

Alushta-2012

International Conference & School
on Plasma Physics and
Controlled Fusion
and

The Adjoint Workshop
"Nano- and micro-sized
structures in plasmas"



PROGRAM and LIST of PARTICIPANTS

*Alushta (Crimea), Ukraine
September 17-22, 2012*



Unterstützt von / Supported by



Alexander von Humboldt
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Monday 17 September

9.10-11.15 SESSION I (Hall A)

Chaired by I. Neklyudov and A. Zagorodny

9.10

Opening Ceremony

- 9.30 I-02 **RF DISCHARGE DYNAMICS WITH PASSING OVER L- AND H-LIKE MODE STATES IN THE URAGAN-3M TORSATRON**
V. V. Chechkin, I. M. Pankratov, L. I. Grigor'eva, A. A. Beletskii, A. A. Kasilov, V. Ye. Moiseenko, V. K. Pashnev, P. Ya. Burchenko, A. V. Lozin, S. A. Tsybenko, A. S. Slavnyj, N. B. Dreval, A. P. Litvinov, A. Ye. Kulaga, R. O. Pavlichenko, N. V. Zamanov, Yu. K. Mironov, V. S. Romanov, S. M. Maznichenko, Ye. D. Volkov
- 10.05 I-19 **CHARACTERISTICS OF ENERGETIC-PARTICLE DRIVEN GAM IN THE LARGE HELICAL DEVICE**
T. Ido, A. Shimizu, M. Osakabe, M. Nishiura, K. Toi, M. Nakamura, R. Makino, Y. Yoshimura, K. Itoh, S. Satake, S. Kato, and LHD experiment group
- 10.40 I-06 **GEODESIC ACOUSTIC MODE AND ALFVEN EIGENMODES IN TOKAMAKS WITH HIGH $q^2\beta$**
Ya. I. Kolesnichenko, Yu. V. Yakovenko, O. P. Fesenyuk

11.15-11.40 Coffee Break

11.50- 13.55 SESSION II (Hall A)

Chaired by N. Azarenkov and V. Voitsenya

- 11.40 I-09 **ADVANCED MODELS FOR ELECTRON CYCLOTRON CURRENT DRIVE**
N. B. Marushchenko, C. D. Beidler, H. Maassberg
- 12.15 2-04 **MODELLING OF ICRF HEATING AND CURRENT DRIVE IN TOKAMAK PLASMA WITH TWO ION SPECIES**
D. L. Grekov, S. V. Kasilov, K. K. Tretyak
- 12.35 2-01 **EFFECT OF THE MINORITY IONS ON THE ICRF HEATING OF FUSION PLASMAS**
I. V. Pavlenko, I. O. Girka, B. I. Leviga
- 12.55 9-01 **BEHAVIOUR OF ELECTRON CYCLOTRON EMISSION FOR OPTICALLY THIN PLASMAS DURING VARIOUS RF PLASMA PRODUCTION SCENARIOS AT URAGAN-3M TORSATRON**
R. O. Pavlichenko, A. E. Kulaga, N. V. Zamanov, V. Ye. Moiseenko, A. V. Lozin, Yu. K. Mironov, V. S. Romanov, V. V. Chechkin, L. I. Grigor'eva
- 13.15 9-02 **DEVELOPMENT AND USE OF CHERENKOV-TYPE DETECTORS FOR MEASUREMENTS OF FAST ELECTRONS IN TOKAMAKS**
J. Zebrowski, L. Jakubowski, M. J. Sadowski, M. Rabinski, K. Malinowski, R. Mirowski, M. Jakubowski, V. V. Plyusnin, Ph. Lotte and J-Y. Pascal
- 13.35 6-03 **RECENT ADVANCES OF LITHIUM PROGRAM T-11M**
V. B. Lazarev, Mirnov S. V., N. T. Djigailo, A. N. Kostina, V. M. Nesterenko, Vertkov A. V., Lyublinski I. E.

14.00-15.00 Lunch

Monday 17 September

16.45-17.00 Coffee break

17.00-19.00 SESSION III (Hall A)

Chaired by H. Kotaki and A. Yegorov

- 17.00 7-01 **INVESTIGATION OF PLASMA LENSES IN NSC KIPT**
I.N.Onishchenko
- 17.20 7-02 **STABILIZATION OF CLASSIC AND QUANTUM SYSTEMS**
V.A. Buts
- 17.40 7-03 **LOW PRESSURE DISCHARGE INITIATED BY MICROWAVE RADIATION WITH STOCHASTICALLY JUMPING PHASE**
A.M. Artamoshkin, A.F. Alisov, O.V. Bolotov, V.I. Golota, V.I. Karas`, I.V. Karas`, A.M. Yegorov, I.A. Zagrebelny, I.F. Potapenko, V. Karas`
- 18.00 7-05 **SPECTRUM CONTROL IN THE COURSE OF MICROWAVE NANOSECOND PULSE IN SUBGIGAWATT POWER LEVEL PLASMA RELATIVISTIC MICROWAVE OSCILLATOR**
D.K.Ulyanov, O.T.Loza, R.V.Baranov
- 18.20 7-06 **EXCITATION OF THE QUASISTATIONARY WAKEWAVE FIELD BY ELECTRON BUNCH IN PLASMA**
Yu.M. Tolochkevich, T.E. Litoshenko, I.O. Anisimov
- 18.40 8-02 **PARTICULARITIES OF THE NEGATIVE STREAMER PROPAGATION IN HOMOGENEOUS AND INHOMOGENEOUS ELECTRIC FIELDS. COMPUTER SIMULATION**
O.V. Manuilenko, V.I.Golota

19.30-22.30 WELCOME PARTY

Tuesday 18 September

9.30-11.15 SESSION IV AND ADJOINT WORKSHOP (Hall A) Chaired by I. Stefanovic and S. Popel

- 9.30 I-18 **KINETIC DESCRIPTION OF DUSTY PLASMAS AND EFFECTIVE GRAIN POTENTIALS**
A.G. Zagorodny
- 10.05 I-17 **ON THE USE OF DUST PARTICLES AS MICRO-PROBES IN PROCESS PLASMAS**
H. Kersten
- 10.40 I-16 **THE FORMATION OF NANOPARTICLES AND NANOCOMPOSITES IN REACTIVE PLASMAS**
J. Berndt, E.Kovacevic, L.Boufendi

11.15-11.40 Coffee break

11.40-13.55 SESSION V and ADJOINT WORKSHOP (Hall A) Chaired by J. Berndt and H. Kersten

- 11.40 I-15 **FABRICATION OF NANOPOWDERS IN RF PLASMAS: DIAGNOSTICS AND MODELLING**
I. Stefanović, B. Sikimić, I. Denysenko and J. Winter
- 12.15 I-14 **DUST ION-ACOUSTIC NONLINEAR WAVE STRUCTURES UNDER CONDITIONS OF NEAR-EARTH AND LABORATORY PLASMAS**
S.I. Popel
- 12.50 W-01 **PLASMA BASED FUNCTIONALIZATION OF ADVANCED CARBON MATERIALS: NANOPARTICLES, NANOTUBES AND GRAPHENES**
E. Kovacevic, J. Berndt, Th. Strunskus, N. Camara, L. Boufendi, M. Gaillard, Ch. Leborgne
- 13.10 W-02 **TITAN'S AEROSOLS ANALOGUES PRODUCED BY RF PLASMA**
T. Gautier, N. Carrasco, A. Mahjoub, C. Szopa, G. Cernogora, E. Hadamcik
- 13.30 W-03 **BEHAVIOR OF FINE-CRYSTALLINE MIRROR SPECIMENS UNDER LONG-TERM SPUTTERING**
A.F. Bardamid, A.I. Belyaeva, V.N. Bondarenko, A.A. Galuza, V.G. Konovalov, I.V. Ryzhkov, A.A. Savchenko, A.N. Shapoval, A.A. Kasilov, S.I. Solodovchenko, V.S. Voitsenya, Zhou Zhang-jian

14.00-15.00 Lunch

16.45-17.00 Coffee break

17.00-19.00 POSTER SESSION I (Hall B)- 59 posters Chaired by I. Denysenko

Adjoint Workshop (reports W04 – W-12)

- Topics:
- 1- Magnetic confinement (reports 1-04 – 1-14)
 - 6 – Plasma Dynamics and Plasma–Wall Interaction (reports 6-05, 6-10, 6-19, 6-20)
 - 7 - Plasma Electronics (reports 7-07– 7-15, 7-17)
 - 8 - Low Temperature Plasma and Plasma Technologies (reports 4-08, 8-04, 8-49, 8-08, 8-09, 8-11 – 8-14, 8-16, 8-17, 8-19 -- 8-22, 8-26,),
 - 9 - Plasma Diagnostics (reports 9-05 – 9-09)

