Program: 3/13/15

Session PL0: Welcome Session

Monday, May 25 09:00-09:00, Citrine II-III

Session Chairs:

Session PL1: Plenary PL1

Monday, May 25 09:30-10:30, Citrine II-III

Session Chairs:

9:30 PL1-1 MAGNETO-INERTIAL FUSION RESEARCH IN THE UNITED STATES: A PROMISING PROSPECT
D. B. Sinars
Sandia National Laboratories, Albuquerque, NM, USA

Session 1A: Space Plasmas

Monday, May 25 11:00-13:00, Opal I

Session Chair: Peter H Yoon, University of Maryland, College Park

11:00 1A-1 (invited) WEAK TURBULENCE IN RADIATION BELTS
G. Ganguli1, C. Crabtree1, M. Mithaiwala1, L. Rudaov2
1Plasma Physics Division, Naval Research Laboratory, Washington, DC, United States
2Icarus Inc., Bethesda, MD, US

11:30 1A-2 (invited) ABSORPTION AND EMISSION SPECTROSCOPY REVEALING ASTROPHYSICAL PLASMA PROPERTIES IN AT-PARAMETER LABORATORY EXPERIMENTAL SIMULATIONS
M. E. Koepke1, G. A. Rochau2, G. P. Loisel3, J. E. Bailey2, D. Liedahl1, T. Nagayama2, R. Mancini3, T. S. Lane1, M. K. Flaugh1
1West Virginia University, Morgantown, WV, USA
2Sandia National Laboratories, Albuquerque, NM, USA
3Lawrence Livermore National Laboratory, Livermore, CA, USA
4University of Nevada, Reno, NV, USA

12:00 1A-3 WHISTLER WAVES IN MAGNETOSHEATH WITH OBSERVED FLAT TOP DISTRIBUTIONS
M. N. S. Qureshi
Physics, GC University, Lahore, Pakistan

12:15 1A-4 (invited) IONOSPHERIC MODIFICATIONS USING MOBILE, HIGH POWER HF TRANSMITTERS BASED ON HPM TECHNOLOGY
K. Papadopoulos
Session 1B: Inertial and Magneto-Inertial Fusion

Monday, May 25 11:00-13:00, Opal II

Session Chairs:

11:00 1B-1 DRAMATIC REDUCTION OF MAGNETO-RAYLEIGH TAYLOR INSTABILITY GROWTH IN MAGNETICALLY DRIVEN Z-PINCH LINERS
K. J. Peterson¹, T. J. Awe¹, S. E. Rosenthal¹, R. D. McBride¹, D. B. Sinars¹, E. P. Yu¹, G. K. Robertson¹, M. E. Cuneo¹, M. E. Savage¹, P. F. Knapp¹, P. F. Schmit¹, S. A. Slutz¹, B. E. Blue², D. Schroen², K. Tomlinson²
¹Sandia National Labs, Albuquerque, NM, United States
²General Atomics, San Diego, CO, USA

11:15 1B-2 (invited) EXPERIMENTAL PROGRESS IN MAGNETIZED LINER INERTIAL FUSION (MAGLIF)
Sandia National Laboratories, Albuquerque, NM, United States

11:45 1B-3 TARGET GAIN DEPENDENCE ON IGNITOR PULSE CHARACTERISTICS IN SHOCK IGITION APPROACH
M. J. Jafari, A. H. Farahbod, S. Rezaei
Plasma Physics Research School, Tehran, Iran

12:00 1B-4 STOPPING POWER AND TRANSPORT OF MULTI-KEV ELECTRONS INTO PRE-COMPRESSED TARGET
S. Rezaei, A. H. Farahbod, M. J. Jafari
Plasma Physics Research School, Tehran, Iran

12:15 1B-5 REDUCTION OF THE GROWTH RATE OF RAYLEIGH TAYLOR INSTABILITY IN LASER ABLATION EXPERIMENTS
E. Aliyari, S. Sabhanian
Department of Physics, Islamic Azad University, Tabriz, Iran

12:30 1B-6 ON THE COMBINING SCHEMES FOR MAGNETO-INERTIAL FUSION SYSTEMS WITH HYBRID DRIVERS
S. V. Ryzhkov, V. V. Kuzenov, P. A. Frolik
Bauman Moscow State Technical University (BMSTU), Thermal Physics Department (E6), Moscow, Russian Federation

12:45 1B-7 DETERMINATION OF THE ELECTRIC FIELD IN A TWO-DIMENSIONAL MODEL OF AN ELECTROTHERMAL PLASMA SOURCE
M. J. Esmond¹, A. L. Winfrey²
¹Department of Electrical Engineering, Virginia Tech, Blacksburg, VA, USA
²Department of Electrical Engineering, Virginia Tech, Blacksburg, VA, USA
Mechanical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States
Nuclear Engineering, University of Florida, Gainesville, FL, United States

Session 1C: THz Sources, Radiation & Applications and Non-Fusion Microwave Systems

Monday, May 25 11:00-13:00, Onyx

Session Chair: Stephen N Spark, E2V Technologies

11:00 1C-1 THz BWO BASED ON PHOTONIC CRYSTAL CORRUGATED WAVEGUIDE
R. Letizia¹,², M. Mineo¹, C. Paoloni¹
¹Engineering, Lancaster University, Lancaster, United Kingdom
²Cockcroft Institute, Warrington, United Kingdom

11:15 1C-2 METAMATERIAL-BASED PLANAR THZ SOURCES
Z. Duan¹, X. Tang¹, Y. Wang¹, Y. Gong¹, M. Chen²
¹School of Physical Electronics, University of Electronic Science and Technology of China, Chengdu, Sichuan, China
²Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, USA

11:30 1C-3 GOL-PET EXPERIMENTS ON THZ-EMISSION FROM DENSE PLASMA AT RELATIVISTIC ELECTRON BEAM RELAXATION
A. V. Arzhannikov¹, A. V. Burdakov², V. S. Burmasov², D. E. Gavrilenko³, I. A. Ivanov³, A. A. Kasatov³, S. A. Kuznetsov¹, M. A. Makarov², K. I. Mekler², S. V. Polosatkin², V. V. Postupaev², A. F. Rosenskikh², S. L. Simsky², V. F. Sklyarov², V. D. Stepanov², I. V. Timoфеев², L. N. Vyacheslavov²
¹Physics Department, Novosibirsk State University, Novosibirsk, Russian Federation
²Plasma Physics Department, Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russian Federation

11:45 1C-4 EXPERIMENTAL INVESTIGATIONS OF 263 GHZ/1 KW GYROTRON BASED SYSTEM FOR DIAGNOSTIC OF VARIOUS MEDIA
M. Y. Glyavin¹,², M. V. Morozkin¹, A. I. Tsvetkov¹, L. V. Lubyako¹
¹Institute of Applied Physics RAS, Nizhny Novgorod, Russian Federation
²GYCOM Ltd., Nizhny Novgorod, Russian Federation

12:00 1C-5 (invited) THZ BACKWARD-WAVE OSCILLATORS FOR PLASMA DIAGNOSTIC IN NUCLEAR FUSION
C. Paoloni¹, L. Yue², X. Tang², F. Zhang², B. Popovic³, L. Himes⁴, R. Barchfels⁴, D. Gamzina⁴, R. Letizia¹, M. Mineo¹, N. C. Luhmann⁴
¹Lancaster University, Lancaster, United Kingdom
²University of Electronic Science and Technology of China, Chengdu, China
³Beijing Vacuum Electronics Research Institute, Beijing, China
⁴University of California Davis, Davis, Ca, USA

12:30 1C-6 TERAHERTZ POLARIMETRIC EMISSION AND DETECTION USING A CUBIC CRYSTAL
G. Gaborit¹, M. Bernier¹, A. Biciumas², J.-L. Coutaz¹
¹Photo, IMEP-LAHC, UMR 5130, Le Bourget-du-Lac, France
²Center for Physical Sciences and Technology, Vilnius, Lithuania

12:45 1C-7 MODELING OF A WAVEGUIDE MICROWAVE PULSE COMPRESSION SYSTEM USING TRANSMISSION LINE THEORY AND EQUIVALENT CIRCUITS
Session 1D: Generators & Networks and Switching

Monday, May 25 11:00-13:00, Quartz

Session Chair: Victor L. Kantsyrev, University of Nevada, Reno

11:00 1D-1 REFURBISHMENT AND ENHANCEMENT OF THE SATURN ACCELERATOR
Dept. 5443, Sandia National Laboratories, Albuquerque, NM, United States

