAGNETIC FIELD**  
D.G. Solyakov, Y.E. Volkova, T.N. Cherednychenko, M.S. Ladygina, A.K. Marchenko, Yu.V. Petrov, V.V. Chebotarev, V.A. Makhraj, D.V. Yeliseyev
19. 4-13 **PULSED ELECTROMAGNETIC GAS VALVES FOR HIGH-CURRENT PLASMA ACCELERATORS** V.V. Staltsov, V.V. Chebotarev, N.V. Kulik, V.A. Makhraj
20. 5-19 **HIGH-CURRENT RELATIVISTIC ELECTRON BEAM FOCUSING IN PLASMA** O.V. Manuilenko, A.V. Pashchenko
21. 5-20 **SELF-ACCELERATION OF ELECTRONS IN DIODE WITH PLASMA CATHODE. II RELATIVISTIC CASE** A.V. Pashchenko, I.A. Pashchenko
22. 5-21 **ELECTROMAGNETIC SURFACE WAVE EXCITATION AND ENERGY TRANSPORT ALONG A PLANE PLASMA BOUNDARY** I. Pavlenko, D. Melnyk, Ye. Velizhanina, O. Trush, I. Girka
23. 5-22 **INVESTIGATION OF PLASMA PARAMETERS AT INJECTION OF ADDITIONAL IMPULSE CAPACITY** A.S. Svichkar, V.B. Yuferov, V.V. Katrechko, I.V. Buravilov, A.N. Ozerov
24. 5-23 **FEATURES OF THE SPECTRA OF NONLINEAR OSCILLATORS IN REGIMES WITH DYNAMIC CHAOS** V.A. Buts, V.V. Kuzmin, A.P. Tolstoluzchsky
25. 6-51 **ON THE INFLUENCE OF ZIRCONIUM AND TANTALUM IMPURITIES ON THE TRANSPORT PROPERTIES OF MULTICOMPONENT THERMAL PLASMA** P.V. Porytskyy, L.M. Svyata
26. 6-52 **INFLUENCE OF COLD ATMOSPHERIC PLASMA OF MICRODISCHARGE ON FUNGAL MYCELIUM AND SPORES GROWING**  
Yu. Veremii, I. Andriiash, N. Tsvyd, O. Kolomiets, V. Chernyak, M. Sukhomlyn, Eu. Martysh
27. 6-55 **THE CONCEPTUAL DESIGN OF A DEMO-IMITATION SEPARATOR - THE MODEL OF A PLASMA MASS FILTER FOR IRRADIATED OXIDE URANIUM FUEL** V.B. Yuferov, V.O. Ilichova, V.V. Katrechko, S.V. Shariy, A.S. Svichkar, M.O. Shvets, V.I. Tkachov, D.V. Vinnikov, A.N. Ozerov
28. 6-56 **DESIGN AND RESEARCH OF COMBINED MAGNETRON-ION-BEAM SYSTEM SPUTTERING SYSTEM** S. Dudin, O. Tkachenko, A. Shchibrya, S. Yakovin, A. Zykov
29. 6-57 **INVESTIGATION OF INTERACTION BETWEEN ION-BEAM PLASMA AND PROCESSED SURFACE DURING THE SYNTHESIS OF TANTALUM DIBORIDE AND PENTAOXIDE** S. Yakovin, A. Zykov, S. Dudin, A. Dakhov, N. Yefymenko
30. 6-58 **PECULIARITIES OF THE OXIDE PLASMA CREATION USING CARBONATE COMPOUNDS** S.V. Shariy, V.B. Yuferov, M.O. Shvets, I.M. Korotkova, A.M. Shapoval, V.I. Tkachov, A.N. Ozerov
31. 6-59 **GENERATION OF SILVER NANOPARTICLES IN A PLASMA-LIQUID SYSTEM WITH A SECONDARY DISCHARGE SUPPORTED BY A ROTATING GLIDING DISCHARGE** V. Chernyak, V. Iukhymenko, K. Iukhymenko, O.V. Kolomiets, Y. Samchenko, A. Goriachko
32. 6-60 **INTERACTION OF LOW-ENERGY PROTONS WITH ALUMINUM SURFACE** O.A. Fedorovich, V.V. Hladkovskiy, L.M. Voitenko, E.G. Kostin, V.A. Petriakov, B.P. Polozov, A.A. Rokitskiy, A.S. Oberemok, V.V. Burdin