Tuesday 18 September

Poster №	Abstract. №	Title
1.	W-04	DESTRUCTION OF MICROPARTICLES RELATED TO DUSTY PLASMA PROCESSES AND POSSIBLE TECHNOLOGICAL APPLICATIONS T.I. Morozova, S.I. Kopnin, <u>S.I. Popel</u>
2.	W-05	GROWTH RATES OF FOREST OF SINGLE-WALLED CARBON NANOTUBES IN PLASMA-ENHANCED CHEMICAL VAPOR DEPOSITION <u>G. Burmaka</u> , I. Denysenko, N. A. Azarenkov
3.	W-06	THE INTERACTION OF DUST PARTICLES IN MAGNETIZED PLASMAS <u>G.O.Gavrysh</u> , O. Yu. Kravchenko, T.E.Lisitchenko, I. Koval
4.	W-07	THE ESTIMATION OF TUNGSTEN AND ODS TUNGSTEN DAMAGES AFTER DENSE PLASMA EXPOSURE ON PF-12 AND PF-1000 <u>V. Shirokova</u> , T. Laas, J. Priimets, E.V. Demina, M.D. Prusakova, M. Scholtz
5.	W-08	THE INFLUENCE OF IRRADIATION BY HYDROGEN PLASMA ON THE STRUCTURE AND PHASE COMPOSITION Ti-Zr-Ni ALLOYS CONTAINING QUASICRYSTALLINE PHASE <u>S.V. Bazdyreva</u> , I.E. Garkusha, V.A. Makhraj, S.V. Malykhin, A.T. Pugachov
6.	W-09	THE ION FLUX AND SHEATH PROPERTIES IN THE AFTERGLOW OF PURE ARGON AND OF ARGON WITH NEGATIVELY CHARGED DUST PARTICLES B. Sikimić, <u>I. Denysenko</u> , I. Stefanović, J. Winter
7.	W-10	SIMULATION OF THE EXPIRATION OF THE PLASMA JET WITH A DISPERSED PHASE IN AN AXISYMMETRIC CHAMBER <u>O. Yu. Kravchenko</u> , E. V. Kurhanovich, I.S. Marushchak
8.	W-11	GRAIN CHARGING IN WEAKLY IONIZED PLASMA IN THE PRESENCE OF EXTERNAL MAGNETIC FIELD <u>A.I. Momot</u> , A.G. Zagorodny
9.	W-12	EFFECT OF GRAIN SIZE OF SELF-GRAVITATIONAL INSTABILITY OF STRONGLY COUPLED COMPLEX PLASMA <u>R P Prajapati</u> and R K Chhajlan
10.	1-04	MODELING OF HEAT TRANSFER IN MAGNETIZED PLASMA COMPRESSED BY THE LASER BEAMS AND PLASMA JETS V.V. Kuzenov, <u>S.V. Ryzhkov</u>
11.	1-05	ABOUT PHYSICAL PARAMETERS OF EXPERIMENTAL REACTOR-STELLARATOR IN THE CONDITIONS OF AMBIPOLARITY OF NEOCLASSICAL TRANSPORT FLUXES V.A.Rudakov
12.	1-06	SPECTRAL ANALYSIS OF THE EDGE PLASMA TURBULENCE IN THE URAGAN-3M TORSATRON <u>A.A. Beletskii</u> , L.I. Grigor'eva, V.V. Chechkin, A.A. Kasilov, I.M. Pankratov, A.Ye. Kulaga, S.A. Tsybenko, A.V. Lozin, A.S. Slavnyj, N.V. Zamanov, V.K. Pashnev, Yu.K. Mironov, V.E. Moiseenko, V.S. Romanov, R.O. Pavlichenko.
13.	1-07	PLASMA FLOWS FORMATION IN THE HELICAL DIVERTOR OF THE URAGAN-3M TORSATRON AND EFFECTS ON THESE FLOWS OF THE H-LIKE MODE TRANSITION <u>V. V. Chechkin</u> , L. I. Grigor'eva, I. M. Pankratov, A. A. Beletskii, A. A. Kasilov, V. Ye. Moiseenko, V. K. Pashnev, A. V. Lozin, S. A. Tsybenko, R. O. Pavlichenko, A. S. Slavnyj, N. B. Dreval, A. Ye. Kulaga, N. V. Zamanov, Yu. K. Mironov, V. S. Romanov, S. M. Maznichenko, Ye. D. Volkov
14.	1-08	THE PROBLEM OF PLASMA DENSITY INCREASING IN THE U-3M TORSATRON AFTER THE RF-HEATING SHUTDOWN V.K. Pashnev, <u>I.K. Tarasov</u> , D.A. Sitnikov, V.N. Bondarenko, A.N. Shapoval, R.O. Pavlichenko, M.I. Tarasov, E.L. Sorokovoy, A.A. Petrushenia, A.I. Skibenko, L.L. Karpuhin, V.E. Moiseenko, A.V. Lozin

Tuesday 18 September

Poster №	Abstract. №	Title
15.	1-09	MODELING OF SOME NONSTATIONARY PROCESSES IN TOKAMAK PLASMAS M.A. Borisov, S.V. Cherkasov, <u>A.V. Danilov</u> , Yu.N. Dnestrovskij, A.Yu. Dnestrovskij, A. Field, S.E. Lysenko, H. Meyer, V.A. Vershkov
16.	1-10	EFFECT OF NOBLE GAS INJECTION ON DISCHARGE DISRUPTION IN T-10 TOKAMAK <u>M.M.Dremin</u> , A.M.Kakurin, V.G.Kapralov, A.Ya.Kislov, D.A.Kislov, V.A.Krupin, S.V.Krylov, S.G.Maltsev, V.G.Merezhkin, G.E.Notkin, Yu.D.Pavlov, D.V.Sarychev, A.M.Stefanovskij
17.	1-11	U-3M PLASMA START-UP SCENARIO SUSTAINED BY GAS PUFFING AS A DIFFERENT PLASMA CONFINEMENT SCENARIO; FIRST RESULTS. <u>M. Dreval</u> , E L Sorokovoy, Yu.K. Mironov, R.O. Pavlichenko, A.V. Lozin, V.S. Romanov and V. K. Pashnev
18.	1-12	AUXILIARY ECR HEATING SYSTEM FOR THE GAS DYNAMIC TRAP A.G. Shalashov, E. D. Gospodchikov, O. B. Smolyakova, P.A. Bagryansky, V. I. Malygin, M. Thumm
19.	1-13	MEASUREMENTS OF PLASMA DENSITY IN URAGAN-3M TORSATRON USING DUAL-POLARIZATION INTERFEROMETRY V.L. Berezhnyj, V.V. Filippov, D.L. Grekov, K.K. Tretyak
20.	1-14	RADIO-FREQUENCY EQUIPMENT FOR URAGAN STELLARATORS Kramskoy E.D., <u>Korovin V.B.</u> , Moiseenko V.E
21.	6-05	BEHAVIOR OF MIRROR SPECIMENS FABRICATED OF AMORPHOUS ALLOYS UNDER IMPACT OF IONS OF DEUTERIUM AND ARGON PLASMAS V.S. Voitsenya, A.F. Bardamid, A.I. Belyaeva, V.N. Bondarenko, J.W. Davis, A.A. Galuza, V.G. Konovalov, K.V. Kovtun, I.V. Ryzhkov, A.N. Shapoval, A.F. Shtan', S.I. Solodovchenko, O.V. Trembach, A.A. Vasil'ev
22.	6-06	TEMPERATURE EFFECTS ON BEHAVIOR OF Mo FILM MIRRORS UNDER IMPACT OF DEUTERIUM PLASMA IONS V.G. Konovalov, B. Eren, L. Marot, I.V. Ryzhkov, A.N. Shapoval, A.F. Shtan', O.O. Skoryk, S.I. Solodovchenko, V.S. Voitsenya
23.	6-07	SPECULAR AND DIFFUSIVE REFLECTANCE OF STAINLESS STEEL MIRRORS SPUTTERED WITH Ar⁺ IONS V.G. Konovalov, I.V. Ryzhkov, A.N. Shapoval, A.F. Shtan', O.O. Skoryk, S.I. Solodovchenko, V.S. Voitsenya
24.	6-08	BEHAVIOR OF OPTICAL PROPERTIES OF MIRRORS WITH DIELECTRIC PROTECTING COATINGS UNDER IMPACT OF DEUTERIUM PLASMA IONS V.N. Bondarenko, V.G. Konovalov, E.E. Mukhin, A.G. Razdobarin, I.V. Ryzhkov, A.N. Shapoval, A.F. Shtan, O.O. Skoryk, S.I. Solodovchenko, V.S. Voitsenya
25.	6-09	THE INFLUENCE OF WALL CONDITIONING PROCEDURES ON OUTGASSING RATE OF STAINLESS-STEEL IN THE URAGAN-2M TORSATRON <u>G.P. Glazunov</u> , D.I. Baron, M.N. Bondarenko, V.Ya. Chernyshenko, A.L. Konotopskiy, V.M. Listopad, S.M. Maznichenko, V.E. Moiseenko, V.K. Pashnev
26.	6-10	PRESENT STATUS OF THE DEVELOPMENT THE POSITIVE SPACE CHARGE PLASMA LENSES FOR FOCUSING INTENSE NEGATIVE CHARGED PARTICLE BEAMS <u>A.A. Goncharov</u> , A.M. Dobrovolskiy, S.M. Dunets, I.V. Litovko, V.I. Gushenets, E.M. Oks, A.S. Bugaev
27.	6-19	COMBINED EXPOSURE OF TUNGSTEN BY STATIONARY AND TRANSIENT HYDROGEN PLASMAS HEAT LOADS: PRELIMINARY RESULTS N.N. Aksenov, <u>A.A. Chuvilo</u> , V.A. Makhraj, I.E. Garkusha, I.A. Bizyukov, O.I. Girka, S.V. Bazdyreva, S.V. Malykhin, A.T. Pugachov

