

**V INTERNATIONAL CONFERENCE
"ELECTRONICS AND APPLIED PHYSICS"
Taras Shevchenko National University of Kyiv,
Radiophysics Faculty
21-24 October 2009, Kyiv, Ukraine**

October 21, 2009

09:00-17:00 Registration of the participants of the Conference
(Foyer of Faculty of Radiophysics, building No 5, 2 Acad. Glushkov Avenue)

October 22, 2009

09:00-10:40 Registration of the participants of the Conference
(Foyer of Faculty of Radiophysics, building No 5, 2 Acad. Glushkov Avenue)

Plenary session (auditorium # 42)

10:45 Opening ceremony
Prof. Anisimov I.O., Dean of the Faculty, Vice-Chairman of the Conference

10:50

Invited Lecture

**SATELLITE EXPLORATION OF WAVE PROCESSES IN THE EARTH
IONOSPHERE**

G. Lizunov

Space Research Institute NASU-NSAU

15:00-19:00 Walking-tour (excursion) in the center of Kyiv (start from Foyer of Faculty of RadioPhysics)

October 23, 2009

Topical Sessions

1. Laser Physics and Optoelectronics (auditorium # 13, **14:15**),
Chairman Dr. Savenkov S.M.

**1 THE PROBLEM AND METHOD OF ACTIVE MEDIUM FOR ULTRAVIOLET
LASERS OPTIMIZATION**
V.I.Vysotskii, P.O.Rodionov

Kyiv Taras Shevchenko National University, Radiophysical Dept., Kyiv, Ukraine

**2 THERMAL LENSING MEASUREMENTS IN FLASHLAMP-PUMPED ND:KGW
LASER CRYSTAL CUT NEAR THE OPTICAL AXIS**
P.A. Loiko¹, K.V. Yumashev¹, N.V. Kuleshov¹, A.A. Pavlyuk²

*¹Belarussian national technical university, institute for optical materials and technologies,
65 Nezavisimosti ave., Minsk, Belarus 220013*

*²Institute of Inorganic Chemistry, Siberian Branch of RAS, 3 Lavrentyev Ave., Novosibirsk,
Russia 630090*

3 ESCAPE TIME FROM METASTABLE STATE IN SPIN-CROSSOVER SOLIDS UNDER

COLORED NOISE

Iu.V.Gudyma, A.Iu.Maksymov

Department of General Physics, Chernivtsi National University, Chernivtsi, Ukraine 58012

4 **MODIFICATION OF DYNAMIC LIGHT SCATTERING METHOD FOR
DETERMINATION OF THE SIZE OF NANOPARTICLES IN LIQUIDS**

O. I. Isaienko*, A. I. Ivanisik

Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

5 **DISCRETE STATES AND PHASE TRANSITIONS FOR THE ADSORBED AND
CAPILLARY WATER IN THE POROUS AND DISPERSED SiO_2**

M.Ye.Korniyenko, V.I.Grygoruk, O.M Korniyenko

Taras Shevchenko National University, Kyiv, pr. Glushkova 6

6 **NONLINEAR-WAVE AND VIBRATIONAL-ELECTRONIC INTERACTIONS,
THERMAL EFFECTS AND PHYSICAL MEANING OF ENTROPY FOR CONDENSED
MEDIA**

M.Ye. Korniyenko

Taras Shevchenko National University, Kyiv, Prosp. Glushkova 6

7 **QUASI-DISTRIBUTED FIBER-OPTIC TEMPERATURE MEASURING DEVICE**

M.A. Ksenofontov, A.V. Polyakov, V.S.Vasil'eva, O.O.Gavrilenko

Institute of Applied Physics Problems, 7 Kurchatov str., Minsk, 220108 Belarus

8 **ORTHOGONAL NORMALIZED BASE FOR THE OPTICAL AND RADIO SIGNALS
Ovechko V.S.**

*Radiophysical Faculty, Kyiv National Taras Shevchenko University, Glushkov. 6, Kyiv, 03127,
Ukraine*

9 **OPTOELECTRONIC RECIRCULATING SYSTEM FOR HIGH-VOLTAGE
MEASUREMENTS**

A.V. Polyakov

Belarussian State University, 4 Nezavisimosti Ave., Minsk, 220030 Belarus

10 **PHOTOCHROMISM OF SUBMICROMETER STRUCTURED FILMS OF POLYVINYL
ALCOHOL HYDROGEL DOPED WITH COMPLEXES OF CoCl_2 AND RHODAMINE**

Konopla M. M., Sokolov V.A.