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Poster Abstract

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33. 6-61 **PECULIARITIES OF INTERACTION OF LOW-ENERGY PROTONS WITH MOLYBDENUM SURFACE** O.A. Fedorovich, V.V. Hladkovskiy, E.G. Kostin, V.A. Petriakov, B.P. Polozov, A.A. Rokitskiy, L.M. Voitenko, A.S. Oberemok
34. 6-62 **INVESTIGATION OF NONEQUILIBRIUM IN PLASMA OF ARC DISCHARGE BETWEEN MELTING ELECTROD** S.O. Fesenko, M.M. Kleshich, A.N. Veklich
35. 6-63 **SPECTROSCOPY OF HETEROPHASE PLASMA OF ELECTRIC ARC DISCHARGE BETWEEN W AND MO ELECTRODES** A.V. Lebid, A.N. Veklich, J.O. Belimenko
36. 6-08 **PLASMA OF ARC DISCHARGE BETWEEN MELTING Cu AND Ni ELECTRODES** M.M. Kleshich, A.N. Veklich, S.O. Fesenko, V.F. Boretskij, L.A. Kryachko
37. 6-10 **PLASMA OF UNDERWATER ELECTRIC DISCHARGES WITH METAL VAPORS** V.F. Boretskij, A.N. Veklich, T.A. Tmenova, Y. Cressault, F. Valensi, K.G. Lopatko, Y.G. Aftandilyants
38. 6-26 **SIMULATION OF NANOPARTICLE DEPOSITION FROM PLASMAS ON SOLID SURFACE** M. Bondar, O. Yu. Kravchenko
39. 6-36 **COAGULATION AND DYNAMICS NANOPARTICLES IN LOW PRESSURE PLASMA JETS** O.Yu. Kravchenko, I.S. Maruschak
40. 6-66 **INVESTIGATION OF ABRASIVE WEAR OF DIAMOND-LIKE COATINGS FOR SILICON CARBID SEALING RINGS** V.V. Vasyliiev, A.A. Luchaninov, V.E. Strel'nitskij
41. 6-67 **METHOD FOR MEASURING EXTERNAL AND INTERNAL PARAMETERS OF PLASMA WITH UNGROUNDED GAS DISCHARGE ELECTRODES** A.G. Chunadra, K.N. Sereda, I.K. Tarasov
42. 6-68 **STRUCTURE AND PROPERTIES OF TiO<sub>x</sub> AND TiN<sub>x</sub>O<sub>y</sub> COATINGS FORMED IN VACUUM ARC PLASMA FLUXES** V.A. Belous, A.S. Kuprin, V.M. Lunyov
43. 6-69 **PROBE MEASUREMENTS OF PARAMETERS OF DENSE GAS-METALLIC PLASMA IN THE INHOMOGENEOUS MAGNETIC FIELD OF A PLANAR MAGNETRON DISCHARGE** A.G. Chunadra, K.N. Sereda, I.K. Tarasov
44. 6-70 **HYDROGEN-REDUCTION OF SILICON TETRACHLORIDE IN A LOW-TEMPERATURE NONEQUILIBRIUM PLASMA OF A HIGH-FREQUENCY INDUCTION DISCHARGE** O.Yu. Zhuravlov, A.M. Derizemiya, V.I. Radchenko, D.A. Khizhnyak, B.M. Shirokov, M.O. Semenov, O.V. Shijan, S.V. Strigunovskiy, O.I. Yevsiukov
45. 6-71 **STUDY OF DEGRADATION MECHANISM OF METAL-CUTTING TOOLS AND THEIR HARDENING BY ZrN PVD COATINGS** S.P. Romaniuk, T.S. Skoblo, A.I. Sidashenko, I.E. Garkusha, V.S. Taran, A.V. Taran
46. 6-72 **COMPLEX EVALUATION OF STRUCTURAL STATE DEGREE OF CUTTING KNIVES STRENGTHENED BY PVD NANOCOMPOSITE COATINGS** S.P. Romaniuk, T.S. Skoblo, A.I. Sidashenko, I.E. Garkusha, V.S. Taran, A.V. Taran
47. 7-09 **COMPARATIVE ANALYSIS OF THE REFRACTION OF MICROWAVES AT DIFFERENT FREQUENCIES IN AN INHOMOGENEOUS PLASMA OF A HIGH POWER IMPULSE REFLEX DISCHARGE** Yu.V. Kovtun, Y.V. Siusko, E.I. Skibenko