Tuesday 18 September

Poster №	Abstract. №	Title
28.	6-20	CHARACTERIZATION OF QSPA PLASMA STREAMS IN PLASMA - SURFACE INTERACTION EXPERIMENTS V.A. Makhraj
29.	7-07	STOCHASTIC HEATING AND STOCHASTIC ACCELERATION OF CHARGED PARTICLES V.A.Buts, V.V.Kuzmin, <u>A.P.Tolstoluzhsky</u>
30.	7-08	ESTIMATES OF LIMITING CURRENT OF CHARGED-PARTICLE BEAM IN COAXIAL DRIFT TUBE <u>T. Yatsenko</u> , G. V. Sotnikov, K. Ilyenko
31.	7-09	WAVES IN PLASMA-FILLED WAVEGUIDE SATISFYING THE DISPERSION RELATION FOR R AND L CIRCULAR WAVES IN UNBOUNDED MAGNETOACTIVE PLASMA <u>V.I. Shcherbinin</u> , V.I. Tkachenko, K. Schuenemann
32.	7-10	FORMATION OF CHARGED PARTICLES' FLOWS IN THE BACKGROUND PLASMA AT THE INITIAL STAGE OF THE BEAM-PLASMA INSTABILITY D. M. Tanygina, I. O. Anisimov, S. M. Levitskiy
33.	7-11	SIMULATION OF INITIAL STAGE OF THE BEAM-PLASMA DISCHARGE IN HELIUM VIA PIC METHOD I.O. Anisimov, B.P. Kosarevych, M.J. Soloviova
34.	7-12	EXPLOSIVE INSTABILITY IN THE PLASMA-BEAM SYSTEM <u>V.A. Buts</u> , I.K. Kovalchuk
35.	7-13	NONLINEAR ANALYSIS OF MM WAVES EXCITATION BY HIGH-CURRENT REB IN DIELECTRIC RESONATOR <u>K.V. Galaydych</u> , Yu.F. Lonin, A.G. Ponomarev, Yu.V. Prokopenko, G.V. Sotnikov
36.	7-14	ACCELERATION AND STABILITY OF HIGH-CURRENT ION BEAM IN INDUCTION FIELDS <u>V.I.Karas'</u> , O.V.Manuilenko, V.P. Tarakanov, O.V.Fedorovskaya
37.	7-15	MEASUREMENTS OF PLASMA DENSITY PRODUCED AT PASSAGE OF A SEQUENCE OF RELATIVISTIC ELECTRON BUNCHES THROUGH THE NEUTRAL GAS <u>V.A. Kiselev</u> , A.F. Linnik, I.N. Onishchenko, V.I. Pristupa, B.I. Ivanov, V.P. Prishchepov.
38.	7-17	ACCELERATION of the SHORT HIGH-CURRENT COMPENSATED ION BUNCHES IN THE PEAKED FENCE MAGNETIC FIELD WITH ADDITIONAL SPACE CHARGE COMPENSATION BY THERMAL ELECTRONS: 2D3V PIC SIMULATION O.V.Manuilenko
39.	4-08	ELECTRIC DISCHARGE IN THE TRANSVERSE GAS FLOW AT ATMOSPHERIC PRESSURE I. Prysiashnevych, <u>V. Chernyak</u> , E. Martysh, T. Lisitchenko, N.V. Belenok
40.	8-04	PROPERTIES OF THE PULSED PLASMA-LIQUID SYSTEMS WITH ACOUSTIC WAVES FOCUSING <u>Sidoruk S.M.</u> , Yukhymenko V.V., Chernyak V.Ya., Marchuk V.E., Gavrylyuk E.Yu., Martysh E.V., O.A. Fedorovich
41.	8-49	PLASMA CATALYSIS OF CARBON NANOPARTICLES SYNTHESIS IN THE PYROLYTIC CHAMBER <u>Iu.P. Veremii</u> , K.V. Iukhymenko, V.Ya. Chernyak, A.I. Leptuga, T.E. Lisitchenko, V.P. Demchina, V.S. Kudryavzev
42.	8-08	MULTIFUNCTIONAL TiN COATINGS AND THEIR APPLICATIONS V.M. Shulayev, <u>V.S. Taran</u>
43.	8-09	CHARACTERISTICS OF DISCHARGE IN CROSSED EH FIELDS NEAR BREAKDOWN CURVE IN ACCELERATION AND PLASMA REGIME <u>A. Jamirzoev</u> , S.Yakovin, A. Zykov
44.	8-11	EXPERIMENTAL INVESTIGATION OF DISCHARGE FROM FLOATING CONDUCTIVE PARTICLES IN AIR N. A. Bogatov

Tuesday 18 September

Poster №	Abstract №	Title
45.	8-12	SPECTROSCOPIC ANALYSIS OF THE ROTATIONAL STRUCTURE IN THE EMISSION SPECTRA OF THE CORONA DISCHARGE <u>O.V. Bolotov</u> , V.I. Golota
46.	8-13	EXPERIMENTAL INVESTIGATION AND COMPUTER SIMULATION OF THE SPUTTERING MAGNETRON DEVICE WITH TWO EROSION ZONES <u>R.V. Bogdanov</u> , O.M. Kostiukevych
47.	8-14	THE EFFECT OF PLASMA TREATMENT OF DIFFERENT CATHODE MATERIALS ON CURRENT-VOLTAGE CHARACTERISTICS OF MIRROR PENNING DISCHARGE IN AIR <u>G.P. Glazunov</u> , M.N. Bondarenko, F.L. Konotopskiy
48.	8-16	INFLUENCE OF EXTERNAL MAGNETIC FIELD ON INTENSITY AND DIRECTIVITY DIAGRAM OF EUV RADIATION FROM HIGH-CURRENT PULSE PLASMA DIODE <u>Ie.V. Borgun</u> , N.A.Azarenkov, A. Hassanein, A.F. Tseluyko, V.I.Maslov, D.L.Ryabchikov, Y.Grechko
49.	8-17	A BENT NEEDLE-TO-PLANE CORONA DISCHARGE FUNGICIDAL TREATMENT OF SURFACES: ZONES OF <i>CANDIDA ALBICANS</i> GROWTH INHIBITION CHANGES <u>K. Bujaček</u> , V. Fantova, V. Kříha
50.	8-19	SPECTROSCOPIC AND CORPUSCULAR ANALYSIS OF LASER-PRODUCED CARBON PLASMA <u>A.Czarnecka</u> , M. Kubkowska, E. Skladnik-Sadowska, E. Kowalska-Strzemińska, P. Parys, M.J. Sadowski, K. Malinowski, R. Kwiatkowski, and M. Ladygina
51.	8-20	DEPENDENCE OF RF BREAKDOWN CURVE ON ELECTRODE GEOMETRY IN CCP REACTOR <u>A.N. Dahov</u> , S.V. Dudin, V.A. Lisovskiy, V.M. Pletnikov
52.	8-21	THE SURFACE PROPERTIES OF Ta₂O₅ CERAMIC COATINGS AND NEXT CORRELATIONS WITH CELL RESPONSE IN VIVO AND IN VITRO TESTS N. Donkov, E. Mateev, A. Zykova, V. Safonov, <u>V. Luk'yanchenko</u>
53.	8-22	METAL MICRO-DETECTORS: DEVELOPMENT OF "TRANSPARENT" POSITION SENSITIVE DETECTOR FOR BEAM DIAGNOSTICS O. Kovalchuk, V. Pugatch, O. Fedorovich, O. Okhrimenko, D. Storozhyk, V. Kyva, M. Campbell, X. Llopart, S. Pospisil, Y. Prezado, M. Renier
54.	8-26	NITRIDING, OXIDATION AND CARBURIZATION OF TITANIUM AND STEELS IN NON-SELF MAINTAINED GASEOUS DISCHARGE. <u>Timoshenko A.I.</u> , Taran V.S., Misiruck I.A
55.	9-05	IONS TEMPERATURE PROFILE MEASUREMENTS WITH AID OF CXRS DIAGNOSTIC AT T-10 TOKAMAK. A.Barsukov, K Vukolov, E.Gorbunov, Yu.Gott, A.Dnestrovskij, L.Klyuchnikov, V.Korolev, K.Korobov, S.Krasnyanskij, V.Krupin, T.Myalton, N.Naumenko, A.Nemec, V.Nosachev, Yu.Skosyrev, A Sushkov, G.Tilinin, S.Tugarinov
56.	9-06	FAST XUV PLASMA IMAGING IN T-11M TOKAMAK A. Alekseyev, A. Belov, A. Panov
57.	9-07	MICROWAVE INTERFEROMETER WITH TWO POLARIZATIONS DESIGNED FOR DENSITY RADIAL DISTRIBUTION MEASUREMENT IN THE U-3M AND U-2M TORSATRONS <u>V.L. Berezhnyj</u> , V.V. Filippov
58.	9-08	SPARK DISCHARGE AT HIGH PRESSURE IN ARGON AS A PULSED LIGHT SOURCE FOR SHADOWGRAPH MEASUREMENTS P.P. Khrantsov, O.G. Penyazkov, V.M. Grishchenko, M.Yu. Chernik, I.A. Shikh
59.	9-09	PROGRESS IN MASS- AND ENERGY-ANALYSIS OF ION BEAMS EMITTED FROM RPI- AND PF-TYPE DISCHARGES <u>K. Czaus</u> , E. Skladnik-Sadowska, M.J. Sadowski, R. Kwiatkowski, K. Malinowski, and J. Zebrowski