*Institute of Applied Problems in Physics and Biophysics of NAS of Ukraine, 03680 Kiev, Vasyl
Stepanchenko str, 3*

11 **HYDROGEL INDICATIVE SYSTEMS FOR SENSORS OF EXHALED ACETONE**

Konopla M. M., Sokolov V.A.

*Institute of Applied Problems in Physics and Biophysics of NAS of Ukraine, 03680 Kiev, Vasyl
Stepanchenko str, 3*

12 **NANO-SIZED FILM FOR SENSING PURPOSES**

Konopla M. M., Sokolov V.A.

*Institute of Applied Problems in Physics and Biophysics of NAS of Ukraine, 03680 Kiev, Vasyl
Stepanchenko str, 3*

13 **PERSPECTIVES OF TANDEM FREE ELECTRON LASER CREATION ON
CHANNELING RELATIVISTIC PARTICLES**

M. V. Vysotsky, V. I. Vysotskii

National Taras Shevchenko University of Kyiv, Radiophysical Dept., Vladimirska Str., 64,

2. Physics of Magnetism and Superconductivity (auditorium # 406, **14:15**),
Chairman Prof. Kovalenko V.F., Dr. Nechyporuk O.Y.

- 1 **MEASURING MAGNETIZATION CURVE OF MAGNETIC LIQUID METHOD
ANALOG DIFFERENTIATION**
Burdayniy O.S., Petrichuk M.V.
*Kiev Taras Shevchenko University, Radiophysics Department, 64 Volodymirska Str., 01017 Kiev,
Ukraine*
- 2 **MUTUAL PHASE-LOCKING OF TWO SPIN-TORQUE NANOSIZE OSCILLATORS:
THE INFLUENCE OF TIME DELAY**
O. V. Prokopenko
Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine
- 3 **SPIN-TORQUE NANO-OSCILLATOR AS A MICROWAVE SOURCE**
O. V. Prokopenko
Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine
- 4 **MICROWAVE OUTPUT POWER OF SYSTEM WITH MULTIPLE SPIN-TORQUE
NANO-OSCILLATORS**
O. V. Prokopenko
Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine
- 5 **DETERMINATION OF GEOMETRICAL FACTOR OF THE COMBINED HTS
MICROSTRIP RESONATOR**
A.V. Vakaliuk², A.A. Kaleniuk¹, K.A. Greben², O.V. Prokopenko², V.M. Pan¹
¹Institute for metal physics NASU, 03142, 36 Vernardsky blvd., Kiev, Ukraine
*²Radiophysics Faculty of National Taras Shevchenko University of Kyiv, 2 Acad. Glushkov Ave.,
building № 5, 03127, Kyiv, Ukraine*
- 6 **MAGNETIZATION'S DYNAMICS OF TWO COUPLED SPIN-TORQUE
NANOOSCILLATORS**
R. V. Verba, O. V. Prokopenko
Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine
- 7 **ELECTRON CURRENT DENSITY THROUGH A NON-STATIONARY MAGNETIC
TUNNEL JUNCTION**
D. V. Abdulkadyrov, N. N. Beletskii
*Usikov Institute of Radiophysics and Electronics of the NAS of Ukraine, 12, Acad. Proskura Str.,
61085 Kharkov, Ukraine*
- 8 **MICROWAVE DIVISION OF BACKWARD VOLUME MAGNETOSTATIC WAVES IN
YTTRIUM-IRON GARNET FILMS**
Melkov G. A., Moiseienko V. A., Bozhko D. A.
National Taras Shevchenko University of Kiev, 64 Volodymyrska Str, Kiev, 01033, Ukraine
- 9 **CONTROL OF NON-RECIPROCAL SPINTRONIC ELEMENTS BY MAGNETIC FIELD**
V. Sohatsky, Y. Shulimov
Taras Shevchenko Kyiv National University, Ukraine
- 10 **THERMAL INFLUENCE ON MAGNETOELECTRIC CHARACTERISTICS OF**