## Wednesday 12 September

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48.	<u>7-10</u>	<b>DEVELOPMENT AND CALIBRATION OF HIGH-FREQUENCY MAGNETIC PROBES</b> V.K. Pashnev, I.K. Tarasov, D.A. Sitnikov, E.L. Sorokovoy, A.A. Petrushenja, V.B. Korovin, V. Bobkov, R. Ochoukov, I. Shesterikov
49.	<u>7-11</u>	<b>FEATURES OF THE DYNAMICS OF SUPRATHERMAL ELECTRONS AFTER RF HEATING OFF AT THE URAGAN-3M TORSATRON</b> N.V. Zamanov, R.O. Pavlichenko, A.E. Kulaga and Uragan-3M Team

**15.40-16.00 Coffee break**

**16.00-18.00 SESSION IX (CONFERENCE HALL)**

**Chaired by K. Nowakowska-Langier and V. Voitsenya**

16:00	<u>1-15</u>	<b>SPECTROSCOPY OF PLASMA WITH METAL VAPOR ADMIXTURES</b> A.N. Veklich, M.M. Kleshich, S.O. Fesenko, V.F. Boretskij, V.Ye. Osidach, A.V. Lebid, A.I. Ivanisik, T.A. Tmenova, Y. Cressault, F. Valensi, K.G. Lopatko, Y.G. Aftandilyants
16:40	<u>6-06</u>	<b>PVD COATINGS FOR MEDICAL DEVICE APPLICATIONS: A BRIEF REVIEW</b> V.S. Taran, R.M. Muratov, Yu.N. Nezovibat'ko, A.V. Taran
17:00	<u>6-04</u>	<b>KINETICS OF PROCESSES IN AIR PLASMA DISCHARGES AT ATMOSPHERIC PRESSURE IN THE TRANSVERSE FLOW OF GAS</b> V.Ya. Chernyak, O.M. Tsymbaliuk, V.V. Iukhymenko, O.V. Kolomiets, D.S. Levko
17:20	<u>6-03</u>	<b>EXPERIMENTAL INVESTIGATION OF ARC COLUMN EXPANSION GENERATED BY HIGH-ENERGY SPARK IGNITION SYSTEM</b> K. Korytchenko, AjmaniSanchit, A. Kasimov, D. Dubinin, R. Meleshchenko
17:40	<u>6-01</u>	<b>FEATURES OF ATMOSPHERIC PRESSURE DISCHARGES WITH A TRANSVERSE COMPONENT OF THE VELOCITY OF GAS FLOW TO THE CURRENT CHANNEL</b> V. Chernyak, V. Iukhymenko, K. Iukhymenko, N. Klochok, O. Kolomiiets, D. Chernolutsky
18:00	<u>3-02</u>	<b>FLUCTUATIONS AND ION-ACOUSTIC WAVES IN COLLISIONAL DUSTY PLASMA: EFFECTS OF GRAIN CHARGING DYNAMICS</b> A.I. Momot, A.G. Zagorodny

**18:40-22:00 Conference Dinner**





## LIST OF PARTICIPANTS

### AUSTRIA

*Graz University of Technology Graz, Austria*

Albert C.G. [albert@tugraz.at](mailto:albert@tugraz.at)

### EU

*EUROfusion*

Donné T. [tony.donne@euro-fusion.org](mailto:tony.donne@euro-fusion.org)

### GERMANY

*Max Planck Institute for Plasma Physics,  
Greifswald, Germany*

Mishchenko A.

[Alexey.Mishchenko@ipp.mpg.de](mailto:Alexey.Mishchenko@ipp.mpg.de)

*Forschungszentrum Julich, EURATOM  
Association, Julich, Germany*

Marchuk O. [o.marchuk@fz-juelich.de](mailto:o.marchuk@fz-juelich.de)

### INDIA

*Government General Degree College,  
Kushmandi, Dakshin Dinajpur, India*

Chandra Swarniv [swarniv147@gmail.com](mailto:swarniv147@gmail.com)

### JAPAN

*National Institute for Fusion Science, Oroshi  
322-6, Toki 509-5292*

Seki T. [seki@nifs.ac.jp](mailto:seki@nifs.ac.jp)

### POLAND

*National Centre for Nuclear Research  
(NCBJ), 05-400 Otwock-Swierk*

Sadowski M. [msadowski@ncbj.gov.pl](mailto:msadowski@ncbj.gov.pl)

Nowakowska-Langier K.