Wednesday 19 September

9.30-11.15 SESSION VI (Hall A)

Chaired by V. Klepikov and Ya. Kolesnichenko

- 9.30 I-11 **FIRST STUDIES OF ISOTOPE INTERCHANGE ON LITHIUM IN TJ-II**
F. L. Tabarés and the TJ-II Team
- 10.05 I-20 **MAGNETIC MIRRORS: HISTORY, RESULTS AND FUTURE PROSPECTS**
A.D.Beklemishev, A.V. Burdakov, A.A. Ivanov, E.P.Kruglyakov
- 10:40 I-01 **MODELLING OF MATERIAL DAMAGE AND HIGH ENERGY IMPACTS ON TOKAMAK PFCs DURING TRANSIENT LOADS**
B. Bazylev, I. Landman, S. Pestchanyi, Yu. Igitchanov, R.A. Pitts, S. Putvinski, S. Brezinsek, M. Lehnen, J.W. Coenen, V. Philipps

11.15-11.40 Coffee break

11.40-13.55 SESSION VII (Hall A)

Chaired by B. Bazylev and F. Tabares

- 11.40 I-10 **RESPONSE OF ITER DIVERTOR MATERIALS TO TRANSIENT THERMAL LOADS**
Th. Loewenhoff, J. Linke, G. Pintsuk, M. Wirtz
- 12.15 3-01 **PLASMA-SURFACE INTERACTION AND MECHANISMS OF DUST PRODUCTION IN ITER ELM SIMULATION EXPERIMENTS WITH QSPA Kh-50**
V.A. Makhraj, I.E. Garkusha, N.N. Aksenov, O.V. Byrka, A.A. Chuvilo, I. Landman, S.I. Lebedev, P.B. Shevchuk
- 12.35 3-02 **EXPERIMENTAL STUDY OF TUNGSTEN IMPURITY FORMATION AND ITS DYNAMICS AT PLASMA GUN FACILITY MK-200 UNDER CONDITION RELEVANT TO TRANSIENT EVENTS IN ITER.**
N.I. Arkhipov, S.V. Karelov, I.M. Poznyak, V.M. Safronov, D.A. Toporkov
- 12.55 6-04 **EFFECT OF INCREASING SURFACE ROUGHNESS ON SPUTTERING AND REFLECTION**
I. Bizyukov, A. Mutzke, R. Schneider
- 13.15 6-02 **MASS-SEPARATION OF IMPURITIES IN THE ION BEAM SYSTEMS WITH REVERSED MAGNETIC BEAM FOCUSING**
O.I. Girka, I.A. Bizyukov, A.A. Bizyukov, K.N. Sereda, S.S. Gerashchenko, M.O. Azarenkov
- 13.35 8-01 **THE RESEARCH OF DOUBLE-PULSE DISCHARGE IN A PLASMA-LIQUID SYSTEM WITH CYLINDRICAL GEOMETRY** V. Chernyak, S.Sidoruk, V. Yukhymenko, Marchuk V.Ef., E. Martysh, O. Fedorovich

14.00-15.00 Lunch

EXCURSION

Thursday 20 September

9.30-11.15 SESSION VIII (Hall A)

Chaired by I. Onishchenko and M. Scholz

- 9.30 I-10 **PROGRESS IN HIGH-TEMPERATURE PLASMA RESEARCH AT NCBJ (FORMER IPJ) IN POLAND**
M.J. Sadowski
- 10.05 I-05 **STABILITY IMPROVEMENT OF A LASER-ACCELERATED ELECTRON BEAM AND THE PULSE WIDTH MEASUREMENT OF THE ELECTRON BEAM**
H. Kotaki, M. Mori, Y. Hayashi, M. Kando, I. Daito, Y. Fukuda, A. Pirozhkov, J. K. Koga, and S. V. Bulanov
- 10.40 I-04 **PIASMODYNAMICAL DEVICES NEW GENERATION: REVIEW OF FUNDAMENTAL RESULTS AND APPLICATIONS**
A.A.Goncharov

11.15-11.40 Coffee break

11.40-13.55 SESSION IX (Hall A)

Chaired by M. Sadowski and V. Zhovtyansky

- 11.40 I-07 **RECENT RESULTS OF STUDIES OF MAGNETIC FIELD DISTRIBUTION AND NEUTRON SCALING ON PF-1000 AND PF-3 FACILITIES**
V. Krauz, K. Mitrofanov, M. Scholz, P. Kubes, V. Myalton, M. Paduch, E. Grabovski, L. Karpinski, V. Koidan, A. Mokeev, V. Vinogradov, Yu. Vinogradova, E. Zielinska
- 12.15 9-03 **STATUS OF MJ PLASMA-FOCUS EXPERIMENT**
M. Scholz, L. Karpinski, V. Krauz, P. Kubes, M. Paduch and M.J. Sadowski
- 12.35 9-04 **OPTICAL EMISSION SPECTROSCOPY OF PULSED PLASMA STREAMS EMITTED FROM A MODIFIED PF-1000 FACILITY**
E. Skladnik-Sadowska, R. Kwiatkowski, K. Malinowski, M.J. Sadowski, M. Kubkowska, M. Paduch, M. Scholz and E. Zielinska
- 12.55 6-01 **MHD CHARACTERISTICS OF COMPRESSION ZONE IN PLASMA STREAM GENERATED BY MPC**
V.V. Chebotarev, T.N. Cherednychenko, D.V. Eliseev, I.E. Garkusha, A.N. Kozlov, N.V. Kulik, M.S. Ladygina, A.K. Marchenko, Ya.I. Morgal, Yu.V. Petrov, D.G. Solyakov, V.V. Staltsov.
- 13.15 4-04 **RAYLEIGH-TAYLOR INSTABILITY IN PLASMAS WITH SELF-GENERATED MAGNETIC FIELD AND HEAT CONDUCTION**
F. Modica, T. Plewa, A. Zhiglo
- 13.35 8-33 **INVESTIGATIONS OF THERMAL PLASMA WITH METAL IMPURITIES. PART II: PECULIARITIES OF SPECTROSCOPY BY WI, MoI AND CuI SPECTRAL LINES**
Veklich A.N., Lebid A.V., Soroka P.V., Boretskij V.F., Babich I.L.

14.00-15.00 Lunch

Thursday 20 September

16.45-17.00 Coffee break

17.00-19.00 POSTER SESSION II (Hall B)- 58 posters
Chaired by V.Buts

Topics:

- 1- Magnetic confinement (reports 1-15 – 1-25)**
- 2 - Plasma Heating and Current Drive (reports 2-02, 2-03, 2-05- 2-08)**
- 3 – ITER and fusion reactor aspects (reports 3-05 – 3-17)**
- 5- Space Plasma (reports 5-03, 5-04)**
- 7 - Plasma Electronics (reports 7-07, 7-16, 7-18 – 7-23)**
- 8 - Low Temperature Plasma and Plasma Technologies (reports 8-10, 8-15, 8-18, 8-23 -- 8-25, 8-27, 8-28, 8 -32, 8-34, 8-36 -- 8-38, 8-42),**
- 9 - Plasma Diagnostics (reports 9-10 – 9-13)**

Poster №	Abstract. №	Title
1	1-15	MEASUREMENTS OF WALL CONDITIONING RATE AT URAGAN-2M <u>V.B. Korovin</u> , E.D. Kramskoy, V.E. Moiseenko, D.I. Baron, S.M. Maznichenko, S.I., Solodovchenko, V.Ya. Chernishenko, A.F. Shtan.
2	1-16	MAGNETIC SURFACES OF A COMBINED MAGNETIC SYSTEM <u>V.G. Kotenko</u> , V.E. Moiseenko, Yu.F. Sergeev , E.L. Sorokovoy , O. Ågren
3	1-17	SPECIAL CORRECTING WINDING FOR $I=2$ TORSATRON WITH INTERNAL SPLITTING OF HELICAL COILS V. G. Kotenko
4	1-18	FEASIBILITY OF CREATING ISLAND DIVERTOR IN THE URAGAN-2M TORSATRON <u>G.G. Lesnyakov</u> , A.N. Shapoval, O.S. Pavlichenko
5	1-19	USAGE OF THREE-HALFTURN ANTENNA AT THE URAGAN-3M DEVICE <u>A.V. Lozin</u> , V.E. Moiseenko, L.I. Grygor'eva, M.M. Kozulya, A. Yu. Krasnyuk, A.E. Kulaga, E.D. Kramskoy, S.M. Maznichenko, Yu.K. Mironov, R.O. Pavlichenko, N.V. Zamanov, V.S. Romanov, V.Ya. Chernyshenko, V.V. Chechkin, and team of torsatron "Uragan-3M"
6	1-20	ELECTRIC FIELDS STUDY WITH HIBP IN OH AND ECRH PLASMAS ON T-10 A.V. Melnikov, K.S. Dyabilin, L.G. Eliseev, M.Yu. Isaev, I.A. Krasilnikov, L.I. Krupnik, <u>S.E. Lysenko</u> , V.A. Mavrin, S.V. Perfilov, V.I. Zenin, and HIBP team
7	1-21	TOPOLOGICAL GROUNDS FOR THE FAST KINEMATIC DINAMO ORIGIN IN A KNOTTED THERMONUCLEAR REACTOR <u>Maksyuta M.V.</u> , Golovach G.P., Martysh Ye.V.
8	1-22	ENERGY AND PITCH-ANGLE DISTRIBUTION OF THE PROMPT LOSSES IN TOKAMAK WITH NON-CIRCULAR CROSS-SECTION <u>A.O. Moskvitin</u> , V.O. Yavorskij, V.Ya. Goloborod'ko, Yu.K. Moskvitina, O.A. Shyshkin
9	1-23	INFLUENCE OF BACKGROUND PLASMA ON DENSITY OF RF FIELD ENERGY AND OHMIC LOSSES IN WALLS OF COAXIAL GYROTRON CAVITY <u>Yu.K. Moskvitina</u> , G.I. Zaginaylov, V.I Tkachenko
10	1-24	ENERGY AND PARTICLE FLUXES IN PRESENCE OF RMP IN AXISSYMETRIC 2D TOKAMAK PLASMAS <u>Yu.K. Moskvitina</u> , A.O. Moskvitin, O.A. Shyshkin V.O. Yavorskij, V.Ya. Goloborod'ko
11	1-25	FIRST RESULTS OF FORMING AN FRC - FIELD REVERSED CONFIGURATION <u>A.Mozgovoy</u> , V.Nikuln and E.Peregudova