YTTRIUM IRON GARNET THIN FILMS

A.A. Kalenichenko, V.E.Koronovskyy

*Department of Radiophysics, Taras Shevchenko Kiev National University, 2, Prospekt Glushkova t,
03127 Kiev, Ukraine*

3. Surface Physics, Nano- and Microelectronics (auditorium # 500, **14:15**), *Chairman Prof. Il'chenko V.V., Dr. Koval' I.P.*

- 1 **THE OUTLOOK OF THE DEVELOPMENT OF CONTROLLING DEVICES, BASED
ON INTEGRAL SURFACE – ORIENTED SI AND GAAS STRUCTURES**
 O.M. Ivanyuta, Ya.I. Kishenko, V.V. Matvienko
 Kiev Taras Shevchenko National University, 64, Vladimirska str., Kiev, 01017, Ukraine
- 2 **COMPUTER SIMULATION OF ATOMS ADSORPTION CENTERS ON GRAPHENE**
 V.I. Gorbenko
 Classical Private University, Zhukovskiy St., 70 B, Zaporozhye, 69002, UKRAINE
- 3 **ROTATION OF BI ADDIMER ON THE SI(001)2X1. DFT AND CASSCF CLUSTER
STUDY.**
 T. Afanasieva, I. Koval, M. Nakhodkin
 Taras Shevchenko National University of Kiev, Volodymirska Street, 64
- 4 **METALLIZATION EFFECT ON POR-SI HETEROJUNCTION PROPERTIES**
 T.Yu. Bilyk
 Kiev National Technical University of Ukraine "KPI", Kiev, pr. Peremogy, 37
- 5 **THE INVESTIGATION OF ELEMENTAL COMPOSITION OF SnO₂ /Si
HETEROSTRUCTURE WITH DOPPED AND UNDOPPED SnO₂ FILMS**
 A.I. Duhliy, V.V. Il'chenko, V.M. Telega, O.I. Kravchenko, V.S. Kovalenko
 Taras Shevchenko National University of Kyiv, Kyiv 033, Volodymirska 64
- 6 **FORMATION AND PROPERTIES OF THE BI/GE(111) INTERFACE**
 M.I. Fedorchenko, B.S. Lepiavko, M.G. Nakhodkin
 *Radiophysics department of Taras Shevchenko Kyiv National University, Volodymyrska, 64,
Kyiv, Ukraine*
- 7 **MULTIPLY VIBRATION RESONANCES IN C₆₀ FULLERITE, VIBRATION-
ELECTRON INTERACTION AND POLYMERIZATION MACHANISMS**
 M.Ye. Korniyenko, M.P. Kulish, O.L. Pavlenko, S.A. Alekseev, O.P. Dmytrenko
 Taras Shevchenko National University, Kyiv, pr. Glushkova 6
- 8 **METHOD OF 2-DIMENSIONAL PHOTONIC CRYSTAL RADIAL DISTRIBUTION
FUNCTION SIMULATION.**
 Alexander A. Miskevich, Valery A. Loiko
 *B.I. Stepanov Institute of physics of NAS of Belarus, Nezalezhnastsi ave., 68, Minsk, 220072,
Belarus*
- 9 **RESOLUTION IMPROVEMENT OF TIME-OF-FLIGHT LASER-IONIZATION MASS-
SPECTROMETER**
 Ya.Z. Horishny, A.I. Knurenko, O.G. Kolesnyk
 Taras Shevchenko National Kyiv University Volodymirs'ka Str.64, 01033 Kyiv, Ukraine