[katarzyna.nowakowska-langier@njbj.gov.pl](mailto:katarzyna.nowakowska-langier@njbj.gov.pl)

*Institute of Plasma Physics and Laser  
Microfusion(IPPLM), Warsaw*

Kubkowska M.

[monika.kubkowska@ifpilm.pl](mailto:monika.kubkowska@ifpilm.pl)

Czarnecka A. [agata.czarnecka@ifpilm.pl](mailto:agata.czarnecka@ifpilm.pl)

Pelka G. [grzegorz.pelka@ifpilm.pl](mailto:grzegorz.pelka@ifpilm.pl)

### SPAIN

*Laboratorio Nacional deFusion, CIEMAT,  
28040, Madrid*

Castejón F. [francisco.castejon@ciemat.es](mailto:francisco.castejon@ciemat.es)

### UKRAINE

*Kharkiv Petro Vasylenko National Technical  
University of Agriculture, Kharkov*

Maltsev T. [taras.maltsev@gmail.com](mailto:taras.maltsev@gmail.com)

Romaniuk S. [romaniuk.khntusg@gmail.com](mailto:romaniuk.khntusg@gmail.com)

*Institute for Electrophysics and Radiation  
Technologies of the NASU, Kharkov*

Klepikov V.F. [ntcefo@yahoo.com](mailto:ntcefo@yahoo.com)

Donets S.E. [ie@kipt.kharkov.ua](mailto:ie@kipt.kharkov.ua)

*National Polytechnic University, Kharkov*

Korytchenko K. [korytchenko\\_kv@ukr.net](mailto:korytchenko_kv@ukr.net)

Malykhin S.V. [malykhin@kpi.kharkov.ua](mailto:malykhin@kpi.kharkov.ua)

Bolyukh V.F.

*V.N. Karazin Kharkiv National University,  
Kurchatov av. 31, 61108, Kharkov*

Azarenkov N.A. [azarenkov@pem.kharkov.ua](mailto:azarenkov@pem.kharkov.ua)

Balkova Yu. [jkrestovska@gmail.com](mailto:jkrestovska@gmail.com)

Bizyukov A. [bizyukov@mail.ru](mailto:bizyukov@mail.ru)

Bochko V.Y. [v.y.bochko@gmail.com](mailto:v.y.bochko@gmail.com)

Chibisov A. [chibisov.alexandr@mail.ru](mailto:chibisov.alexandr@mail.ru)

Chibisov D. [chibisovdm@mail.ru](mailto:chibisovdm@mail.ru)

Dakhov A. [alex.dakhov@gmail.com](mailto:alex.dakhov@gmail.com)

Denysenko I.B. [idenysenko@yahoo.com](mailto:idenysenko@yahoo.com)

Dudin S. [stanislav\\_dudin@rambler.ru](mailto:stanislav_dudin@rambler.ru)

Gapon A. [gapon@bk.ru](mailto:gapon@bk.ru)

Galaydych V.K. [vkgala@yahoo.com](mailto:vkgala@yahoo.com)

Girka I.O. [igorgirka@karazin.ua](mailto:igorgirka@karazin.ua)

Chunadra A. [chuncham@yandex.ru](mailto:chuncham@yandex.ru)

Grishanov N.I. [n.i.grishanov@gmail.com](mailto:n.i.grishanov@gmail.com)

Hrechko Ya. [yarikgrechko@mail.ru](mailto:yarikgrechko@mail.ru)

Lisovskiy V.O. [lisovskiy@yahoo.com](mailto:lisovskiy@yahoo.com)

Marchuk Yu. [yramarchuk@ukr.net](mailto:yramarchuk@ukr.net)

Marushchenko I.

[i.marushchenko@karazin.ua](mailto:i.marushchenko@karazin.ua)

Ivko S. [sergey-ivko@yandex.ua](mailto:sergey-ivko@yandex.ua)

Pavlenko I.V. [ivan.pavlenko@gmail.com](mailto:ivan.pavlenko@gmail.com)

Romashchenko E. [romaschenko@bk.ru](mailto:romaschenko@bk.ru)

Tishchenko L. [vbobkov@mail.ru](mailto:vbobkov@mail.ru),

[plipftf@mail.ru](mailto:plipftf@mail.ru)

Sereda I. [igorsereda@karazin.ua](mailto:igorsereda@karazin.ua)

Sereda K. [knsereda@karazin.ua](mailto:knsereda@karazin.ua)

Sporov A. [sporov@karazin.ua](mailto:sporov@karazin.ua)