11:15 1D-2 LOAD CURRENT PULSE SHAPING ON A NANOSECOND PFL-BASED ACCELERATOR USING DYNAMIC LCM TECHNIQUE
A. S. Chuvatin, T. d’Almeida, F. Lassalle, V. L. Kantsyrev, A. S. Safronova, I. K. Shrestha, V. V. Shlyaptseva, A. Stafford, M. E. Weller
1Laboratoire de Physique des Plasmas, Ecole Polytechnique, Palaiseau, France
2CEA, DAM, GRAMAT, Gramat, France
3University of Nevada, Reno, Reno, NV, United States

11:30 1D-3 A MULTI-STAGE GAS SWITCH FOR LTD
P. T. Cong, T. P. Sun, W. X. Luo, A. C. Qiu
Northwest Institute of Nuclear Technology, Xi’an, China

11:45 1D-4 ACCELERATOR URT-1M-300 FOR MOBIL INSTALLATION
S. Y. Sokovnin, S. V. Scherbinin, M. E. Balezin
1Experimental Physics Department, Ural Federal University, Yekaterinburg, Russian Federation
2ElectroPhysics Technology Group, IEP UB RAS, Yekaterinburg, Russian Federation

12:00 1D-5 STUDY OF HIGH-CURRENT ARCS AND ITS INTERACTION WITH SIDE WALLS AND LAYERS
S. Franke, R. Methling, A. Khakpour, S. Gorchakov, V. Brueser, D. Uhrlandt
INP Greifswald, Greifswald, Germany

12:15 1D-6 X-RAY AND ENERGETIC ION GENERATIONS IN THE DIVERGENT GAS-PUFF Z PINCH
K. Takasugi, M. Nishio
1Institute of Quantum Science, Nihon University, Tokyo, Japan
2Anan National College of Technology, Tokushima, Japan

12:30 1D-7 A TRIGGERED VACUUM SWITCH USED IN HIGH CURRENT AND HIGH COULOMB CROWBAR CIRCUIT
W. Lei, X. Yao, W. Xu, J. Chen
State Key Laboratory of Electrical Insulation and Power Equipment, Xi’an, China

12:45 1D-8 INFLUENCE OF THE REVERSE CURRENT FREQUENCY ON DC VACUUM ARC
T. T. Qin
Department of Electrical and Electronics Engineering, Dalian University of Technology, dalian, China
Session 1E: Thermal plasma processing and Non-equilibrium plasma applications

Monday, May 25 11:00-13:00, Topaz

Session Chair: Tamer Akan, Univ. of Osmangazi

11:00 1E-1 SYNTHESIS AND CHARACTERIZATION OF THERMAL BARRIER YTTRIA-STABILIZED ZIRCONIA COATING BY PLASMA SPRAY - PHYSICAL VAPOR DEPOSITION
N. Sehab, Y. Mebdoua
Center of Advanced Technologies Development, Baba Hasen, Alger, Algeria

11:15 1E-2 EXPERIMENTAL STUDY ON THE EFFECT OF PERCENTAGES OF NITROGEN TO ARGON GAS ON ARC PROPERTIES IN THERMAL DC PLASMA TORCHES
S. Mohsenian, H. Mehdikia, J. Fathi, B. Shokri
Laser and Plasma Institute, Shahid Beheshti University, Tehran, Iran

11:30 1E-3 SIMULATION OF SPOTS ON CU-CR CATHODES OF VACUUM ARCS AND OF THEIR STABILITY
M. S. Bemlov1, M. D. Cunha1, W. Hartmann2, S. Kosse2, N. Wenzel2, A. Lawall1
1 Universidade da Madeira, Funchal, Portugal
2 Siemens AG, Corporate Technology, Erlangen, Germany

11:45 1E-4 DEVELOPMENT OF LOW GRADIENT COAL GASIFICATION TECHNOLOGY BY MEANS OF A HIGH POWER MICROWAVE STEAM PLASMA TORCH
Plasma Technology Research Center, National Fusion Research Institutes, Gunsan, South Korea

12:00 1E-5 (invited) THE ROLE OF PHOTO-IONIZATION AND RESIDUAL ELECTRONS IN ATMOSPHERIC PRESSURE NON-EQUILIBRIUM PLASMA JETS
S. Q. Wu, X. P. Lu
HuaZhong University of Sci. & Tech, Wuhan, China

12:30 1E-6 PLASMA PROPERTIES OF THE CYBELE NEGATIVE ION SOURCE FOR FUSION APPLICATIONS: PIC SIMULATIONS AND EXPERIMENTS
J.-P. Boeuf1, G. Fubiani1, S. Bechu2, P. Garibaldi1, C. Grand1, A. Simonin3
1 LAPLACE, Universite de Toulouse, Toulouse, France
2 LPSC, Universite Joseph Fourier, Grenoble, France
3 IRFM, CEA, Cadarache, France

12:45 1E-7 EXOTIC PLASMA BULLETS INDUCED BY RESIDUAL ELECTRON CONTROL
Y. Xian, X. Lu
State Key Laboratory of Advanced Electromagnetic Engineering and Technology, Huazhong University of Science and Technology, Wuhan, Hubei, China

13:00 1E-8 DENSE MEDIUM PLASMA TECHNOLOGY FOR SYNTHESIS CARBON NANOMATERIALS
D. Cokeliler1, S. Manolache2, F. S. Denes2, S. Gunasekaran2
1 Biomedical Engineering, Baskent University, Ankara, Turkey
2 College of Engineering, University of Wisconsin Madison, Madison, Wisconsin, USA

Session PL2: Plenary PL2
Monday, May 25 14:00-15:00, Citrine II-III

Session Chairs:

14:00 PL2-1 UNDERWATER ELECTRICAL EXPLOSION OF WIRES: PHYSICS AND APPLICATIONS
Y. Krasik
Physics Department, Technion, Haifa, Israel

Session 1P: Basic Phenomena (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chair: Amnon Fruchtman, Holon Institute of Technology

1P-1 CAN THE NEGATIVE GLOW PLASMA HAVE A NEGATIVE CHARGE?
A. A. Kudryavtsev, E. A. A. Bogdanov
Physics, St. Petersburg State University, St. Petersburg, Russian Federation

1P-2 GROWTH RATE OF SECOND HARMONIC BACKSCATTERING IN NON- MAXWELLIAN HIGH DENSITY PLASMA
N. S. Rathore, P. Kumar
Department of Physics, University of Lucknow, Lucknow, India

1P-3 HARMONIC GENERATION IN MAGNETIZED QUANTUM PLASMA
A. K. Singh, P. Kumar
Department of Physics, University of Lucknow, Lucknow, India

1P-4 THE INFLUENCE OF ANNEALING ON FLUORENE-TYPE THIN FILM PRODUCED BY BIPHENYL AND METHANE RF PLASMA SYSTEM
D. Mansuroglu, S. Bilikmen
Physics Department, Middle East Technical University, Ankara, Turkey

1P-5 CAIRNS-GUREVICH EQUATION FOR SOLITON IN PLASMA EXPANSION INTO VACUUM
K. Annou, D. Bara, D. Bennaceur-Doumaz
MIL, USTHB, Baba Hassen, Algeria

1P-6 CHARACTERISTICS OF AN ARGON DC GLOW DISCHARGE AND EFFECT OF CATHODE MATERIAL ON PASCHEN CURVE AND CATHODE TEMPERATURE
M. Satir, M. Celik
Department of Mechanical Engineering, Bogazici University, Istanbul, Turkey

1P-7 CROSS SECTIONS FOR ELECTRON COLLISIONS WITH TETRAFLUOROETHANE (C2H2F4)
O. M. Sasic1, S. Dupljanin1, M. Radjenovic-Radmilovic1, S. Dujko1, Z. L. Petrovic1, J. De Urquijo2
1University of Belgrade, Institute of Physics, Belgrade, Serbia
2Instituto de Ciencias Físicas, Universidad Nacional Autonoma de Mexico, Cuernavaca, Mexico

1P-8 PROPAGATION OF SOLITON AND ITS RADIATION IN INHOMOGENEOUS DISCHARGE PLASMA WITH NON EXTENSIVE ELECTRONS
D. Lyes, M. Yamina
1P-9 STUDY ON THE MEMRISTIVE NATURE OF DIELECTRIC BARRIER DISCHARGE
L. Luo¹, D. Dai¹, Y. X. Han¹, L. C. Li¹, T. Shao²
¹School of Electric Power, SOUTH CHINA UNIVERSITY OF TECHNOLOGY, Guangzhou, China
²Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China

1P-10 EFFECT OF PONDEROMOTIVE AND RELATIVISTIC FILAMENTATION ON COEXISTING STIMULATED RAMAN AND BRILLOUIN SCATTERING
A. Vyas, R. P. Sharma
Center for Energy Studies (CES), Indian Institute of Technology, Delhi (IIT Delhi), New Delhi, Delhi, India