Thursday 20 September

Poster №	Abstract. №	Title
12	2-02	THE INVESTIGATION OF ADIABAT SHAPING IN INERTIAL CONFINEMENT FUSION H. Ashouri; <u>A. Ghasemizad</u> ; M. Ahmadi
13	2-03	SELF-CONSISTENT MODELLING OF PLASMA DENSITY INCREASE WITH RADIO-FREQUENCY HEATING V.E. Moiseenko, <u>Yu.S. Stadnik</u> , A.I. Lyssoivan
14	2-05	STUDY OF HYBRID X PINCHES IN DIFFERENT CONDITIONS. A. R. Mingaleev, T.A. Shelkovenko, S. A. Pikuz I. N. Tilikin, S. N. Mishin, V. M. Romanova C. L. Hoyt, A. D. Cahill and D. A. Hammer
15	2-06	A NONRESONANCE PHOTON NEUTRALIZER FOR NEGATIVE ION BEAMS <u>S.S.Popov</u> , A.V. Burdakov, A.A. Ivanov, I.A. Kotelnikov
16	2-07	STRATIFICATION UPON ELECTRIC EXPLOSION OF THIN WIRES V.M. Romanova, A.R. Mingaleev, A.E. Ter-Oganesyan, T.A. Shelkovenko, S.A. Pikuz
17	2-08	QUASILINEAR KINETIC MODELLING OF RMP PENETRATION INTO A TOKAMAK PLASMA M. F. Heyn, I. B. Ivanov, S. V. Kasilov, W. Kernbichler, and <u>P. Leitner</u>
18	3-05	SELF FOCUSING OF LASER BEAM UNDER PLASMA DENSITY RAMP IN COLLISIONLESS MAGNETOPLASMA <u>M. Aggarwal</u> , H. Kumar
19	3-06	SIMULATION OF NEUTRON-IRRADIATED TUNGSTEN MIRRORS A.Kh. Alimov, A.F. Bardamid, A.I. Belyaeva, A.A. Galuza, A.A. Kasilov, I.V. Kolenov, V.G. Konovalov, I.V. Ryzhkov, A.A. Savchenko, A.F. Shtan, O.O. Skoryk, S.I. Solodovchenko, B. Tyburska-Püschel, V.S. Voitsenya
20	3-07	MAGNETIC SURFACES STELLARATOR-MIRROR HYBRID AT URAGAN-2M DEVICE <u>G.G. Lesnyakov</u> , S.P. Gubarev, V.G. Kotenko, M.N. Makhov, V.E. Moiseenko, G.P. Opaleva, A.N. Shapoval, V.S. Voitsenya, M.I. Zolototrubova
21	3-08	COMPARING OF IRRADIATION NON-UNIFORMITY AND STOPPING POWER OF BISMUTH AND CESIUM ION BEAMS IN A HEAVY ION FUSION TARGET <u>Gholamzadeh, Leila</u> ; Ahmadi, Masoume
22	3-09	NEUTRONIC MODEL OF A FUSION NEUTRON SOURCE <u>S.V. Chernitskiy</u> , V. E. Moiseenko, O. Ågren
23	3-10	NEUTRONIC MODEL OF A STELLARATOR-MIRROR FUSION-FISSION HYBRID <u>S.V. Chernitskiy</u> , K. Noack, V. E. Moiseenko, O. Ågren
24	3-11	OPTICAL DESIGN OF H-ALPHA AND VISIBLE SPECTROSCOPY FOR ITER <u>A.V. Gorshkov</u> , A.G. Alekseyev, D.Yu. Vukolov
25	3-12	STUDY OF CONTAMINATION AND CLEANING OF THE IN-VESSEL MIRRORS FOR ITER OPTICAL DIAGNOSTICS ON T-10 TOKAMAK AND QSPA-T FACILITY <u>S.Grashin</u> , I.Arhipov, N.Klimov, K.Vukolov, V.Budaev, N.Svechnikov, A.Karpov, V.Stankevich, A.Zhitlukhin, D.Kovalenko, V.Podkovyrov
26	3-13	RELATIVISTIC NEOCLASSICAL FLUXES IN HOT PLASMAS <u>I.N. Marushchenko</u> , N.A. Azarenkov, N.B. Marushchenko
27	3-14	EFFECT OF PLASMA ROTATION ON THE RESONANCE MAGNETIC PERTURBATIONS AT THE EDGE OF TOKAMAK PLASMAS I.M. Pankratov, <u>I.V. Pavlenko</u> , O. A. Pomazan and A.Ya. Omelchenko

Thursday 20 September

Poster №	Abstract. №	Title
28	3-15	ACTIVE AND PASSIVE DEPOSITION MITIGATION TECHNIQUES FOR ITER DIVERTOR THOMSON SCATTERING DIAGNOSTICS <u>A.G. Razdobarin</u> , E.E. Mukhin, V.V. Semenov, S. Yu. Tolstyakov, M.M. Kochergin, G.S. Kurskiev, K.A. Podushnikova, S.V. Masyukevich, P.V. Chernakov, A.E. Gorodetsky, V.L. Bukhovets, R. Kh. Zalavutdinov, A.P. Zakharov, I.I. Arkhipov, A.S. Smirnov, T.V. Chernozumskaja, E.M. Khilkevitch, S.V. Bulovich
29	3-16	INFLUENCE OF BACKGROUND PLASMA ON ELECTROMAGNETIC PROPERTIES OF COAXIAL GYROTRON CAVITY <u>V.I. Shcherbinin</u> , G.I. Zaginaylov, K. Schuenemann
30	3-17	CLASSIFICATION OF HYDROCARBON FILMS DEPOSITED UNDER ITER-RELEVANT CONDITIONS I. <u>Arkhipov</u> , N. Klimov, V. Stankevich, N. Svechnikov, V. Budaev, and K. Vukolov
31	5-03	NONSTATIONARY GENERATION OF ELECTROMAGNETIC RADIATION IN NONEQUILIBRIUM MIRROR-CONFINED PLASMA <u>M.E. Viktorov</u> , D.A. Mansfeld, S.V. Golubev, A.G. Shalashov
32	5-04	GENERATION OF WIDEBAND ELECTROMAGNETIC RADIATION ON A DECAY STAGE OF A MIRROR CONFINED PLASMA PRODUCED BY ECR DISCHARGE <u>A.G. Shalashov</u> , S. V. Golubev, E.D. Gospodchikov, D. A. Mansfeld, M. E. Viktorov, A. V. Vodopyanov
33	7-04	PLASMA WAKEFIELD EXCITATION, POSSESSING OF HOMOGENEOUS FOCUSING OF ELECTRON BUNCHES <u>V.I.Maslov</u> , I.N.Onishchenko, I.P.Yarovaya
34	7-16	ACCELERATION AND FOCUSING OF ELECTRON BUNCHES BY WAKEFIELDS IN PLASMA PRODUCED IN NEUTRAL GAS BY A NONRESONANT SEQUENCE OF BUNCHES V.A. Kiselev, A.F. Linnik, V.I.Maslov, I.N. Onishchenko, V.I. Pristupa, I.P.Yarovaya
35	7-18	WAKEFIELD EXCITATION IN PLASMA BY SEQUENCE OF SHAPED ELECTRON BUNCHES V.I.Maslov, I.N.Onishchenko, I.P.Yarovaya
36	7-19	NUMERICAL SIMULATION OF PLASMA WAKEFIELD EXCITATION BY A SEQUENCE OF LASER PULSES V.I.Maslov, I.N.Onishchenko, O.M.Svistun
37	7-20	ELECTRON ENERGY INCREASE IN STOCHASTICALLY GIVEN FIELD AND GAS DISCHARGE V. Ostroushko
38	7-21	INCREASING THE EFFICIENCY OF HF AZIMUTHAL SURFACE WAVE EXCITATION BY ANNULAR ELECTRON BEAM IN PLASMA WAVEGUIDE WITH NONCIRCULAR INTERFACE OF PLASMA COLUMN I.O. Girka, V.O. Girka, I.V. Pavlenko
39	7-22	BEAM RESONANT INSTABILITY OF LOW FREQUENCY AZIMUTHAL SURFACE WAVES IN CYLINDRICAL WAVEGUIDES WITH NONCIRCULAR PLASMA INTERFACE I.O. Girka, <u>Ia.I. Morgal</u>
40	7-23	ABOUT FEATURES OF ELECTROMAGNETIC FIELD AT DISCRETE CHANGE OF THE VELOCITY FOR THE POINT CHARGE PARTICLE S. D. Prijmenko
41	8-10	EFFECT OF THE PARAMETERS OF A GAS-DISCHARGE PLASMA ON THE EQUILIBRIUM TEMPERATURE AND FLOATING POTENTIAL OF MACROPARTICLE A.A. Bizyukov, A.D. Chibisov, E.V. Romashchenko