Starovoytov R.I. [starovoytov@karazin.ua](mailto:starovoytov@karazin.ua)

Volkova Yu. [y.e.volkova.kh@gmail.com](mailto:y.e.volkova.kh@gmail.com)

Vozniuk D.V. [dmytro.v.vozniuk@gmail.com](mailto:dmytro.v.vozniuk@gmail.com)

Zykov A. [zykov@karazin.ua](mailto:zykov@karazin.ua)

National Aerospace University “KhAI”, 17  
Chkalov str., Kharkov, 61070, Ukraine

Liesnoi V. [Viktor.Liesnoi@gmail.com](mailto:Viktor.Liesnoi@gmail.com),  
[V.Liesnoi@khai.edu](mailto:V.Liesnoi@khai.edu)  
Plankovsky S.I. [sergplank@gmail.com](mailto:sergplank@gmail.com)

*NSC KIPT of the NASU*  
*Akademicheskaya St.1, 61108, Kharkov*

Kuznetsova T.E.  
Mikhailov V.A.  
Volobuyev A.V. [a.volobuyev@kipt.kharkov.ua](mailto:a.volobuyev@kipt.kharkov.ua)

*Institute of high-energy physics and nuclear  
physics*

Cherenshchykov S.  
[cherench@kipt.kharkov.ua](mailto:cherench@kipt.kharkov.ua)

*Institute of Solid-State Physics, Materials  
Science and Technologies of the NSC KIPT*

Kalinichenko A.  
[aikalinichenko@kipt.kharkov.ua](mailto:aikalinichenko@kipt.kharkov.ua)  
Kuprin A.S. [kuprin@kipt.kharkov.ua](mailto:kuprin@kipt.kharkov.ua)  
Omarov A.O. [luchaninov@kipt.kharkov.ua](mailto:luchaninov@kipt.kharkov.ua)  
Opalev O. [strelnitskij@kipt.kharkov.ua](mailto:strelnitskij@kipt.kharkov.ua)  
Reshetnyak E. [reshetnyak@kipt.kharkov.ua](mailto:reshetnyak@kipt.kharkov.ua)  
Safonov V.I. [v\\_safonov@kipt.kharkov.ua](mailto:v_safonov@kipt.kharkov.ua)  
Shirokov B. [shirokov@kipt.kharkov.ua](mailto:shirokov@kipt.kharkov.ua)  
Strelnytskiy V. [strelnitskij@kipt.kharkov.ua](mailto:strelnitskij@kipt.kharkov.ua)  
Vasyliov V.V. [luchaninov@kipt.kharkov.ua](mailto:luchaninov@kipt.kharkov.ua)  
Volkov Yu.Y. [yvolkov@kipt.kharkov.ua](mailto:yvolkov@kipt.kharkov.ua)  
Zhuravlov O. Yu. [Girik081179@gmail.com](mailto:Girik081179@gmail.com)

*“Nuclear Fuel Cycle” Science and  
Technology Establishment of the NSC KIPT*

Chernitskiy S. [alf@kipt.kharkov.ua](mailto:alf@kipt.kharkov.ua)

*Institute of Plasma Electronics and New  
Methods of Acceleration of the NSC KIPT*

Antipov V.S. [antipov@kipt.kharkov.ua](mailto:antipov@kipt.kharkov.ua)  
Balakirev V.A. [onish@kipt.kharkov.ua](mailto:onish@kipt.kharkov.ua)  
Buts V.A. [vbuts@kipt.kharkov.ua](mailto:vbuts@kipt.kharkov.ua)  
Ilichova V.O. [ilichovav@gmail.com](mailto:ilichovav@gmail.com)  
Katrechko V. [katrechko.v@mail.ru](mailto:katrechko.v@mail.ru)  
Karelin S. Yu. [onish@kipt.kharkov.ua](mailto:onish@kipt.kharkov.ua)  
Linnik A.F. [aflinnik@kipt.kharkov.ua](mailto:aflinnik@kipt.kharkov.ua)  
Lonin Yu. F. [lonin@kipt.kharkov.ua](mailto:lonin@kipt.kharkov.ua)  
Manuilenko O. [ovm@kipt.kharkov.ua](mailto:ovm@kipt.kharkov.ua)  
Markov P. I. [pmarkov@kipt.kharkov.ua](mailto:pmarkov@kipt.kharkov.ua)  
Martynenko P.A.  
[martynenkopetr91@gmail.com](mailto:martynenkopetr91@gmail.com)  
Maslov V.I. [vmaslov@kipt.kharkov.ua](mailto:vmaslov@kipt.kharkov.ua)  
Onishchenko I.N. [onish@kipt.kharkov.ua](mailto:onish@kipt.kharkov.ua)  
Ostroushko V. [ostroushko-v@kipt.kharkov.ua](mailto:ostroushko-v@kipt.kharkov.ua)