1P-11 NONLINEAR ABSORPTION OF SUPERINTENSE LINEARLY POLARIZED LASER RADIATION IN RELATIVISTIC PLASMA VIA BREMSSTRAHLUNG
A. Ghazaryan, A. Avetissian, S. Israelyan, K. Sedrakian
Centre of Strong Fields Physics, Yerevan State University, Yerevan, Armenia

1P-12 CURRENT FILAMENTS IN A LONG SPARK IN AIR
A. V. Agafonov, A. V. Oginov, A. A. Rodionov, K. V. Shpakov
P.N. Lebedev Physical Institute of RAS, Moscow, Russian Federation

1P-13 MULTIPACTOR BREAKDOWN MODELLING USING AN AVERAGED VERSION OF FURMAN'S SEY MODEL
S. Rice, J. Verboncoeur
ECE, Michigan State University, East Lansing, United States

Session 1P: Computational Plasma Physics (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chair: Anatoly A Kudryavtsev, St.Petersburg State University

1P-14 GLOBAL MODEL CAPABILITY STUDY OF EEDF MODIFICATION OF RARE GAS METASTABLE LASER REACTION KINETICS
G. Parsey¹, J. Verboncoeur², A. Christlieb¹, Y. Güçlü²
¹Michigan State University, East Lansing, MI, United States
²Max Planck Institute of Plasma Physics, Grieswalld, Germany

1P-15 ONE DIMENSIONAL MODELING OF DBD XENON EXCIMER LAMP FOR VUV EMISSION
H. Loukil, S. Saidi, K. Khodja, B. Larouci, A. Belasri
Department de Physique Energetique, Laboratoire de Physique des Plasmas, Oran, Algeria

1P-16 A NUMERICAL METHOD FOR THE CALCULATION OF THE MAGNETIC DIFFUSION EQUATION IN WIRE ARRAY Z-PINCH
Dept. of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China

1P-17 CONFINEMENT OF HIGHLY ENERGETIC ELECTRON BEAMS IN LOW PRESSURE CAPACITIVE DISCHARGES
1P-18 NUMERICAL STUDY ON HEATING GAS IN ATMOSPHERIC PRESSURE HELIUM DISCHARGE
S. I. Eliseev, A. A. Kudryavtsev, O. M. Stepanova
St.Petersburg State University, St. Petersburg, Russian Federation

1P-19 2D NUMERICAL RESEARCH ON NEEDLE-TO-PLATE DISCHARGE IN ATMOSPHERIC PRESSURE HELIUM AND AIR MIXTURE
C. Yao, Z. Chang, P. Li, H. Mu, G. J. Zhang
State Key Laboratory of Electrical Insulation & Power Equipment, Xi'an Jiaotong University, Xi'an, Shaanxi Province, China

1P-20 A NEW FULLY IMPLICIT FINITE-DIFFERENCE ALGORITHM FOR SIMULATION OF NONLINEAR ELECTRON HEAT CONDUCTION IN HIGH-TEMPERATURE PLASMAS INCLUDING BREMSSTRAHLUNG EMISSION
M. Oloumi, M. Habibi, H. HosseinKhani, S. Magidi, F. Pouraram
Nuclear Science and Technology Research Institute, AEOI, Plasma and Nuclear Fusion Research School, Tehran, Iran

1P-21 SEMI-CLASSICAL PARTICLE-IN-CELL SIMULATIONS OF QUANTUM SYSTEMS
S. Dirkmann, T. Mussenbrock
Ruhr University Bochum, Bochum, Germany

1P-22 A STABILIZATION OF LIBMESH BASED FINITE ELEMENT METHOD IN TWO-DIMENSIONAL FLUID SIMULATION OF CAPACITIVELY COUPLED PLASMA
H. Chang
Core Technology Research Division, Plasma Technology Research Center, National Fusion Research Institute, Gunsan, South Korea

1P-23 DIFFUSE AND SPOT MODE OF CATHODIC ARC ATTACHMENTS IN MAGNETICALLY ROTATING ARGON ARC AT ATMOSPHERIC PRESSURE
T. Chen1, X. -N. Zhang1, C. Wang1, M. -R. Liao1, C. -A. Zhu1, L. Ding2, W. -D. Xia1
1Institute of Engineering Science, University of Science and Technology of China, Hefei, Anhui, China
2School of Life Science, University of Science and Technology of China, Hefei, Anhui, China

1P-24 IMPROVEMENT OF THE HYBRID MODEL FOR GLOW DISCHARGE THROUGH INCORPORATION OF THE ELECTRON ENERGY BALANCE EQUATION
E. Eylenceoğlu1, I. Rafatov1, A. Kudryavtsev2
1Physics, Middle East Technical University, Ankara, Turkey
2Physics, Saint Petersburg State University, St. Petersburg, Russia

1P-25 PARTICLE-IN-CELL SIMULATION OF HIGH VOLTAGE BREAKDOWN OF LARGE GAP IN VACUUM
Y. Li1, M. Jiang1, C. Liu1, J. Cheng2, L. Zhao2, H. Shao2, J. Su2
1Key Laboratory for Physical Electronics and Devices of the Ministry of Education, Xi'an Jiaotong University, Xi'an, Shaanxi, China
2Science and Technology on High Power Microwave Laboratory, Northwest Institute of Nuclear Technology, Xi'an, Shaanxi, China
1P-26 SIMULATION OF ION REDISTRIBUTION IN A VACUUM CHAMBER DURING MAGNETRON SPUTTERING OF COATINGS
E. R. Saifullin

Physics and Engineering, National Research Tomsk state University, Tomsk, Russian Federation

1P-27 MULTI-DIMENSIONAL KINETIC SIMULATIONS OF INSTABILITIES AND TRANSPORT IN EXB DEVICES
J. A. Carlsson¹, I. D. Kaganovich¹, A. V. Khrabrovet, A. Smolyakov², D. Sydorenko³, Y. Raitses³

¹Princeton Plasma Physics Laboratory, Princeton, New Jersey, United States
²University of Saskatchewan, Saskatoon, Saskatchewan, Canada
³University of Alberta, Edmonton, Alberta, Canada

1P-28 ELECTRO-DYNAMIC SPRAYING OF PLASMA BODIES ON PROTECTED SURFACES
O. Chizhko

DECHEMA Foreign Department, Association of German Engineers, Cherkessk, Russian Federation

1P-29 VALIDATION AND PARALLELIZATION OF THE PARTICLE IN CELL/MONTE CARLO COLLISION NUMERICAL CODE FOR THE RF DISCHARGE SIMULATIONS
C. Kusoglu Sarikaya, I. Rafatov, S. Cakir

Department of Physics, Middle East Technical University, Ankara, Turkey

1P-30 MODELING ELECTROMAGNETIC EFFECTS IN LARGE-AREA CAPACITIVELY COUPLED DISCHARGES
H. Bae¹, M.-C. Lin², J. W. Hong³, H. J. Lee¹

¹Pusan National University, Busan, South Korea
²Hanyang University, Seoul, South Korea

1P-31 NUMERICAL SIMULATION OF SPHERICAL PLASMA FOCUS DEVICE USING LEE MODEL
F. D. Ismail, J. Ali, T. Saktioto

ADVANCED PHOTONICS SCIENCE INSTITUTE, UNIVERSITI TEKNOLOGI MALAYSIA, UTM JOHOR BAHRU, JOHOR, Malaysia

Session 1P: Dusty & Strongly Coupled Plasmas (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chair: Holger Kersten, University Kiel, Germany

1P-32 RECENT DEVELOPMENT FOR A PLASMA DIAGNOSTIC WITH OPTICALLY TRAPPED MICROPARTICLES
V. Schneider, H. Kersten

Institute of Experimental and Applied Physics, Christian-Albrechts-University Kiel, Kiel, Germany

1P-33 ELECTRICAL MEASUREMENTS FOR THE CONTROL OF NANOPARTICLE GROWTH IN AN ACETYLENE PLASMA
E. V. Wahl¹, A. Hinz², T. Strunskus², H. Kersten³

¹Plasma Technology, Institute of Experimental and Applied Physics, Kiel, Schleswig-Holstein, Germany
²Multicomponent Materials, Technical Faculty, Kiel, Schleswig-Holstein, Germany
1P-34 INFLUENCE OF INTERPARTICLE INTERACTION ANISOTROPY ON STRUCTURAL AND KINETIC PROPERTIES OF THE DUST SYSTEM IN PLASMA
I. I. Lisina, O. S. Vaulina
Joint Institute for High Temperatures of the Russian Academy of Sciences (JIHT RAS), Moscow, Russian Federation