- 10 **ATOMIC OXYGEN ADSORPTION IN TO BACKBOND OF Ge/Si(001) SURFACE DIMERS. MULTICONFIGURATION SELF CONSISTED FIELD STUDY.**
 T. Afanasieva, O. Grinchuck, I. Koval, M. Nakhodkin
 Taras Shevchenko National University of Kiev, Volodymirska Street, 64
- 11 **THE STRUCTURAL POTENTIAL IN THE SUPERTHIN VACUUM GAP BETWEEN TWO SEMICONDUCTORS.**
 L.G. Il'chenko¹, V.V. Il'chenko², V.V. Lobanov¹
 ¹*Chuiko Institute of Surface Chemistry of National Academy of Science of Ukraine, General Naumov Str. 17, 03164, Kiev-164*
 ²*Radiophysical Department, Kiev Taras Shevchenko University, Volodimirska Str. 64, 02033, Kiev-33*
- 12 **CALIBRATING TRANSFORMATIONS OF FIELD THEORIES AS A CONSEQUENCE OF A SPACE-TIME CRYSTAL-LIKENESS**
 M.V. Maksyuta
 Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine
- 13 **ON THE POSSIBILITY TO OBTAIN THE DIFFERENTIAL EQUATIONS OF THE PARTICLE MOTION OF AN ARBITRARY SPIN BY MEANS OF THE KNOTS THEORY**
 M.V. Maksyuta
 Taras Shevchenko National University of Kyiv, 64, Volodymirska str., Kyiv, 01033, Ukraine

4. Physics of Semiconductors and Dielectrics, Semiconductor's Devices (auditorium # 38, **14:15**), *Chairman Prof. Skryshevsky V.A.*

- 1 **SAMPLE'S RELIEF INFLUENCE ON IMAGE FORMING IN NEAR-FIELD MICROWAVE MICROSCOPE**
 Gaidai Yu.A., Sidorenko V.S., Sinkevich O.V., Semenets Yu.G.
 Radiophysics Faculty of Taras Shevchenko National University of Kyiv, 2, Glushkov Ave., building № 5, Kyiv, Ukraine
- 2 **FREQUENCY DEPENDENCE OF NEGATIVE DIFFERENTIAL CAPACITANCE IN SiO₂ STRUCTURES WITH EMBEDDED Si CLUSTERS**
 A.A. Buyanin, V.V. Marin, V.V. Ilchenko, O.V. Tretyak
 Radiophysics faculty of Kiev Taras Shevchenko University, 2 Glushkova Akademika avenue, Kiev, Ukraine
- 3 **DIELECTRIC PROPERTIES WATER**
 O.M. Ivanyuta, Ya.I. Kishenko, O.V. Prokopenko
 Kiev Taras Shevchenko National University, 64, Vladimirska str., Kiev, 01017, Ukraine
- 4 **THE IMPEDANCE P IN DIODE MEASURED BY PULSE TECHNIQUE**
 O.M. Ivanyuta, Ya.I. Kishenko, V.V. Matvienko
 Kiev Taras Shevchenko National University, 64, Vladimirska str., Kiev, 01017, Ukraine
- 5 **DETECTION OF MELAMINE IN MILK USING LUMINESCENCE SPECTROSCOPY**
 T.Serdiuk^{a1}, V.Skryshevsky^a, M.Iazykov^{a,b}, M. Phaner-Goutorbe^b
 ^a*Radiophysics Department, Kyiv Taras Shevchenko National University, 64, Volodymyrska, Kiev, Ukraine, ¹e-mail: ts@univ.kiev.ua*
 ^b*Institut des Nanotechnologies de Lyon UMR 5270, Ecole Centrale de Lyon, Université Lyon I 36 avenue Guy de Collongue 69134 Ecully, France*

6 **ANOMALOUS STRENGTHENING ABSORPTION BANDS OF QUARTZ OVERTONES UNDER THE INFLUENCE OF INTERNAL OH GROUPS**

M.Ye.Korniyenko, V.I.Grygoruk, O.M Korniyenko
Taras Shevchenko National University, Kyiv, pr. Glushkova 6

5. Modern Physical Methods in Medical and Biological Researches (auditorium # 311, **14:15**), *Chairman Dr. Kononov M.V.*