Ozerov A. [ozеров@kipt.kharkov.ua](mailto:ozеров@kipt.kharkov.ua)  
Pashchenko A. [pasta4@ukr.net](mailto:pasta4@ukr.net)  
Shariy S. [v.yuferov@kipt.kharkov.ua](mailto:v.yuferov@kipt.kharkov.ua)  
Sotnikov G.V. [sotnikov@kipt.kharkov.ua](mailto:sotnikov@kipt.kharkov.ua)  
Svichkar A.S. [v.yuferov@kipt.kharkov.ua](mailto:v.yuferov@kipt.kharkov.ua)  
Tkachova T. [t.i.tkachova@gmail.com](mailto:t.i.tkachova@gmail.com)  
Tolstoluzhsky A.P.  
[tolstoluzhsky@kipt.kharkov.ua](mailto:tolstoluzhsky@kipt.kharkov.ua)  
Vinnikov D. [vinniden@mail.ru](mailto:vinniden@mail.ru)  
Yuferov V. [v.yuferov@kipt.kharkov.ua](mailto:v.yuferov@kipt.kharkov.ua)

*Institute of Plasma Physics of the NSC KIPT*

Berezhnyj V.L. [voitseny@ipp.kharkov.ua](mailto:voitseny@ipp.kharkov.ua)  
Bondarenko M. [micha@kipt.kharkov.ua](mailto:micha@kipt.kharkov.ua)  
Bondarenko V. [ynbondarenko65@mail.ru](mailto:ynbondarenko65@mail.ru)  
Byrka O. [byrka@kipt.kharkov.ua](mailto:byrka@kipt.kharkov.ua)  
Chebotarev V.V. [chebotarev@kipt.kharkov.ua](mailto:chebotarev@kipt.kharkov.ua)  
Chechkin V.V. [chechkin@ipp.kharkov.ua](mailto:chechkin@ipp.kharkov.ua)  
Dreval' N.B. [mdreval@kipt.kharkov.ua](mailto:mdreval@kipt.kharkov.ua)  
Garkusha I.E. [garkusha@ipp.kharkov.ua](mailto:garkusha@ipp.kharkov.ua)  
Glazunov G.P. [glazunov@kipt.kharkov.ua](mailto:glazunov@kipt.kharkov.ua)  
Cherednychenko T.  
[cherednichenko@kip.kharkov.ua](mailto:cherednichenko@kip.kharkov.ua)  
Grekov D.L. [grekov@kipt.kharkov.ua](mailto:grekov@kipt.kharkov.ua)  
Grigor'eva L.I. [grigor'eva@kipt.kharkov.ua](mailto:grigor'eva@kipt.kharkov.ua)  
Gubarev S.P. [gubarev@kipt.kharkov.ua](mailto:gubarev@kipt.kharkov.ua)  
Herashchenko S.S.  
[gerashchenko@kipt.kharkov.ua](mailto:gerashchenko@kipt.kharkov.ua)  
Kalyuzhnyj V.N.  
[kalyuzhnyj@kipt.kharkov.ua](mailto:kalyuzhnyj@kipt.kharkov.ua)  
Komarov A.D. [komarov@kipt.kharkov.ua](mailto:komarov@kipt.kharkov.ua)  
Konovalov V. [konovalov@ipp.kharkov.ua](mailto:konovalov@ipp.kharkov.ua)  
Kotenko V. [kotenko@kipt.kharkov.ua](mailto:kotenko@kipt.kharkov.ua)  
Kovtun Yu.V. [Ykovtun@kipt.kharkov.ua](mailto:Ykovtun@kipt.kharkov.ua)  
Krupnik L.I. [krupnik@ipp.kharkov.ua](mailto:krupnik@ipp.kharkov.ua)  
Kulyk Yu.S. [stadnikys@kipt.kharkov.ua](mailto:stadnikys@kipt.kharkov.ua)  
Ladygina M.S. [ladyginams@kipt.kharkov.ua](mailto:ladyginams@kipt.kharkov.ua)  
Leleko Y.F. [yakovleleko@gmail.com](mailto:yakovleleko@gmail.com)  
Lozin A.V. [lozin@kipt.kharkov.ua](mailto:lozin@kipt.kharkov.ua)  
Lozina A. [vtaran@ipp.kharkov.ua](mailto:vtaran@ipp.kharkov.ua)  
Makhlay V.A. [makhlay@ipp.kharkov.ua](mailto:makhlay@ipp.kharkov.ua)  
Marchenko A.K.  
[marchenkoak@kipt.kharkov.ua](mailto:marchenkoak@kipt.kharkov.ua)  
Maznichenko M.E. [maz@kipt.kharkov.ua](mailto:maz@kipt.kharkov.ua)  
Maznichenko S.M. [maz@kipt.kharkov.ua](mailto:maz@kipt.kharkov.ua)  
Misiruk I. [ivanmisiruk@gmail.com](mailto:ivanmisiruk@gmail.com)  
Moiseenko V.E. [moiseenk@ipp.kharkov.ua](mailto:moiseenk@ipp.kharkov.ua)  
Muratov R. [muratov@mail.kipt.kharkov.ua](mailto:muratov@mail.kipt.kharkov.ua)  
Pankratov I.M. [pankratov@kipt.kharkov.ua](mailto:pankratov@kipt.kharkov.ua)  
Pashnev V.K. [pashnev@ipp.kharkov.ua](mailto:pashnev@ipp.kharkov.ua)  
Pavlichenko R.O. [ssslavik@kipt.kharkov.ua](mailto:ssslavik@kipt.kharkov.ua)  
Pavlov S.S. [pavlovss@ipp.kharkov.ua](mailto:pavlovss@ipp.kharkov.ua)  
Petrov Yu.V. [yu\\_pertoff@kipt.kharkov.ua](mailto:yu_pertoff@kipt.kharkov.ua)  
Rudakov V.A. [rudakov@ipp.kharkov.ua](mailto:rudakov@ipp.kharkov.ua)