1P-35 ON THE POSSIBILITY OF MEASURING THE FORCES OF ANISOTROPIC INTERACTION BETWEEN MACROPARTICLES IN A PLASMA WITH ION FLOW
E. A. Lisin, O. S. Vaulina
Joint Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russian Federation

1P-36 OBLIQUELY PROPAGATING UNSTABLE DIA SOLITARY WAVES IN MAGNETIZED DUSTY PLASMAS WITH BI-MAXWELLIAN ELECTRONS
M. M. Masud
Department of Physics, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

1P-37 COEXISTENCE OF DA SHOCK AND SOLITARY WAVES IN DUSTY PLASMAS WITH TWO-TEMPERATURE IONS
K. -E. Hasin
Department of Physics, M.Phil Research student, Bangladesh University of Engineering and Technology (BUET), Dhaka-1000, Dhaka, Bangladesh

1P-38 TIME DEPENDENT NONPLANAR DIA SHOCK WAVES IN MULTI-COMPONENT DUSTY PLASMAS WITH DISTINCT TEMPERATURE SUPERThERMAL ELECTRONS
M. M. Masud
Department of Physics, M. PHIL. RESEARCH STUDENT IN PHYSICS, Dhaka, Bangladesh

1P-39 MEASURING THE CHARGE OF MICROPARTICLES IN THE RADIOFREQUENCY PLASMA SHEATH BY COULOMB INTERACTION
D. Trienekens, J. Beckers, G. Kroesen
Applied Physics, Eindhoven University of Technology, 5600 MB, Eindhoven, the Netherlands, Eindhoven, Netherlands

1P-40 DIELECTRIC FUNCTION OF DENSE PLASMAS AND SUM RULES
Y. V. Arkhipov¹, A. B. Ashikbayeva¹, A. Askamly³, I. M. Tkachenko²
¹Department of Physics and Technology, IETP, al-Farabi Kazakh National University, Almaty, Kazakhstan
²Instituto de Matematica Pura y Aplicada, Universidad Politencia de Valencia, Valencia, Spain

1P-41 INFLUENCE OF POLARIZATION EFFECTS ON CHARGING OF DUST PARTICLES IN A PLASMA
A. E. Davletov, L. T. Erimbetova, A. Kissan
Department of Physics and Technology, Al-Farabi Kazakh National University, Almaty, Kazakhstan

Session 1P: Intense Beam Microwave Generation (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chair: Theodore C Grabowski, Air Force Research Laboratory

1P-42 VOLUME FREE ELECTRON LASERS AND MASERS
V. G. Baryshevsky
Research Institute for Nuclear Problems, Minsk, Belarus
1P-43 A TUNABLE MAGNETICALLY INSULATED TRANSMISSION LINE OSCILLATOR
College of Optoelectric Science and Engineering, National University of Defense Technology, CHANGSHA, China

1P-44 SIMULATION INVESTIGATION OF A HIGH-EFFICIENCY X-BAND MAGNETICALLY INSULATED LINE OSCILLATOR
X.-Y. Wang, Y.-W. Fan
College of Optoelectric Science and Engineering, National University of Defense Technology, CHANGSHA, China

1P-45 STABILIZED OPERATION OF A MICROWAVE COMPRESSOR DRIVEN BY RELATIVISTIC S-BAND MAGNETRON
A. Sayapin, A. Levin, Y. Krasik
Dep. Physics, Technion, Haifa, Israel

1P-46 RELATIVISTIC VIRCATOR WITH AN ELECTROMAGNETIC BANDGAP MEDIUM
A. Elfrgani, G. Atmatzakis, S. C. Yurt, C. G. Christodoulou, E. Schamiloglu
Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

1P-47 MEASUREMENTS OF AN ELECTRON BEAM DRIVEN BY A NONLINEAR TRANSMISSION LINE
D. French, B. Hoff
Air Force Research Laboratory, Albuquerque, NM, United States

1P-48 AGENT BASED MODELING OF ELECTRON EMISSION
D. Shiffler¹, W. Tang¹, K. Jensen²
¹AFRL, Albuquerque, NM, United States
²Naval Research Laboratory, Washington, DC, United States

1P-49 COMPACT A6 MAGNETRON WITH A NEODYMIUM
J. W. McComaha
Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, United States

1P-50 INVESTIGATION PROGRESS ON PHASE STEADY, S BAND, LONG PULSE RELATIVISTIC KLYSTRON AMPLIFIER
H. Huang
Science and Technology on High Power Microwave Laborator, Instute of Applied Electronics, CAEP, Mianyang, Sichuan, China

Session 1P: High Energy Density Matter (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chairs:

1P-51 SPECTROSCOPY OF THE PLASMA FORMED IN THE VICINITY OF THE STRONG SHOCK WAVE IMPLOSION
O. Antonov, S. Efimov, V. T. Gurovich, Y. E. Krasik
Physics, Technion- Israel Institute of Technology, Haifa, Israel

1P-52 SHOCK WAVE IMPLOSION IN WATER WITH DIFFERENT BOUNDARY CONDITIONS
D. Yanuka, D. Shafer, Y. Krasik
1P-53 DIAGNOSTICS OF PLASMA GENERATED BY UNDERWATER SPHERICAL SHOCK WAVE IMPLOSION
S. Efimov, O. Antonov, V. T. Gurovich, Y. E. Krasik

Physics, Technion, Department of physics, Haifa, Israel

1P-54 ANALYSIS OF WIRE EXPLOSION SYSTEM FOR GENERATING STRONG SHOCK WAVES IN WATER
K.-J. Chung¹, K. Lee¹, Y. S. Hwang¹, D. -K. Kim²

¹Department of Nuclear Engineering, Seoul National University, Seoul, South Korea
²Agency for Defense Development, Daejeon, South Korea

1P-55 SIMPLE MIXED EQUATION-OF-STATE MODEL OF NONIDEAL PLASMA FOR SIMULATION OF UNDER-WATER WIRE EXPLOSION
D. -K. Kim, S. Baek, J. Jung

R&D Institute - Division 4, Agency for Defense Development, Daejeon, South Korea

1P-56 DIFFERENT BREAKDOWN MODES OF ELECTRICAL EXPLODING ALUMINUM WIRES IN AIR
J. Wu, X. Li, Z. Yang

College of Electrical Engineering, Xi’an Jiaotong University, Xi’an, Shaanxi, China

1P-57 RESULT OF CURRENT FLOW WITH A LINEAR DENSITY OF 1-3 MA/CM AND DURATION OF 100 NS ACROSS STAINLESS STEEL ELECTRODES
G. M. Oleynik¹, A. V. Branitskii¹, E. V. Grabovskii¹, J. N. Laukhin¹, P. V. Sasorov¹, I. N. Frolov¹, S. I. Tkachenko², A. I. Khiryanova²

¹TRINITI, Moscow Troitsk, Russian Federation
²MIPT, Dolgoprudny, Russian Federation

1P-58 DIFFUSION OF THE STRONG MAGNETIC FIELDS INTO THE CONDUCTOR
V. I. Oreshkin, S. Chaikovsky, N. Labetskaya, I. Datsko

Institute of High Current Electronics SB RAS, Tomsk, Russian Federation

1P-59 THE SURFACE TEMPERATURE MODEL FOR MAGNETICALLY INSULATED TRANSMISSION LINE
H. Wang, Y. Li, W. Luo, C. Liu

Key Laboratory for Physical Electronics and Devices of the Ministry of Education, Xi’an Jiaotong University, Xi’an, Shaanxi, China

1P-60 MODELING OF PLASMA CONDITIONS AND SPECTRAL PROPERTIES OF RADIATION-HEATED MATTER
I. Golovkin¹, J. MacFarlane¹, V. Golovkina¹, T. Nagayama², J. Bailey², G. Rochau²

¹Prism Computational Sciences, Inc., Madison, WI, United States
²Sandia National Laboratories, Albuquerque, NM, United States

1P-61 VISRAD, 3-D TARGET DESIGN AND RADIATION SIMULATION CODE
V. Golovkina, J. MacFarlane, I. Golovkin

Prism Computational Sciences, Inc., Madison, WI, United States

1P-62 CIRCUIT SIMULATION OF MAGNETICALLY DRIVEN HYPER-VELOCITY FLYER PLATE Launching EXPERIMENT ON PTS FACILITY
F. Guo, G. Wang, W. Zou

Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, Sichuan, China
Session 1P: Fast Z pinches (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chairs:

1P-63 METAL-PUFF Z-PINCH IMPLOSIONS ON GENERATOR MIG WITH CURRENT LEVEL UP TO 2.3 MA
SB RAS, Institute of High Current Electronics, Tomsk, Russian Federation