1 **RAMAN SPECTROSCOPY MODIFYINGS SWCNT**

V.E. Andrienko, O.M. Ivanyuta, O.V. Prokopenko
Kiev Taras Shevchenko National University, 64, Vladimirska str., Kiev, 01017, Ukraine

2 **PHOTOLUMINESCENCE SPECTROSCOPY OF BIOMOLECULES UNDER LASER EXCITATION IN VISIBLE WAVELENGTH RANGE: OPTICAL RECOGNITION OF AMINO-ACIDS NANOPARTICLES IN BIOMIMETIC POWDERS AND SOLUTIONS**

H. Gogotsi¹, V. Frolov², I. Sporysh¹, L.Lukashuk¹, O. Shynkaruk¹, O .Kysil¹, T. Erb³, G.Gobsh³, U.Ritter³, P.Scharff³

¹*National Taras Shevchenko University of Kyiv, Radiophysics and Chemical faculties, 64, Volodymirska Str., 01601 Kyiv, Ukraine*

²*Paramed Company, 31-A, Academic Glushkov ave., of.4, 03187, Kyiv, Ukraine;*

³*TU Ilmenau, Institut für Physik / FG Chemie, Postfach 100565, 98684 Ilmenau, Germany*

3 **LASER SENSING OF PERIPHERAL BLOOD LYMPHOCYTES FOR REVEALING VIRUS INFECTIONS**

G. I. Ruban¹, V. V. Berdnik¹, N. V. Goncharova², D. V. Marinitch², and V. A. Loiko¹

¹*Stepanov Institute of Physics, the National academy of sciences of Belarus, Nezavisimosti Ave. 68, 220072, Minsk, Belarus*

²*Centre of Hematology and transfusiology, Ministry of Health of Belarus, Dolginovsky Ave. 160, 223059, Minsk, Belarus*

4 **IR SPECTROSCOPIC CHARACTERIZATION OF C₆₀ FULLERITE:MAGHEMITE NANOCOMPOSITE IN GLUCOSE SOLUTION EXCITED BY THE LIGHT IN VISIBLE WAVELENGTH RANGE FOR THE PREDICTION OF ITS BEHAVIOR IN BIOLOGICAL SYSTEMS**

O. Shynkaruk¹, O. Litsis¹, I. Sporysh¹, O. Kisil¹, U.Ritter², P.Scharff², V. Dubok³

¹*National Taras Shevchenko University of Kyiv, Chemical and Radiophysics faculties, 64, Volodymirska Str., 01601 Kyiv, Ukraine*

²*TU Ilmenau, Institut für Physik / FG Chemie, Postfach 100565, 98684 Ilmenau, Germany*

³*IPMS of NASU, 3, Krujanovskogo Str., 03142, Kyiv, Ukraine*

5 **CHARACTERIZATION OF PERIPHERAL BLOOD MONONUCLEAR CELLS WITH FLOW CYTOMETRY**

Valery A. Loiko¹, Gennady I. Ruban¹, Olga A. Gritsai¹, Vladimir V. Berdnik², and Natalia V. Goncharova³

¹*Stepanov Institute of Physics of the NASB, Nezavisimosti avenue 68, 220072, Minsk, Belarus*

²*Centre of aerospace researches "Agroresource", K. Marx str., 65, 420015, Kazan, Russia*

³*Centre of Hematology and transfusiology, Dolginovsky avenue 160, 223059, Minsk, Belarus*

6 **NMR -VISUALIZATION OF THE MAGNETIC PARTICLES CELL DIFFUSION**

Kononov M.V. Naguliak O.O. Netroba A.V.