Thursday 20 September

Poster №	Abstract. №	Title
42	8-15	NON-EQUILIBRIUM PLASMA PROPERTIES OF ELECTRIC ARC DISCHARGE IN AIR BETWEEN COPPER ELECTRODES <u>V. Boretskij</u> , A. Veklich, Y. Cressault, A. Gleizes, Ph. Teulet
43	8-18	HIGH-CURRENT PULSED OPERATION MODES OF THE PLANAR MSS WITH MAGNETICALLY INSULATED ANODE WITHOUT TRANSITION TO THE ARC DISCHARGE A.A. Bizyukov, K.N. Sereda, V.V. Sleptsov, I.K. Tarasov, A.G. Chunadra
44	8-23	ON THE "ENLIGHTENMENT" NONIDEAL HYDROGEN-OXYGEN PLASMA AT A CONCENTRATION OF $N_E \leq 3 \cdot 10^{19} \text{ cm}^{-3}$ O.A.Fedorovich
45	8-24	ON THE INFLUENCE OF THE DEGREE OF HYDROGEN-OXYGEN NONIDEAL PLASMA FACTORS IN DECAY O.A. Fedorovich, L.M. Voitenko
46	8-25	SELF-COMPENSATION OF THE FOCUSED ION BEAM SPACE CHARGE A.A. Bizyukov, O.I. Girka, E.V. Romashchenko, K.N. Sereda, N.N. Yunakov
47	8-27	PURE HYDROGEN GENERATOR FOR PLASMA DEVICES G.P. Glazunov
48	8-28	THE THEORY OF NON-LOCAL IONIZATION IN GLOW DISCHARGE AND HOLLOW CATHODE V. Gorin
49	8-32	INVESTIGATIONS OF THERMAL PLASMA WITH METAL IMPURITIES. PART I: THE INFLUENCE OF ELECTRODES COMPOSITION ON PLASMA PROPERTIES <u>Veklich A.N.</u> , Lebid A.V., Soroka P.V., Boretskij V.F., Babich I.L.
50	8-34	STOCHASTIC HEATING OF ELECTRONS IN CAPACITIVE RF DISCHARGES BY PLASMA OSCILLATIONS O.V. Manuilenko
51	8-36	PLASMA ASSISTED COMBUSTION OF PARAFFIN MIXTURE O.A. Nedybaliuk, V.Ya. Chernyak, E.V. Martysh, T.E. Lisitchenko, O.Yu. Aktan, S.G. Orlovska, N.V. Belenok
52	8-37	RADIATED EMISSION FROM HALL ACCELERATOR (THRUSTER) S.A. Oghienko
53	8-38	INFLUENCE OF ELECTRON EMISSION EFFECTIVENESS ON CHARACTERISTICS OF NEGATIVE CORONA DISCHARGE O. Bolotov, V. Golota, <u>V. Ostroushko</u>
54	8-42	PULSED MAGNETRON SPUTTERING SYSTEM POWER SUPPLY WITHOUT LIMITATION AND FORCED INTERRUPTION OF THE DISCHARGE CURRENT A.A. Bizyukov, K.N. Sereda, V.V. Sleptsov, I.K. Tarasov, A.G. Chunadra
55	9-10	THE DEVELOPMENT OF LIGHT ION INJECTOR FOR THE PLASMA DIAGNOSTIC SYSTEM BASED ON BEAM EMISSION SPECTROSCOPY I.Bondarenko, A. Chmyga, G. Deshko, A. Komarov, A. Kozachek, L. Krupnik, S. Khrebtov, A. Zhezhera.
56	9-11	DEVELOPMENT OF THE BEAM PROBE DIAGNOSTIC (HIBP) ON STELLARATOR "URAGAN-2M" A. Chmyga, G. Deshko, A. Komarov, A. Kozachek, L. Krupnik, S. Khrebtov, A. Zhezhera.
57	9-12	MEASUREMENTS OF THE PLASMA ISOTOPIC COMPOSITION IN ITER BY MEANS OF THE VISIBLE SPECTROSCOPY A.A.Medvedev, A.V.Sushkov
58	9-13	SIMULATION AND EXPERIMENTAL RESEARCH OF LANGMUIR PROBE OPERATION IN ELECTRO-NEGATIVE PLASMA S.V. Dudin, D.V.Rafalskyi, <u>D.A.Naymark</u>

Friday 21 September

9.30-11.15 SESSION X (Hall A)

Chaired by A. Goncharov and V. Krauz

- 9.30 I-13 **NONEQUILIBRIUM OF THE DENSE ELECTRIC ARC PLASMA CAUSED BY RADIATION TRANSFER**
V.A. Zhovtyansky, Yu. I. Lelyukh, Ya.V. Tkachenko
- 10.05 I-03 **PHYSICS AND DESIGN OF WIDE-APERTURE BIPOLAR PARTICLE SOURCES**
S.V. Dudin
- 10.40 I-12 **UNUSUAL PHYSICS OF QUANTUM PLASMAS**
Yu.O. Tyshetskiy, S.V. Vladimirov, and R. Kompaneets

11.15-11.40 Coffee break

11.40-14.00 SESSION XI (Hall A)

Chaired by V. Chechkin and T. Ido

- 11.40 4-03 **ANALYSIS OF PROJECTS OF HYBRID REACTOR BASED ON MAGNETIC FUSION FOR WASTE MANAGEMENT**
E. A. Azizov, G. G. Gladush
- 12.00 3-03 **RESEARCH ON STELLARATOR-MIRROR FISSION-FUSION HYBRID**
V.E. Moiseenko, V.G. Kotenko, S.V. Chernitskiy, O. Ågren, K. Noack, Yu.S. Stadnik, A.P. Kovtun, V.S. Voitsenya, I.E. Garkusha, S.I. Dovgalyuk
- 12.20 4-01 **MAGNETIZED PLASMA IN STRONG ELECTRIC FIELD: FROM PARAMETRIC TURBULENCE TO ENHANCED CONFINEMENT**
V.S.Mikhailenko, V.V Mikhailenko, K.N.Stepanov
- 12.40 9-17 **NEW APPLICATIONS OF DOPPLER REFLECTOMETRY**
V.V. Bulanin, L G Askinazi, A.D. Gurchenko, E.Z. Gusakov, V.K. Gusev, L.A. Esipov, S.V. Lebedev, A.V. Petrov, Yu.V. Petrov, D.V. Prisyazhnyuk, K. Standaert, A.S. Tukachinsky, A.Yu. Yashin
- 13.00 9-20 **RECENT RESULTS OF THE ELECTRIC POTENTIAL PROFILES AND PLASMA TURBULENCE STUDY AND DIAGNOSTIC DEVELOPMENT OF HIBP IN TJ-II**
L. Krupnik, A. Zhezhera and HIBP team
- 13.20 1-02 **CONFINEMENT, SPACE AND ENERGY DISTRIBUTIONS OF THE 0.5-4.5keV PLASMA IONS IN LOW DENSITY DISCHARGES OF THE U-3M TORSATRON.**
M. Dreval, A.S. Slavnyj
- 13.40 1-37 **ELECTRIC FIELD DYNAMICS STUDIES IN TUMAN-3M TOKAMAK**
A.A. Belokurov, L.G. Askinazi, A.D. Komarov, V.A. Kornev, S.V. Krikunov, L.I. Krupnik, S.V. Lebedev, A.S. Tukachinsky, M.I. Vildjunas, N.A. Zhubr

14.00-15.00 Lunch

16.45-17.00 Coffee break

17.00-19.00 POSTER SESSION III (Hall B)- 58 posters
Chaired by V. Taran

Topics:

- 1- Magnetic confinement (reports 1-26– 1-36)**
- 4 – Basic Plasma Physics (reports 4-02, 4-06, 4-07, 4-09– 4-22)**
- 6 - Plasma Dynamics and Plasma–Wall Interaction (reports 6-11- 6-18)**
- 8 - Low Temperature Plasma and Plasma Technologies (reports 8-29 – 8-31, 8-35, 8-39-- 8-41, 8-43 -- 8-52, PD1, PD2),**
- 9 - Plasma Diagnostics (reports 9-14 – 9-16, 9-21)**