1P-64 EFFECT OF THE AXIAL MAGNETIC FIELD ON A RADIATING Z-PINCH PLASMA
R. Baksht, A. Rousskikh, A. Zhigalin, N. Labetskaya, S. Chaikovaskii, V. Oreshkin
Institute of High Current Electronics SB RAN, Tomsk, Russia

1P-65 EXPERIMENTAL AND NUMERICAL INVESTIGATIONS ON THE FAST ELECTRICAL EXPLOSION OF SINGLE ALUMINUM WIRE IN VACUUM
Dept. of Electrical Engineering, Xi'an Jioatong University, Xi'an, China

1P-66 STUDY ON ELECTRICAL EXPLOSION OF BARE AND INSULATION COATED TUNGSTEN WIRES
H. Shi, X. Zou, X. Wang
Department of Electrical Engineering, Tsinghua University, Beijing, China

1P-67 STUDIES OF THE X-RAY RADIATION FROM GAS-PUFF Z-PINCHES ON COBRA.
Lab. of Plasma Studies, Cornell University, Ithaca, N-Y, United States

1P-68 STUDY OF THE HYBRID X-PINCH WITH AN EXTERNAL AXIAL MAGNETIC FIELD
S. A. Pikuz1, T. A. Shelkovenko1, J. B. Greenly1, L. A. Atoyan1, D. A. Hammer1, I. N. Tilikin2, A. R. Mingaleev2, G. V. Ivanenkov2, A. V. Agafonov2
1LPS, Cornell University, Ithaca, NY, United States
2RAS, P.N.Lebedev Institute, Moscow, Russia

1P-69 NEON AND ARGON MULTI-NOZZLE GAS PUFF Z-PINCH STUDIES ON COBRA
N. Qi1, P. W. L. de Grouchy1, W. M. Potter1, J. T. Banasek1, J. T. Engelbrecht1, L. Atoyan1, A. D. Cahill1, J. B. Greenly1, C. L. Hoyt1, S. A. Pikuz1, T. A. Shelkovenko1, D. A. Hammer1, B. R. Kusse1, Y. K. Chong2, J. Giuliani2, N. Ouatt2, W. Thornhill2, E. Kroup3, A. Fisher3, Y. Maron3
1Lab. of Plasma Studies, Cornell University, Ithaca, NY, United States
2Naval Research Laboratory, Washington, DC, United States
3Weizmann Institute of Science, Rehovot, Israel

1P-70 RADIATIONS DURING OF INITIAL PHASE OF HIGH-VOLTAGE ATMOSPHERIC DISCHARGE
A. V. Agafonov, A. V. Oginn, A. S. Rusetskiy, V. A. Ryabov, K. V. Shpakov, A. P. Chubenko
P.N.Lebedev Physical Institute, Moscow, Russian Federation

1P-71 STUDY OF Z-PINCH X-RAY EMISSION IN THE IMPLOSION OF FIBER ARRAYS AT THE ANGARA-5-1 FACILITY
A. N. Gritsuk\textsuperscript{1}, V. V. Aleksandrov\textsuperscript{1}, E. V. Grabovskiy\textsuperscript{1}, I. G. Малютин\textsuperscript{1}, K. N. Mitrofanov\textsuperscript{1}, G. M. Oleinik\textsuperscript{1}, G. S. Volkov\textsuperscript{1}, A. P. Shevelko\textsuperscript{2}

\textsuperscript{1}Troitsk Institute for Innovation and Fusion Research, Moscow, Troitsk, Russian Federation
\textsuperscript{2}P.N. Lebedev Physical Institute of the RAS, Moscow, Russian Federation

\textbf{1P-72 EXPERIMENTAL INVESTIGATION OF THE EFFECTS OF AN AXIAL MAGNETIC FIELD ON THE MAGNETO RAYLEIGH-TAYLOR INSTABILITY IN ABLATING PLANAR FOIL PLASMAS}

\textit{Nuclear Engineering and Radiological Sciences, University of Michigan, Ann Arbor, Michigan, United States}

\textbf{1P-73 CONTACT DIAGNOSTICS OF HIGH-CURRENT DISCHARGE CHANNEL IN HIGH PRESSURE GAS}
M. E. Pinchuk, A. V. Budin, A. G. Leks, V. V. Leont'ev

\textit{Institute for Electrophysics and Electric Power of Russian Academy of Sciences, St.-Petersburg, Russian Federation}

\textbf{1P-74 STUDIES OF CYLINDRICAL LINER Z-PINCHES AT 1 MA ON COBRA}

\textit{Laboratory of Plasma Studies, Cornell University, Ithaca, NY, United States}

\textbf{1P-75 MEASUREMENT OF THE CURRENT OF THE ELECTRON BEAM IN A PLASMA FOCUS DEVICE USING X-RAY SPECTRUM}
N. Shamsian, B. Shirani, H. Pirjamadi, A. Kanani

\textit{Nuclear Engineering Department, university of isfahan, Isfahan, Iran}

\textbf{1P-76 CALCULATION OF ELECTRON AVALANCHE FORMATION TIME AND BREAKDOWN TIME LAG OF UIPF1}
H. Pirjamadi, B. Shirani, N. Shamsian

\textit{Nuclear Engineering Department, university of isfahan, Isfahan, Iran}

\textbf{1P-77 CALCULATION OF WAVE PROPAGATION DELAY IN A PLASMA FOCUS DEVICE AND ITS EFFECT ON BREAKDOWN TIME LAG}
H. Pirjamadi, B. Shirani, N. Shamsian

\textit{Nuclear Engineering Department, university of isfahan, Isfahan, Iran}

\textbf{1P-78 CALCULATION OF MINIMUM BREAKDOWN VOLTAGE IN A MATHER TYPE PLASMA FOCUS DEVICE (UIPF1)}
H. Pirjamadi, B. Shirani, N. Shamsian

\textit{Nuclear Engineering Department, university of isfahan, Isfahan, Iran}

\textbf{1P-79 MEASUREMENT OF THE ENERGY SPECTRUM OF THE ELECTRON BEAM IN A SMALL PLASMA FOCUS DEVICE USING X-RAY SPECTRUM}
N. Shamsian, B. Shirani, H. Pirjamadi, A. Kanani

\textit{Nuclear Engineering Department, university of isfahan, Isfahan, Iran}

\textbf{1P-80 PLASMA DYNAMICS IN GAS EMBEDDED CONICAL WIRE ARRAY Z-PINCH PLASMAS}
G. Munoz, F. Veloso, V. Valenzuela, M. Favre, E. Wyndham

\textit{Instituto de Fisica, Pontificia Universidad Catolica de Chile, Santiago, Chile}

\textbf{1P-81 FORMATION OF HIGH PURITY TITANIUM PLASMA IN A CAPILLARY DISCHARGE}
E. S. Wyndham, M. B. Favre, P. I. Masoliver

\textit{Physics, Pontificia Universidad Catolica de Chile, Santiago, Chile}

\textbf{1P-82 NUMERICAL INVESTIGATION ON THE EFFECT OF ABLATOR PRESSURE TO ISOLATE SPHERICAL FUEL COMPRESSION FROM CYLINDRICAL Z-PINCH IMPLOSION}
D. Xiao, N. Ding, S. Sun, Z. Dai
Session 1P: Insulation and Dielectric Breakdown (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chairs: Chao Chang, SLAC, Stanford University
Natalia Yu Babaeva, Joint Institute for High Temperatures Russian Academy of Sciences

1P-83 EFFECT OF PLASMA CHANNEL PARAMETERS ON THE SHOCK-WAVE DYNAMICS AT BLAST-HOLE ELECTRO-FRACTURE OF CONCRETE LUMPS
N. S. Kuznetsova, A. S. Yudin
Institute of High Technology Physics, National Research Tomsk Polytechnic University, Tomsk, Russian Federation

1P-84 SIMULATION OF LEADER INCEPTION FROM OVERHEAD TRANSMISSION LINES UNDER LIGHTNING BACKGROUND
B. Wei1, Z. Fu2
1Equipment Condition Evaluation Center, Electric Power Technical Research Institute, SMEPC, Shanghai, China
2Department of Electrical Engineering, Shanghai Jiaotong University, Shanghai, China

1P-85 CIRCUIT MODELS FOR BAND PASS FILTER OF RF FRONT-END SYSTEM DAMAGED BY HIGH POWER ELECTROMAGNETIC PULSE
K. -A. Lee, Y. -M. Cho, K. -C. Ko
Electrical Engineering, Hanyang University, Seoul, South Korea