Faculty of Radiophysics, National Taras Shevchenko University of Kyiv, 64, Vladimirska, Kiev, Ukraine

- 7 **NONINVASIVE MEASUREMENT OF VENOUS BLOOD SATURATION USING
RESPIRATORY RHYTHM OF PHOTOPLETHYSMOGRAM**
M.M. Asimov^b, S.S. Yesman^a, A.I. Gisbrecht^c, S.A. Mamilov^a, A.N. Rubinov^b.
^a*Institute of Applied Problems of Physics and Biophysics, NAS of Ukraine, 44 Lvivska Str. 03115
Kiev, Ukraine*
^b*Institute of Physics, National Academy of Sciences of Belarus, 68 Nezalechnosti St., 220072
Minsk, Belarus.*
^c*Institute of Electronics, Bulgarian Academy of Sciences, 42 Tzaregradsko Blvd, 1784 Sofia,
Bulgaria.*
- 8 **REFLECTION OF AlN/n-Si (111) FILMS OBTAINED BY THE METHOD OF
HIGH-FREQUENCY MAGNETRON SPUTTERING**
Zayats N.S., Boiko V.G., Gentsar P.A., Vuichyk M.V., Stronski A. V.
*V. Lashkarev Institute of Semiconductor Physics, NASU, Kyiv-28, Nauky av., 41, 03028,
Ukraine*
- 9 **RECONSTRUCTION METHOD FOR LOCAL MR RELAXATION DATA VISUALIZATION
AND EVALUATION OF ACCUMULATED ION CONCENTRATION**
S. P. Radchenko, Y. M. Suleimanov
*Kyiv Taras Shevchenko University, Medical Radiophysics Department, Volodymyrska 64,
Kyiv, Ukraine*

6. Plasma Physics (auditorium # 45, **10:45**), *Chairman Prof. Anisimov I.O., Prof. Chernyak V.Y., Dr. Kravchenko O.Y.*

- 1 **OPTICAL EMISSION SPECTROSCOPY OF PLASMA IN GLIDING ARC WITH
STAINLESS STEEL ELECTRODES**
V.Ya. Chernyak¹, I.V. Prysiashnevych¹, Ok.V. Solomenko¹, V.V. Naumov¹,
J. Diatczyk², and H.D. Stryczewska²
¹*Taras Shevchenko National University of Kyiv, Faculty of Radio Physics, Prospect Acad.
Glushkova 2/5, Kyiv 03022, Ukraine*
²*Institute of Electrical Engineering & Electrotechnology, Lublin University of Technology,
Nadbystrzycka St. 38A, Poland*
- 2 **TECNQUES OF DETERMINING VIBRATIONAL AND ROTATIONAL EXCITATION
TEMPERATURES BY OH (A-X) AND N2 (C-B) BANDS FOR PLASMA DIAGNOSTICS**
I. Prysiashnevych, L. Lomonos, V. Chernyak
*Taras Shevchenko National University of Kyiv, Faculty of Radio Physics, Glushkova 2/5, Kyiv
03022, Ukraine*
- 3 **SIMULATION OF METALS EMISSION SPECTRA WITH USING DIFFERENT
INSTRUMENTAL FUNCTIONS FOR PLASMA DIAGNOSTICS OF ARC
DISCHARGES**
Ok.V. Solomenko, I.V. Prysiashnevych, V.Ya. Chernyak
*Taras Shevchenko National University of Kyiv, Faculty of Radio Physics, Glushkova 2/5, Kyiv
03022, Ukraine*
- 4 **INVESTIGATION OF THERMAL PLASMA IN ELECTRIC ARC BURNING BETWEEN
COPPER ELECTRODES**
M. Bartlova¹, O. Coufal¹, I. Babich², V. Boretskij², A. Veklich²
¹*Brno University of Technology, Brno, Czech Republic, bartlova@feec.vutbr.cz*
²*Taras Shevchenko Kyiv National University, Radio Physics Faculty, Kyiv, Ukraine*