Poster №	Abstract №	Title
1	1-26	FORMATION OF A HIGH ENERGY DENSITY FIELD REVERSED CONFIGURATION <u>I.V. Romadanov</u> , S.V. Ryzhkov
2	1-27	ELECTRON TEMPERATURE EFFECTS IN LINEAR COUPLING OF ELECTRON-CYCLOTRON WAVES NEAR THE CUT-OFF LAYERS IN FUSION PLASMAS E.D. Gospodchikov, T.A. Khusainov, A.G. Shalashov
3	1-28	MODIFICATION OF ^3He MINORITY DISTRIBUTION FUNCTION IN D PLASMA DUE TO ICRF MINORITY SELECTIVE HEATING IN ITER LIKE TOROIDAL CONFIGURATION: NUMERICAL SIMULATIONS <u>O.A. Shyshkin</u> , A.O. Moskvitin, Yu.K. Moskvitina
4	1-29	PLASMA OSCILLATIONS PROPAGATING ALONG THE MAGNETIC FIELD IN THE URAGAN-2M TORSATRON A.I. Skibenko, I.B. Pinos, A.V. Prokopenko
5	1-30	MODERNIZATION OF THE T-15 TOKAMAK – CURRENT STATUS AND PLANS. A.V. Sushkov, E.A. Azizov, V.A. Belyakov, E.N. Bondarchuk, P.P. Khvostenko, S.V. Krasnov, V.A. Krylov, O.Yu. Smirnov.
6	1-31	ELECTROMAGNETIC OSCILLATIONS AT THE EDGE OF THE “URAGAN-3M” CONFINEMENT VOLUME V.K. Pashnev, I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov, S.A. Tsybenko, I.B. Pinos, <u>K.N. Stepanov</u> , V.V. Olshansky, O.M. Shvets, E.L. Sorokovoy, A.A. Petrushenja, A.V. Lozin, V.E. Moiseenko, A.P. Pugovkin, Yu.K. Mironov, A.N. Shapoval
7	1-32	THE DYNAMICS OF INDUCTIVELY ACCELERATED ELECTRONS IN THE U-3M TORSATRON I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov, V.K. Pashnev, I.G. Goncharov, V.M. Listopad, N.V. Lymar
8	1-33	EFFICIENCY OF PPLASMA BIASING BY MOVEABLE LOCALIZED EMISSIVE LIMITER IN IR-T1 TOKAMAK R. Arvin, M. Ghoranneviss, A. Salar Elahi, M. Ghasemloo, S. Mohammadi and N. Mohammadi
9	1-34	DIAMAGNETIC EFFECT IN MULTIPOLE PLASMA TRAPS- GALATEAS <u>A.M. Bishaev</u> , A.I. Bugrova, M.B. Gavrikov, M.V. Kozintseva, A.S. Lipatov, V.V. Savelyev, A.S. Sigov, P.G. Smirnov, I.A. Tarelkin, P.P. Khramtsov, M.I. Shaposhnikov
10	1-36	ABOUT LEVITATION OF SUPERCONDUCTING RINGS FOR MAGNETIC SYSTEM OF MULTIPOLE PLASMA TRAP A.M. Bishaev, A.A. Bush, M.B. Gavrikov, I.S. Gordeev, A.I. Denis'uk, K.Y. Kamentsev, <u>M.V. Kozintseva</u> , V.V. Savelyev, A.S. Sigov
11	1-35	STATIONARY TWO-FLUID MHD CONFIGURATIONS IN A TOKAMAK Gavrikov M.B., Savelyev V.V.

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Poster №	Abstract. №	Title
12	4-02	HIGH-FREQUENCY GENERATION DURING THE ELECTRON FLOW DECELERATION AND REFLECTION BY THE ELECTROSTATIC POTENTIAL <u>I.K. Tarasov</u> , A.V. Pashchenko, M.I. Tarasov, D.A. Sitnikov, S.S. Romanov, I.M. Shapoval
13	4-06	THE DYNAMICS OF 3D DIODOTRONIC WAVE DURING THE “HOT” ELECTRON FLOW PROPAGATION IN THE DRIFT SPACE I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov
14	4-07	NUMERICAL SIMULATION OF COMPRESSION PLASMA FLOWS, GENERATED BY MAGNETOPLASMA COMPRESSOR <u>V.M. Astashynski</u> , S.I. Ananin, I.E. Garkusha, D.G. Solyakov
15	4-09	STUDIES ON X-RAY AND NEUTRON EMISSION FROM 2.2 KJ PLASMA FOCUS DEVICE N. Talukdar, <u>T. K. Borthakur</u> , , N. K. Neog
16	4-10	DRIFT MOTION OF CHARGED PARTICLE IN WAVE FIELD OF MAGNETIC PUMPING UNDER CHERENKOV AND CYCLOTRON RESONANCE CONDITIONS <u>K.N. Stepanov</u> , Yu. N. Yeliseyev
17	4-11	FIELD PENETRATION AND STOCHASTIC PLASMA HEATING IN CYLINDRICAL SURFACE WAVE PLASMA N.A. Azarenkov, <u>A.V. Gapon</u>
18	4-12	CYCLOTRON WAVE ABSORPTION IN LARGE ASPECT RATIO ELONGATED TOKAMAKS N.I. Grishanov, N.A. Azarenkov
19	4-13	ON DISPERSION RELATION OF SLOW CIRCULAR POLARIZED ELECTROMAGNETIC WAVES IN PLASMAS <u>E.D. Gospodchikov</u> , E.V. Suvorov
20	4-14	TRANSMISSION OF A P-POLARIZED ELECTROMAGNETIC WAVE THROUGH A TWO-LAYER PLASMA STRUCTURE <u>S. Ivko</u> , I. Denysenko, A. Smolyakov, N.A. Azarenkov, R. Trofymenko
21	4-15	PLASMA INSTABILITY IN THE AFTERGLOW OF ECR DISCHARGE SUSTAINED IN A MIRROR TRAP I. Izotov, D. Mansfeld, V. Skalyga, V. Zorin, T. Grahm, T. Kalvas, H. Koivisto, J. Komppula, P. Peura, O. Tarvainen and V. Toivanen
22	4-16	A THEORETICAL STUDY OF SURFACE LOCALIZED MODES IN FREE SPACE <u>A.P. Kovtun</u> , V.E. Moiseenko
23	4-17	PHASE AND GROUP VELOCITIES OF ELECTROMAGNETIC EIGEN WAVES OF LEFT-HAND MATERIAL SLAB N.A. Azarenkov, V.K. Galaydych, V.P. Olefir, A.E. Sporov
24	4-18	ION VISCOSITY INFLUENCE ON THE CURRENT SHEET FORMING AND HEATING <u>A. A. Kurov</u> , <u>K. N. Stepanov</u>
25	4-19	THE LOWER HYBRID TURBULENCE DRIVEN BY INHOMOGENEOUS ION-RING DISTRIBUTION V.S. Mikhailenko, D.V. Chibisov
26	4-20	SCALING LAWS FOR THE HELICON EIGENMODES IN A NONUNIFORM PLASMA CYLINDER <u>N.A. Beloshenko</u> and K.P. Shamrai
27	4-21	EFFECTIVE EVALUATION OF THE EXACT RELATIVISTIC PLASMA DISPERSION FUNCTIONS <u>S.S. Pavlov</u> , F. Castejón, M. Tereshchenko
28	4-22	EIGEN DIPOLAR ELECTROMAGNETIC WAVES OF COAXIAL PLASMA-METALL WAVEGUIDE STRUCTURE WITH AZIMUTH MAGNETIC FIELD N.A. Azarenkov, V.P. Olefir, A.E. Sporov

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Poster №	Abstract. №	Title
29	6-11	INCREASING THE DENSITY OF ENERGY IN A PLASMA PINCH IN THREE-DIMENSIONAL COMPRESSION OF TUNGSTEN QUASISPHERICAL WIRE ARRAY (QSWA). A. N. Gritzuk, V. V. Aleksandrov, E. V. Grabovskiy, K. N. Mitrofanov, G. M. Oleinik, A.P.Shevel'ko
30	6-12	IONOLUMINESCENCE of SILICA BOMBARDED by 420 keV MOLECULAR HYDROGEN IONS O. V. Kalantaryan, <u>S. I. Kononenko</u> , V. P. Zhurenko
31	6-13	IMPLOSION OF THE FOAMY-WIRE CONSTRUCTIONS ON ANGARA-5-1 FACILITY K. Mitrofanov, V. Alexandrov, E. Grabovsky, A. Grizuk, Yan Laukhin, G. Oleinik, I. Frolov
32	6-14	RADIATION OF THE LYMAN ALPHA LINE AT IONIZATION FRONT IN QSPA <u>A.N. Kozlov</u> , I.E. Garkusha, V.S. Konovalov, V.G. Novikov
33	6-15	CALCULATIONS OF THE COMPRESSIBLE PLASMA STREAMS GENERATED IN QSPA FROM THE VARIOUS GASES <u>A.N. Kozlov</u> , D.G. Solyakov, N.A. Ageychik, M.A. Velichkin, E.I. Seytkhalilova
34	6-16	CHARGE EXCHANGE NEUTRALS RESEARCH IN EDGE PLASMA OF T-10 TOKAMAK <u>V. Nikolaeva</u> , V. Kurnaev, V. Budaev, S. Grashin, A. Litnovsky, U. Breuer
35	6-17	A SUCCESSFUL SEARCH FOR THE CONFIGURATION OF THE DISCHARGE CHAMBER ON PHILIPPOV TYPE PLASMA FOCUS. Kryukov L.H., Mozgovoy A.G., Nikulin V.Ya., <u>Polukhin S.N.</u> , Volobuev I.V.
36	6-18	ENERGY CHARACTERISTICS OF PLASMA STREAM, GENERATED BY MPC I.E. Garkusha, V.V. Chebotarev, N.V. Kulik, M.S. Ladygina, A.K. Marchenko, Yu.V. Petrov, D.G. Solyakov, D.V. Eliseev, V.V. Staltsov, T.N. Cherednychenko, Ya.I. Morgal, V.M. Astashynski, S.I. Ananin
37	8-30	NORMAL AND ABNORMAL REGIMES OF DC DISCHARGE BURNING IN N₂O V.A. Lisovskiy, E.P. Artushenko, <u>V.A. Derevyanko</u> , V.D. Yegorenkov
38	8-31	AXIAL STRUCTURE OF DC GLOW DISCHARGE NEGATIVE GLOW IN NITROGEN V.A. Lisovskiy, <u>V.A. Derevyanko</u> , E.A. Kravchenko, V.D. Yegorenkov
39	8-35	KINETICS OF ARGON PLASMA NEGATIVE GLOW IN PRESENCE OF METASTABLE ATOMS V. Yu. Bazhenov, S.V. Matsevich, V.M. Piun, A.V. Ryabtsev, V.V. Tsiolko
40	8-29	ELECTRON KINETICS IN MICROPLASMA DISCHARGE INSIDE DIELECTRIC CELL WITH EQUIPOTENTIAL COPLANAR ELECTRODES O.I.Kelnyk, O.V.Samchuk
41	8-40	INFLUENCE OF ADDITIONAL ELECTRON SOURCE UPON THE MICROPLASMA DISCHARGE INSIDE DIELECTRIC CELL O.I.Kelnyk, O.V.Samchuk
42	8-41	FEATURES OF MICROPLASMA DISCHARGE IN DIELECTRIC PDP CELL WITH AUXILIARY COPLANAR ELECTRODE O.I.Kelnyk, O.V.Samchuk
43	8-39	ON THE INFLUENCE OF METAL IMPURITIES ON THE TRANSPORT PROPERTIES OF MULTICOMPONENT ARC PLASMA P. V. Porytsky
44	8-43	EXPERIMENTAL SIMULATION OF METAL-HYDRIDE CATHODE WORKING IN PENNING DISCHARGE <u>I.V. Borgun</u> , D.L. Ryabchikov, I.N. Sereda, A.F. Tseluyko