1P-86 ELEMENTAL COMPOSITION AND ELECTRIC PROPERTIES OF POLYCRYSTALLINE ALUMINA CERAMIC AFTER METAL ION BEAM TREATMENT
E. M. Oks1, A. S. Bugaev1, A. G. Nikolaev1, K. P. Savkin1, G. Y. Yushkov1, M. V. Shandrikov1, A. V. Tyunkov2
1Institute of High Current Electronics, Tomsk, Russian Federation
2Tomsk State University of Automated Control Systems and Radioelectronics, Tomsk, Russian Federation

1P-87 SCATTERING CROSS SECTIONS AND ELECTRON TRANSPORT COEFFICIENTS FOR ELECTRONS IN CF3I
J. Miric1, D. Bosnjakovic1, S. Dujko1, Z. L. Petrovic1, O. Sasic2, J. de Urquijo3
1Institute of Physics, University of Belgrade, Belgrade, Yugoslavia
2Faculty of Transport and Traffic Engineering, University of Belgrade, Belgrade, Yugoslavia
3Instituto de Ciencias Fisicas, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico

1P-88 NONSTATIONARY FLUID DYNAMICS IN INHOMOGENEOUS ELECTRIC FIELD
V. A. Vdovin1, V. N. Kornienko1, V. G. Andreev2
1Russian Academy of Science, Kotelnikov Institute of Radioengineering and Electronics, Moscow, Russian Federation
2Faculty of Physics, M.V. Lomonosov Moscow State University, Moscow, Russian Federation

1P-89 INITIATION OF BREAKDOWN IN STRINGS OF BUBBLES IMMERSED IN TRANSFORMER OIL: PASCHEN CURVES AND PROXIMITY OF BUBBLES
N. Y. Babaeva, D. V. Tereshonok, G. V. Naidis
Joint Institute for High Temperatures Russian Academy of Sciences, Moscow, Russian Federation
1P-90 SURFACE MORPHOLOGY AND CHEMICAL CHARACTERISTICS OF GIS EPOXY INSULATORS UNDER MICROSECOND-PULSE EXCITATION
X. Liu1,2, T. Shao2,3, C. Zhang2,3, R. Wang2,3
1Department of Electrical Engineering, North China Electric Power University, Baoding, China
2Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
3Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

Session 1P: Nonequilibrium Plasma Applications (poster)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chairs:

1P-91 STUDY ON ATMOSPHERIC-PRESSURE DIFFUSE DISCHARGE WITH A DOUBLE-PINS-TO-PLANE GAP IN REPETITIVE MODES
J. Gu1, C. Zhang1,2, R. Wang1,2, T. Shao1,2
1Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
2Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

1P-92 STRONG DISCHARGE PROCESSES BY ATMOSPHERIC PLASMA JET ARRAY WITHOUT EXTERNAL GROUND ELECTRODE
J. Y. Kim1, S. Y. Lee1, M. Shin1, D. W. Moon1, H.-S. Tae2
1Department of New Biology, Daegu Gyeongbuk Institute of Science and Technology (DGIST), Daegu, South Korea
2School of Electronics Engineering, College of IT Engineering, Kyungpook National University, Daegu, South Korea

1P-93 LARGE VOLUME AIR PLASMA FOR FRUIT STERILIZATION
A. A. Mohamed1, S. M. Shariff2, M. Benghanem1, A. A. Almashraqi1, A. H. Basher1, S. A. Ouf3
1Physics Department/Faculty of Science, Taibah University, Madinah, Saudi Arabia
2Electrical Engineering Department/Faculty of Engineering, Taibah University, Madinah, Saudi Arabia
3Biology Department/Faculty of Science, Taibah University, Madinah, Saudi Arabia

1P-94 DEVELOPMENT OF A HYBRID MPI/OPENMP MASSIVELY PARALLEL 3D PARTICLE-IN-CELL MODEL OF A MAGNETIZED PLASMA SOURCE
G. Fubiani1, J.-P. Boeuf1, J. Qiang2
1Grephe, CNRS/LAPLACE University of Toulouse 3, Toulouse, France
2CBP, Lawrence Berkeley National Laboratory, Berkeley, CA, USA

1P-95 GRAPHENE SYNTHESIS BY ATMOSPHERIC PRESSURE MICROWAVE PLASMA
F. Bozduman1, A. Gulec1, S. Noree1, Y. Durmaz1, M. Ismael1, A. Uygun Oksuz2
1Physics, Suleyman Demirel University, Isparta, Turkey
2Chemistry, Suleyman Demirel University, Isparta, Turkey

1P-96 EXPERIMENTAL STUDIES ON ELECTRO-OPTICAL CHARACTERISTICS OF PULSED STREAMER DISCHARGE ON WATER SURFACE
L. Zhang, Y. Huang, Z. Liu, K. Yan
Department of Chemical and Biological Engineering, Zhejiang University, Hangzhou, China
1P-97 MASS SPECTROSCOPY AND ICCD ANALYSIS OF COUPLED AND UNCOUPLED MODE IN A GATLING-GUN LIKE PLASMA SOURCE
A. Stancampiano1, M. Gherardi1, V. Colombo1, N. Selakovic2, N. Puac2, Z. L. Petrovic2
1Department of Industrial Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy
2Institute of Physics Belgrade, University of Belgrade, Belgrade, Serbia

1P-98 PLASMA-ASSISTED IGNITION AND COMBUSTION OF METHANE-AIR MIXTURES USING DIELECTRIC BARRIER DISCHARGE
P. Li, H. Mu, L. Yu, C. Yao, G. Xu, Z. Chang, X. Shi, G. J. Zhang
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiao Tong University, Xi'an, China

1P-99 INFLUENCE OF GAS FLOW ON DISCHARGE MODE IN COAXIAL ARGON DBD UNDER ATMOSPHERIC PRESSURE
G. M. Xu
State Key Lab of Electrical Insulation & Power Equipment, Xi'an Jiaotong University, Xi'an, Shaanxi, China

1P-100 A LOW-POWER MAGNETIC-FIELD-ASSISTED PLASMA JET GENERATED BY DIRECT-CURRENT GLOW DISCHARGE AT ATMOSPHERIC PRESSURE
J. Tang1, W. Jiang1, J. Li1,2, Y. Wang1, W. Zhao1, Y. Duan1,3
1State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics of CAS, Xi'an, Shaanxi, China
2Faculty of Mathematics and physics, Huaiyin Institute of Technology, Huaian, Jiangsu, China
3Research Center of Analytical Instrumentation, Sichuan University, Chengdu, Sichuan, China

1P-101 RESEARCH STATUS OF ELECTRON BEAM PLASMA FOR AERODYNAMIC APPLICATIONS IN CHINA
Y. Deng
Shaanxi Power Machine Design and Research Institute, Xi'an, China

1P-102 OPTICAL EMISSION OF HELIUM CRYOPLASMA
N. Bonifaci1, J. Ghannay1, R. Boltnev2, V. Atrazhev3, V. Shakatov4, J. Eloranta5, K. van Haeflen6
1G2Elab, GRENOBLE, France
2Branch of Talrose Institute for Energy Problems of Chemical Physics, Chernogolovka, Russia
3Joint Institute for High Temperatures, Moscow, Russia
4Topchiev of Petrochemical Synthesis Institute, Moscow, Russia
5Department of Chemistry and Biochemistry, California State University, Northridge, USA
6Department of Physics and Astronomy, University of Leicester, Leicester, United Kingdom

1P-103 THE EFFECT OF LOW-TEMPERATURE PLASMA TREATMENT ON THE PLANT SEEDS
A. Zahoranova1, D. Kovacık1, M. Cernak1, M. Henselova2, D. Hudecova2, B. Kalinakova3
1Department of Experimental Physics, Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovakia
2Department of Plant Physiology, Faculty of Natural Sciences, Comenius University, Bratislava, Slovakia
3Faculty of Chemical and Food Technology, Slovak University of Technology, Bratislava, Slovakia

1P-104 PLASMA FLOW CONTROL FOR SOLID-STATE PIEZOELECTRIC CONTROL SURFACES IN LOW REYNOLDS NUMBER FLOWS
O. Bilgen1, R. Hattery1, M. Laroussi2, I. Bartol3
1Mechanical and Aerospace Engineering, Old Dominion University, Norfolk, United States
2Electrical and Computer Engineering, Old Dominion University, Norfolk, United States
3Biological Sciences, Old Dominion University, Norfolk, United States
1P-105 INVESTIGATION OF BINDING PROPERTIES OF MICROCAPSULES ON LOW PRESSURE PLASMA TREATED TEXTILES
B. Kutlu, G. C. Turkoglu, A. Aksit, A. M. Sariisik
Textile Engineering Department, Dokuz Eylul University, Izmir, Turkey