- 5 **CURRENT CATHODE SPOT IN DC GLOW DISCHARGE AS APERIODIC
DISSIPATIVE STRUCTURE**
O.P.Ponomaryov*, I.O.Anisimov**
*Taras Shevchenko National University of Kyiv, Radio Physics Faculty, 2 Glushkove, Building
№ 5, Kyiv, Ukraine*
- 6 **DC GAS BREAKDOWN IN LONG DISCHARGE TUBES**
V.A. Lisovskiy, V.A. Koval, V.D. Yegorenkov
Kharkov National University, 61077, Kharkov, Svobody sqr. 4, Ukraine
- 7 **INFLUENCE OF ION-BEAM PLASMA ON THE ION EXTRACTION EFFICIENCY IN
SINGLE-GRID ION SOURCE**
S.V.Dudin, D.V.Rafalskyi
V.N.Karazin Kharkiv National University, Kurchatova Ave. 31, Kharkiv 61108, Ukraine
- 8 **COLLECTIVE ACCELERATION OF PLASMA ELECTRONS DURING THE BEAM-
PLASMA INTERACTION**
S.M. Levitsky, D.M. Velykanets'
*Taras Shevchenko National University of Kyiv, Radio Physics Faculty, 60 Volodymyrs'ka St.,
01033, Kyiv, Ukraine*
- 9 **HEATING OF THE BACKGROUND PLASMA DURING THE DEVELOPMENT OF
BEAM-PLASMA INSTABILITY**
D.M. Velykanets', I.O. Anisimov
*Taras Shevchenko National University of Kyiv, Radio Physics Faculty, 60 Volodymyrs'ka St.,
01033, Kyiv, Ukraine*
- 10 **CURRENT DENSITY WEIGHTING SCHEME FOR 2.5D ELECTROMAGNETIC
PLASMA SIMULATION CODE**
Tolochkevych.Yu.M.*, Litoshenko.T.E. ,Anisimov I.O.*****
*Taras Shevchenko National University of Kyiv, Radio Physics Faculty, 2 Glushkov Ave, Building
5, Kyiv, Ukraine*
- 11 **DYNAMICS OF THE STRIPPED MODULATED ELECTRON BEAM IN THE
HOMOGENEOUS PLASMA BARRIER**
I.O.Anisimov, M.J.Soloviova
Taras Shevchenko National University of Kyiv, Radio Physics Faculty, Kyiv, Ukraine
- 12 **EXPERIMENTAL AND THEORETICAL STUDY OF GAS BREAKDOWN IN
LONGITUDINAL COMBINED ELECTRIC FIELDS**
V.A. Lisovskiy, N.D. Kharchenko, V.D. Yegorenkov
Kharkov National University, 61077, Kharkov, Svobody sqr. 4, Ukraine
- 13 **PECULIARITIES OF ELECTRIC ARC PLASMA BETWEEN COPPER ELECTRODES
IN ARGON FLOW**
Babich I.L., Boretskij V.F., Soroka P.V., Veklich A.N.
Taras Shevchenko Kyiv National University, Ukraine 64, Volodymyrs'ka Str., Kyiv 01033
- 14 **THE INFLUENCE OF THE EXPLOSIVE EMISSION ON CATHODE LAYER IN
LOW PRESSURE GLOW DISCHARGE**
O.Y. Kravchenko, O.V. Pyankova
Taras Shevchenko National University of Kyiv, Volodymyrs'ka Str. 64, 01033 Kyiv, Ukraine
- 15 **INFLUENCE OF THE PARAMETRIC-RESONANT WAVE INTERACTIONS AT THE**

PROCESS OF FORMATION OF THE TWO-STREAM INSTABILITY WIDE-BAND SPECTRUM

V.V. Kulish¹, A. V. Lysenko², M.Yu. Rombovsky²

¹*National University of Aviation, 03058 Kiev, Ukraine,*

²*Sumy State University, 44007 Sumy, Ukraine*

16 **ABOUT THE POSSIBILITY TO FILL THE STELLARATOR TYPE MAGNETIC TRAP WITH PLASMA USING OF TRANSIT PARTICLES**

A. A. Shishkin, O. Yu. Antufyev, M. A. Surkova

Kharkiv V.N.Karazin National University, Svobody sqr. 4, Kharkiv, 61077, Ukraine

17 **PROPAGATION AND REFLECTION OF CHIRPED PULSES IN THE IONOSPHERIC PLASMA**

S.M.Levitsky

Kiev National Taras Shevchenko University

18 **DISCHARGE IN REVERSE VORTEX FLOW OF TORNADO TYPE**

O.A. Nedybaliuk, S.V. Olzewski, V.Ya.Chernyak, O.I. Lomonos

Taras Shevchenko National University of Kyiv, Faculty of Radio Physics, Dept. of Physical Electronics, Prospect Acad. Glushkova 2/5, Kyiv 03022, Ukraine