Solyakov D. [solyakov@ipp.kharkov.ua](mailto:solyakov@ipp.kharkov.ua)  
Shchebetun A. [schebetun@inbox.ru](mailto:schebetun@inbox.ru)  
Staltsov V. [staltsov@kipt.kharkov.ua](mailto:staltsov@kipt.kharkov.ua)  
Olshansky V. [Olshansky@ipp.kharkov.ua](mailto:Olshansky@ipp.kharkov.ua)  
Taran V.S. [vtaran@ipp.kharkov.ua](mailto:vtaran@ipp.kharkov.ua)  
Tarasov I.K. [itarasov@ipp.kharkov.ua](mailto:itarasov@ipp.kharkov.ua)  
Timoshenko A. [timoshen@yandex.ru](mailto:timoshen@yandex.ru)  
Tkachenko L.K. [ltkachenko@kipt.kharkov.ua](mailto:ltkachenko@kipt.kharkov.ua)  
Tsibenko S.A. [tsibenko@kipt.kharkov.ua](mailto:tsibenko@kipt.kharkov.ua)  
Skoryna E. [elenka@kipt.kharkov.ua](mailto:elenka@kipt.kharkov.ua)  
Voitsenya V.S. [voitseny@ipp.kharkov.ua](mailto:voitseny@ipp.kharkov.ua)  
Yeliseyev Yu. [eliseev2004@rambler.ru](mailto:eliseev2004@rambler.ru)  
Zamanov N. [zamanov@kipt.kharkov.ua](mailto:zamanov@kipt.kharkov.ua)

*Bogolyubov Institute for Theoretical Physics  
Metrologichna str. 14b, 252143Kiev*

Cherniak O. [anchernyak@bitp.kiev.ua](mailto:anchernyak@bitp.kiev.ua)  
Zagorodny A.G. [azagorodny@bitp.kiev.ua](mailto:azagorodny@bitp.kiev.ua)  
Zasenko V. [zasenko@bitp.kiev.ua](mailto:zasenko@bitp.kiev.ua)

*The Gas Institute, NASU, Degtyarevskaya St.  
39, 252113 Kiev*

Zhovtyansky V.A. [zhovt@ukr.net](mailto:zhovt@ukr.net)