1P-106 NEW PLASMA PATTERNING OF AG NANOWIRE USING HIGH PRESSURE MICRO-DISCHARGE
180 Daehak-ro, Buk-gu, School of Electrical Engineering, College of IT Engineering, Kyungpook National University, Daegu, South Korea
100 Inha-ro, Nam-gu, School of Electrical Engineering, College of Information Technology and Engineering, Inha University, Incheon, South Korea
209 Neungdong-ro, Gwangjin-gu, Department of Electronics Engineering, Sejong University, Seoul, South Korea
119 Academy-ro, Yeonsu-gu, Department of Electronics Engineering, Incheon National University, Incheon, South Korea
89 Seoho-ro, Gwonseon-gu, Sawon-si, Applied Plasma Devices, Inc., Gyeonggi-do, South Korea

Session 1P: Environmental and Industrial Applications (poster I)

Poster Session

Monday, May 25 15:00-16:30, Citrine I

Session Chairs:

1P-107 PREPARATION AND SURFACE MODIFICATION OF CHITOSAN COATED MODAL FABRIC BY NON-THERMAL OXYGEN PLASMA TREATMENT
K. A. Vijayalakshmi, N. Karthikeyan, K. Vignesh
Department of Physics, Sri Vasavi College, Erode-16, Tamilnadu, India

1P-108 INTERACTION BETWEEN Pt CATALYST AND OZONE FOR CATALYTIC CARBON MONOXIDE OXIDATION
Department of Plasma Engineering, Korea Institute of Machinery & Materials, Daejeon, South Korea

1P-109 CHARACTERISTICS OF HELIUM PLASMA JET DRIVEN BY MICROSECOND PULSES WITH DIFFERENT CONFIGURATIONS
Y. Shen, R. Wang, C. Zhang, T. Shao
1School of Automation and Electrical Engineering, Nanjing University of Technology, Nanjing, China
2Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
3Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

1P-110 OPTIMIZATION OF LOW-PRESSURE PLASMA REACTOR FOR HIGH-SPEED SURFACE TREATMENT OF POLYIMIDE SUBSTRATE
Korea Institute of Machinery and Materials, Daejeon, South Korea

1P-111 MEASUREMENT OF THE CHARGE ON DIELECTRIC SURFACE OF A DBD PLASMA ACTUATOR
E. Paniel, H. Rabat, D. Hong
Univ. Orleans, CNRS, GREMI, UMR7344, Orleans, France
MODIFICATION OF THE SURFACE LAYER OF METAL MATERIALS UNDER THE COMBINED INFLUENCE OF HIGH INTENSITY PULSED ION BEAM AND MAGNETRON SPUTTERING
National Research Tomsk Polytechnic University, Tomsk, Russian Federation

DEPOSITION OF FUNCTIONAL COATINGS BASED ON INTERMETALLIC SYSTEMS TiAl ON THE SURFACE OF PUNCHING TOOLS FOR COLD HEADING MACHINES BY VACUUM ARC PLASMA
E. L. Vardanyan, V. V. Budilov, I. I. Yagafarov, K. N. Ramazanov
Ufa State Aviation Technical University, Ufa, Russian Federation

APPLICATION OF THE HOLLOW CATHODE EFFECT FOR LOCAL ION NITRIDING OF THE MACHINE PARTS
V. V. Budilov, K. N. Ramazanov, Y. G. Khusainov, I. V. Zolotov, N. S. Babenko
Ufa State Aviation Technical University, Ufa, Russian Federation
Ufa Engine Industrial Association, Ufa, Russian Federation

OBTAINING USEFUL PROPERTIES OF DIFFERENT MATERIALS BY USING MAGNETRON SPUTTERING
K. Senturk, T. Sen, T. Coruhlu, I. Varturk, M. Korachi, N. Aslan
1Energy Systems Engineering Department, Beykent University, Istanbul, Turkey
2Physics Department, Yeditepe University, Istanbul, Turkey
3Genetics and Bioengineering Department, Yeditepe University, Istanbul, Turkey

COMPUTER MODELING OF LOCAL ION NITRIDING PROCESS WITH HOLLOW CATHODE EFFECT
K. N. Ramazanov, Y. G. Khusainov, I. V. Zolotov
Ufa State Aviation Technical University, Ufa, Russian Federation

THE PREPARATION OF MICROPOROUS PVDF MEMBRANES WITH DITHIOPHOSPHATES AND MODIFICATION OF SURFACE PROPERTIES BY HELICON PLASMA
T. Sardohan Koseoglu, F. Ilgaz, O. Calis, E. Kir, A. Aydin, A. Gulec
1Chemistry, Suleyman Demiel University, Isparta, Turkey
2Physics, Suleyman Demiel University, Isparta, Turkey

AN NOVEL DISINFECTION METHOD FOR DRINKING WATER TREATMENT BASED ON STRONG ELECTRIC FIELD DISCHARGE AND HYDRODYNAMIC CAVITATION
Y. Tian, X. Yuan, S. Xu, X. Zhou, Z. Zhang
Dalian Maritime University, Dalian, Liaoning, China

SOLID STATE BATTERY MANUFACTURING WITH THERMIIONIC VACUUM ARC AND RF SPUTTERING
S. Pat, S. Ozen, V. Senay, S. Korkmaz, Z. Pat
1Eskişehir Osmangazi University, Eskişehir, Turkey
2Bayburt University, Bayburt, Turkey
3Bilecik Şeyh Edebali University, Bilecik, Turkey

CALCULATIONS OF ELECTRIC AND MAGNETIC FIELDS AND OHMIC HEATING IN THE VACUUM INTERRUPTER
S. D. Kuznetsov, S. F. Garanin, V. A. Glazunov, V. B. Yakubov, V. N. Borisenkova, P. P. Misyura
1Russian Federal Nuclear Center - All Russian Scientific Research Institute of Experimental Physics, Sarov, Russia
2Eurocontract - High Voltage Equipment Ltd., Balashiha, Russia
3HC Open Joint-Stock Company NEVZ-Soyuz, Novosibirsk, Russia
AN ATMOSPHERIC-PRESSURE, ROOM-TEMPERATURE, COLD MICRO PLASMA
X. Lu, J. Gou
Huazhong University of Science and Technology, China, WuHan, China

YIELD OF HYDROGEN PEROXIDE, OZONE AND NITRITE NITROGEN WITH DBD ARRAYS IN WATER MIST SPRAY
B. Chen1,2,3,4, Y. Gan1,3, Y. Wu1,3, C. Zhu1,2,5, J. Fei4,5, F. Zhou1,3, J. Wang1,3, J. Wang1,3
1Hohai University Nantong Institute of Marine and Offshore Engineering, Nantong, China
2Jiangsu Province Key Laboratory of Environmental Engineering, Nanjing, China
3Department of Mathematics and Physics, Hohai University, Changzhou, China
4College of Energy and Electrical Engineering, Hohai University, Nanjing, China
5Jiangsu Key Laboratory of Power Transmission and Distribution Equipment Technology, Changzhou, China

TREATMENT OF POLYTETRAFLUOROETHYLENE FILMS BY ATMOSPHERIC AR THREE-DIELECTRIC LAYERS BARRIER DISCHARGE PLASMA
X. Li1,2, J. Li1,2, P. Dong1,2, L. W. Zhang1,2, J. D. Long1,2, Y. T. Xie1,2
1Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, China
2Key Laboratory of Pulsed Power, China Academy of Engineering Physics, Mianyang, China

CHARACTERISTICS OF DISCHARGE CHANNEL AND ITS EFFECT ON CONCRETE MONOLITH SPLITTING OFF BY BOREHOLE ELECTRICAL DISCHARGE BLASTING
A. S. Yudin
High Voltage and Electrophysics, National Research Tomsk Polytechnic University, Tomsk, Russian Federation

PLASMA-INDUCED GRAFT POLYMERIZATION OF GLYCIDYL METHACRYLATE ONTO PE/PP NONVOWEN FABRIC
S. Tİlkİ, S. Korpayev, P. AkkaŞ Kavakli, C. Kavakli
chemistry, natural and applied science, ankara, turkey

Session 2A: Partially Ionized Plasmas

Monday, May 25 16:30-18:30, Opal I

Session Chair: Mikhail S Benilov, Universidade da Madeira

THERMAL CATHODIC ARC ROOT IN A MAGNETICALLY ROTATING ARC PLASMA GENERATOR
C. Wang1, T. Chen1, W. Li1, M. Liao1, L. Ding2, W. Xia1
1Department of Thermal Science and Energy Engineering, University of Science and Technology of China, Hefei, Anhui, China
2School of Life Science, University of Science and Technology of China, Hefei, Anhui, China

EXCITATION OF ION ACCOUSTIC WAVES IN PLASMAS WITH ELECTRON EMISSION FROM WALLS
I. D. Kaganovich1, A. V. Khrabrov1, D. Sydorenko2, A. Smolyakov3, Y. Raitses1
1PPPL, Princeton, United States
2University of Alberta, Alberta, Canada
3University of Saskatchewan, Saskatoon, Canada