19 **PLASMA MAGNETIC FIELD FOR NEAR-EARTH SUBSTORM**

A.I. Knurenko

Taras Shevchenko National University of Kyiv64, Volodymyrs'ka St., 01601 Kyiv, Ukraine

20 **PROPERTIES OF WATER-HYDROCARBON SOLUTIONS AFTER PULSED PLASMA-LIQUID SYSTEMS TREATMENT**

S.S. Sidoruk¹, V.Ya. Chernyak¹, S.V. Olszewski¹, O. V. Yukhymenko¹, V. Demchina², V. Kudryavzev²

¹*Dep. of Physical Electronics, Faculty of Radiophysics, Kyiv National Taras Shevchenko University, Glushkova 2/5, Kiev, Ukraine*

²*Institute of Gas, Ukrainian Academy of sciences, Degtyarovskaya 39, Kiev 03113, Ukraine*

21 **PROPERTIES OF PLASMA MICROPOROUS-LIQUID SYSTEM BASED ON THE DISCHARGE IN GAS CHANNEL WITH LIQUID WALL**

S.V. Olszewski, Ol.V. Solomenko, V.Ya. Chernyak.

Radiophysical Faculty, Kyiv National Taras Shevchenko University, Glushkova 2/5, Kyiv, Ukraine

22 **THE STATISTICAL ANALYSIS OF FLUCTUATIONS OF THE EARTH'S MAGNETIC FIELD FOR SUBSTORM**

A.I. Knurenko

Taras Shevchenko National University of Kyiv, 64, Volodymyrs'ka St., 01601 Kyiv, Ukraine

23 **METHODS FOR DETERMINATION OF ENERGY CHARACTERISTIC OF PLASMA ON MOLECULE CN**

V.V. Yukhymenko¹, V.Ya. Chernyak¹, I.V. Prisyazhnevich¹, Iu.P. Veremii¹, M.O. Verovchuk¹, V.V. Naumov²

¹*Radio Physics Faculty, Taras Shevchenko Kyiv National University, Prospect Acad. Glushkova 2/5, Kyiv 03022, Ukraine*

²*Institute of Fundamental Problems for High Technology, Ukrainian Academy of Sciences, Prospect Nauki 45, Kyiv 03028, Ukraine*

24 **COMPARISON OF PLASMA CONVERSION OF ETHANOL IN PLASMA-LIQUID**

SYSTEM FOR REGIMES WITH A FLOW OF AIR AND WITHOUT A FLOW OF AIR

**V.V. Yukhymenko¹, V.Ya. Chernyak¹, D.S. Levko², A.I. Shchedrin², V.P. Demchina³,
V.S. Kudryavzev³**

¹*Faculty of Radiophysics, Taras Shevchenko Kyiv National University, Glushkova 2/5, Kyiv, Ukraine; e-mail: chern@univ.kiev.ua*

²*Institute of Physics, National Academy of Sciences of Ukraine, Kyiv 03028, Ukraine;*

³*Institute of Gas, Ukrainian Academy of Sciences, Degtyarevskaya 39, Kyiv 03113, Ukraine*

25 **INVESTIGATIONS OF PLASMA OF ELECTRIC ARC DISCHARGE BETWEEN
COMPOSITE ELECTRODES ON SILVER BASE**

R.Semenyshyn¹, I.Babich¹, V.Boretskij¹, L.Kryachko², T.Melnyk¹, A.Veklich¹

¹*Department of Radio Physics, Taras Shevchenko Kyiv National University, Kyiv, Ukraine,
64, Volodymyrs'ka Str., Kyiv 01033*

²*I.M.Frantsevich Institute for Problems of Materials Science, NAS of Ukraine, Kyiv, Ukraine*

17:00 **Closing ceremony (auditorium # 42)**