*Institute for Nuclear Research of NASU Nauki  
prosp. 47 252022 Kiev*

Borisenko A.G. [boris@kinr.kiev.ua](mailto:boris@kinr.kiev.ua)  
Fedorovich O.A. [interdep@kinr.kiev.ua](mailto:interdep@kinr.kiev.ua)  
Kolesnichenko Ya.I. [yk@kinr.kiev.ua](mailto:yk@kinr.kiev.ua)  
Litovko I. [ilitovko@ukr.net](mailto:ilitovko@ukr.net)  
Gurin A. [aagurin@ukr.net](mailto:aagurin@ukr.net)  
Panchenko V.G. [vpanch@kinr.kiev.ua](mailto:vpanch@kinr.kiev.ua)  
Porytsky P.V. [poryts@kinr.kiev.ua](mailto:poryts@kinr.kiev.ua)  
Tykhyy A. [tykhyy@kinr.kiev.ua](mailto:tykhyy@kinr.kiev.ua)  
Tyshchenko M. [tyshchenko@kinr.kiev.ua](mailto:tyshchenko@kinr.kiev.ua)  
Svyata L.M. [lsvjat@kinr.kiev.ua](mailto:lsvjat@kinr.kiev.ua)

*National Technical University of Ukraine  
"Igor Sikorsky Kyiv Polytechnic Institute"*

Kuzmichev A. [A.Kuzmichev@edd.ntu-kpi.kiev.ua](mailto:A.Kuzmichev@edd.ntu-kpi.kiev.ua)  
Maikut S.O. [s.maikuta@kpi.ua](mailto:s.maikuta@kpi.ua)

*Institute of Physics of NASU Nauki prosp. 46,  
252022 Kiev*

Gubarev S. [gubarev@iop.kiev.ua](mailto:gubarev@iop.kiev.ua)  
Naiko I. [irynanaiko@gmail.com](mailto:irynanaiko@gmail.com)

*Taras Shevchenko Kyiv National University,  
Volodimirska str. 64, 01033 Kiev*

Anisimov I.O. [ioa@univ.kiev.ua](mailto:ioa@univ.kiev.ua)  
Boretskij V. [boretskij@univ.kiev.ua](mailto:boretskij@univ.kiev.ua)  
Chernyak V. [chernyak\\_v@ukr.net](mailto:chernyak_v@ukr.net)  
Dadyka D. [d.dadyka@gmail.com](mailto:d.dadyka@gmail.com)  
Fedirchik I. [igor.fedirchik@univ.net.ua](mailto:igor.fedirchik@univ.net.ua)  
Fesenko S. [fesenko.freks@gmail.com](mailto:fesenko.freks@gmail.com)  
Iukhymenko V. [yvitaliy@ukr.net](mailto:yvitaliy@ukr.net)  
Kelnyk A.I. [oles@univ.kiev.ua](mailto:oles@univ.kiev.ua)  
Kleshich M. [techno\\_01@ukr.net](mailto:techno_01@ukr.net),  
[van@univ.kiev.ua](mailto:van@univ.kiev.ua)  
Kolomiets O. [oksana\\_solomenko@ukr.net](mailto:oksana_solomenko@ukr.net)  
Kravchenko A.Yu. [kay@univ.kiev.ua](mailto:kay@univ.kiev.ua)  
Lebid A. [tgctg@yandex.ru](mailto:tgctg@yandex.ru)  
Maruschak I. [ivan.maruschak@gmail.com](mailto:ivan.maruschak@gmail.com)  
Momot A. [momot.andriy@gmail.com](mailto:momot.andriy@gmail.com)  
Nedybaliuk O. [oanedybaliuk@gmail.com](mailto:oanedybaliuk@gmail.com)  
Veklich A.N. [van@univ.kiev.ua](mailto:van@univ.kiev.ua)  
Veremii Yu. [veremii@i.ua](mailto:veremii@i.ua)  
Vynnyk O. [alexander.vynnyk@gmail.com](mailto:alexander.vynnyk@gmail.com)

*Odessa National I.I. Mechnikov's University,  
Odessa, Ukraine*

Orlovskaya S.G. [svetor25@gmail.com](mailto:svetor25@gmail.com)

*Uzhhorod National University,  
Universytetska str. 14, 88000 Uzhhorod*

Malinina A. [antonina.malinina@uzhnu.edu.ua](mailto:antonina.malinina@uzhnu.edu.ua)

USA

*Center for Materials Under Extreme  
Environment (CMUXE), School of Nuclear  
Engineering,  
Purdue University West Lafayette, IN, 47907*

Hassanein A. [hassanein@purdue.edu](mailto:hassanein@purdue.edu)  
Sunahara A. [asunahar@purdue.edu](mailto:asunahar@purdue.edu)

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