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Poster №	Abstract. №	Title
45	8-44	PROPAGATION OF MULTICOMPONENT PLASMA OSCILLATIONS ALONG THE MAGNETIC FIELD IN THE PULSED REFLEX DISCHARGE Yu.V.Kovtun, <u>A.I.Skibenko</u> , E.I.Skibenko, I.B.Pinos, Yu.V.Larin, V.B.Yuferov
46	8-45	ON THE INFLUENCE OF ELECTRODE EROSION ON THE PROPERTIES OF NONIDEAL PLASMA OF UNDERWATER DISCHARGES P.D. Starchyk, and P. V. Porytsky
47	8-46	DEVICE FOR OZONE CONCENTRATION MONITORING OCM-3 V.S. Taran, S.P. Gubarev, G.P. Opaleva, M.I. Zolototrubova.
48	8-47	THE SIMULTANEOUS SYNTHESIS OF HYDROGEN-RICH GAS AND OXIDATION OF FINE METAL PARTICLES IN WATER VAPOUR PLASMA V. Valincius, V. Grigaitiene, P. Valatkevicius, A. Tamosiunas
49	8-05	THE OBTAINING AND PROPERTIES INVESTIGATION OF PLASMA FORMATION AT PULSE DISCHARGE IN WATER AEROSOL <u>V.V. Yukhymenko</u> , I.I. Fedirchik, V.Ya. Chernyak, E.V. Martysh, O.A. Fedorovich, T.E. Lisitchenko, N.V. Belenok
50	8-50	SOURCE OF REACTIVE NITROGEN BASED ON ECR PLASMA Vodopyanov A., Mansfeld D., Golubev S.
51	8-51	TECHNOLOGICAL APPROBATION OF INTEGRAL CLUSTER SET-UP FOR COMPLEX COMPOUND COMPOSITES SYNTHESIS S. Yakovin ¹ , S. Dudin, A. Zykov, A. Shyshkov, V. Farenik
52	8-52	THE STUDY OF THE NEAR-WALL LAYER IN THE DENSE PLASMA <u>V.A. Zhovtyansky</u> , E.P.Kolesnikova
53	PD-1	COMPARISON OF DBD DISCHARGE MODES FUNGICIDAL EFFECT ON CANDIDA ALBICANS GROWTH J. Sláma, V.Kříha, J. Julák, V. Fantova
54	PD-2	ACTIVE CONTROL OF ATMOSPHERIC PRESSURE DISCHARGES J. Sláma, J. Bauer, S. Flígl, V. Kříha
55	9-14	NUMERICAL SIMULATION AND EXPERIMENTAL INVESTIGATION OF BIPOLAR SINGLE-GRID ENERGY ANALYZERS D.V. Rafalskyi, S.V. Dudin, P.A. Srebniuk, V.I. Farenik
56	9-15	MICROPROCESSOR BASED HARDWARE-SOFTWARE COMPLEX FOR INVESTIGATING THE MAGNETIC SURFACES OF TORSATRON “URAGAN-2M” S.P. Gubarev, G.G.Lesnyakov, G.P. Opaleva, A.N.Shapoval, V.S.Taran, M.I. Zolototrubova
57	9-16	THE BROADENING OF SPECTRUM OF OSCILLATIONS EXCITED BY ACTIVE ANTENNA ARRAY I.K. Tarasov, M.I. Tarasov, D.A. Sitnikov, V.M. Listopad, N.V. Lymar
58	9-21	BRAKING RADIO EMISSION PARTICLE CONDENSED DISPERSED PHASE IN THE PLASMA OF COMBUSTION PRODUCTS V.I. Marenkov

19.30- 22.30

CONFERENCE DINNER

SESSION XII (Hall A)

Chaired by I. Anisimov and D.Grekov

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| 9.30 | 4-05 | KINETIC SIMULATION OF LOW PRESSURE RF DISCHARGE IN NONUNIFORM AXISYMMETRIC MAGNETIC FIELD
V.V.Olshansky |
| 9.50 | 8-07 | PARTICLE CHARGING IN BEAM-PLASMA SYSTEMS
A.A. Bizyukov, <u>E.V. Romashchenko</u> , K.N. Sereda, S.N. Abolmasov |
| 10.10 | 8-06 | REFORMING OF BIOETHANOL IN THE SYSTEM WITH REVERSE VORTEX AIR/CO₂ FLOW OF “TORNADO” TYPE WITH LIQUID ELECTRODE
<u>O.A. Nedybaliuk</u> , Ol.V. Solomenko, V.Ya. Chernyak, E.V. Martysh, T.E. Lisitchenko, L.V. Simonchik, A.I. Liptuga, N.V. Belenok |
| 10.30 | 8-03 | TREATMENT OF POLYIMIDE FILMS IN PLASMA OF CAPACITIVE RF DISCHARGE AT ATMOSPHERIC PRESSURE FOR LIQUID CRYSTAL ALIGNMENT
Bazhenov V.Yu., Kravchuk R.M, Kuzmichev A.I., Tsiolko V.V., Piun V.M., <u>Chaplinskiy R.Yu.</u> , Yaroschuk O.V. |
| 10.50 | 8-48 | INVESTIGATION OF PULSE BARRIER DISCHARGE IN WATER–AIR MEDIUM
V.S. Taran, V.V. Krasnyj, A.S. Lozina, O.G. Chechelnytskij, O.M Shvets |

11.10-11.40 Coffee break

SESSION XIII (Hall A)

Chaired by I. Garkusha and V. Safronov

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|-------|------|---|
| 11.40 | 1-03 | PROBLEM OF UNIFORM COMPRESSION IN MAGNETO-INERTIAL SCHEMES A.Yu. Chirkov, <u>S.V. Ryzhkov</u> , V.V. Shumaev |
| 12:00 | 1-01 | CONTROL OF THE EDGE TURBULENT TRANSPORT BY HOT LIMITER BIASING ON THE IR-T1 TOKAMAK
<u>M. Ghoranneviss</u> , A. Salar Elahi, S. Mohammadi and R. Arvin |
| 12.20 | 3-04 | EFFECT OF RELATIVISTIC NONLINEARITY ON THE DYNAMICS OF GAUSSIAN SPIKES ON GAUSSIAN LASER BEAM IN MAGNETOPLASMA <u>M. Aggarwal</u> , A. Singh |
| 12.40 | 9-19 | TOEPHLER PHOTOMETRIC MEASUREMENTS OF ELECTRON DENSITY IN COLLIDING COUNTER-FLOWS OF EROSION PLASMA P.P. Khramtsov, O.G. Penyazkov, <u>V.M. Grishchenko</u> , M.Yu. Chernik, I.A. Shikh |
| 13.00 | 9-18 | TURBULENCE MICROSCALES AND ELECTRODE EROSION CONTROL BY DIGITAL SPECKLE TECHNOLOGY WITH NANOMETRIC RESOLUTION N.B. Bazylev, <u>N.A. Fomin</u> |
| 13.20 | 5-02 | SATELLITE OBSERVATIONS OF PLASMA-WAVE DISTURBANCES, INDUCED BY HIGH-POWER RADIO EMISSION FROM THE NWC TRANSMITTER <u>A.S.Belov</u> , G.A.Markov, M. Parrot |
| 13.40 | 5-01 | ALFVEN WAVE INSTABILITY BASED ON TEMPERATURE ANISOTROPY WITH NON-MAXWELLIAN DISTRIBUTION FUNCTION M. N. S. Oureshi and Sundas Saeed |

14.00

CLOSING *DEPARTURE*

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