FIELD EMISSION CURRENT GENERATION IN A HIGH PRESRURE NOBLE GAS

16:30 2A-1 (invited) THERMAL CATHODIC ARC ROOT IN A MAGNETICALLY ROTATING ARC PLASMA GENERATOR
C. Wang1, T. Chen1, W. Li1, M. Liao1, L. Ding2, W. Xia1
1Department of Thermal Science and Energy Engineering, University of Science and Technology of China, Hefei, Anhui, China
2School of Life Science, University of Science and Technology of China, Hefei, Anhui, China

17:00 2A-2 EXCITATION OF ION ACCOUSTIC WAVES IN PLASMAS WITH ELECTRON EMISSION FROM WALLS
I. D. Kaganovich1, A. V. Khrabrov1, D. Sydorenko2, A. Smolyakov3, Y. Raitses1
1PPPL, Princeton, United States
2University of Alberta, Alberta, Canada
3University of Saskatchewan, Saskatoon, Canada

17:15 2A-3 FIELD EMISSION CURRENT GENERATION IN A HIGH PRESRURE NOBLE GAS
17:30 2A-4 STUDY ON THE PARAMETERS OF BARRIER DISCHARGE PLASMA IN A GAS PHASE HYDROCARBON MIXTURE OF ATMOSPHERIC PRESSURE UNDER EXTERNAL HEATING OF DISCHARGE AREA
M. V. Zhuravlev, A. S. Kovantsev, G. E. Remnev, B. G. Shubin
Tomsk Polytechnic University, Tomsk, Russian Federation

17:45 2A-5 NUMERICAL STUDY OF ACTIVE SPECIES GENERATION AND DELIVERY TO A DIELECTRIC SURFACE FROM A HELIUM ATMOSPHERIC-PRESSURE PLASMA JET
M. I. Hasan, J. W. Bradley
Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom

18:00 2A-6 ASSESSMENT OF PHYSICAL CORRELATIONS IN A LARGE DC DISCHARGE TUBE FOR MULTIPLE GASES AND ELECTRODE MATERIALS
T. E. Gebhart1, D. C. Lam2, I. A. Bean2, A. L. Winfrey3, M. A. Bourham3
1Nuclear Engineering, University of Florida, Gainesville, FL, United States
2Department of Mechanical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, United States
3Nuclear Engineering, North Carolina State University, Raleigh, NC, United States

18:15 2A-7 EXPERIMENTAL VALIDATION OF SIMILARITY LAW FOR GLOW DISCHARGES IN ARGON AT LOW PRESSURE
Y. Fu, X. Yang, H. Luo, X. Zou, X. Wang
Department of Electrical Engineering, Tsinghua University, Beijing, China

18:30 2A-8 NUMERICAL STUDY OF MICROWAVE DIELECTRIC SURFACE BREAKDOWN AT ATMOSPHERIC CONDITION
Q. Zhou, Y. Dong, Z. Dong
Institute of Applied Physics and Computational Mathematics, Beijing, China
17:00 2B-3 (invited) PLASMA-CATALYTIC CONVERSION OF CO2 INTO VALUE-ADDED CHEMICALS: UNDERSTANDING THE SYNERGISTIC EFFECT AT LOW TEMPERATURES
D. Mei, J. Yan, X. Tu
Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom

17:30 2B-4 PRODUCTION OF ACTIVE OXYGEN SPECIES IN LOW PRESSURE CCP USED FOR STERILIZATION OF COMMERCIAL SEEDS
K. Spasić, N. Skoro, N. Puać, G. Malović, Z. L. Petrović
Institute Of Physics, Belgrade, Serbia

17:45 2B-5 AN EXPERIMENTAL INVESTIGATION ON THE RADIATION CHARACTERISTICS OF PLASMA JET IN THE PLASMA-PROPPELLANT INTERACTION
Y. Hang, X. Li, S. Jia
State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, Xi'an, Shaanxi, China

18:00 2B-6 PLASMA-INDUCED POLYMERIZATION OF SULFOBETAINE ACRYLATE ON BIOMER FILM
A. Mazzah1, C. Rolando1, A. Haoudi2
1Chemistry, Lille University, Villeneuve d 'Ascq, France
2Chemistry, Faculté des Sciences et Techniques de Fès, Fès, Morocco

18:15 2B-7 A NOVEL ATMOSPHERIC PRESSURE HELIUM PLASMA JET GENERATED WITH SPIRAL NEEDLE-RING ELECTRODES
R. Zhang, Y. Xia, X. Zhou
Graduate School at Shenzhen, Tsinghua University, Shenzhen, China

Session 2C: Plasma, Ion and Electron Sources and Intense Electron and Ion Beams

Monday, May 25 16:30-18:30, Onyx

Session Chair: Leigh Winfrey, University of Florida

16:30 2C-1 (invited) BACK-STREAMING ION BEAM MEASUREMENTS IN A SELF MAGNETIC PINCH (SMP) ELECTRON DIODE
M. G. Mazarakis1, M. L. Kiefer1, M. D. Johnston1, J. Leckbee1, T. J. Webb1, T. J. Renk1, S. C. Simpson1, D. S. Nielsen1, D. Ziska1, N. L. Bennett2, D. R. Welch3, T. M. Romero4
1Sandia National Laboratories, Albuquerque, NM, United States
2National Security Technologies, LLC, Las Vegas, NV, United States
3Voss Scientific, LLC, Albuquerque, NM, United States
4Leidos, Inc., Albuquerque, NM, United States

17:00 2C-2 THE NEAREST NEIGHBOURS APPROXIMATION AND THE ANALYSIS OF THE MELTING POINT OF 2D- AND 3D-YUKAWA SYSTEMS
X. G. Koss1,2, O. S. Vaulina1,2
1JIHT RAS, Moscow, Russian Federation
2MIPT, Dolgoprudny, Russian Federation

17:15 2C-3 A NOVEL COLD CATHODE SHEET-BEAM PLASMA CATHODE ELECTRON GUN AND ITS BEAM DIAGNOSTICS
N. Kumar1,2, U. N. Pal1,2, R. Prakash1,2
Session 2D: Laser Produced Plasmas

Monday, May 25 16:30-18:15, Quartz

Session Chairs:

16:30 2D-1 HIGH DYNAMIC RANGE LASER PULSE CONTRAST MEASUREMENT WITH A OPTICAL CLIPPING OF PLASMA
Z. Sun, Y. Xia, Z. Peng, J. Dong
Research Center of Laser Fusion, CAEP, Mianyang, China

16:45 2D-2 EFFECTS OF NONTHERMAL ELECTRONS ON PLASMA EXPANSION INTO VACUUM
D. Bennaceur-Doumaz, D. Bara
Milieux Ionises et Lasers, Centre de Developpement des Technologies Avancees (CDTA), Algiers, Algeria

17:00 2D-3 OSCILLATIONS AND ELECTRON EMISSION FROM LASER PRODUCED CLUSTER NANOPLASMA
R. Bystriy1,2, I. Morozov1,2
1Joint Institute for High Temperatures of Russian Academy of Sciences (JIHT RAS), Moscow, Russian Federation
2National Research University Higher School of Economics, Moscow, Russian Federation

17:15 2D-4 STUDY OF X-RAY GENERATION FROM NOBLE GASES MIXTURE JETS IRRADIATED BY UNR FS- LEOPARD LASER WITH DIFFERENT PULSE CONTRAST
Session 2E: Plasma Medicine I

Monday, May 25 16:30-18:30, Topaz

Session Chair: Mounir Laroussi, Old Dominion University

16:30 2E-1 (invited) COMBINATION OF TUMOR THERAPEUTICS AND COLD PLASMA TO FIGHT CANCER
K. Masur1, M. von Behr2, K.-D. Weltmann1, L. I. Partecke2, T. von Woedtke1
1ZIK plasmatis, INP Greifswald, Greifswald, Germany
2Department of Surgery, Ernst-Moritz-Arndt-University Greifswald, Greifswald, Germany

17:00 2E-2 EFFECT OF NONTHERMAL ATMOSPHERIC PRESSURE PLASMA ON BREAST CANCER CELLS
S. Mirpour1, N. Jalali Farahani2, M. Nikkhah3, N. Soleimani3, S. Piroozmand3, H. R. Ghomi1
1Laser and plasma institute, Shahid Beheshti University, Tehran, Iran
2Plasma research center, Science and research branch, Azad university, Tehran, Iran
3Nanobiotechnology Group, Tarbiat modares university, Tehran, Iran

17:15 2E-3 CHARACTERIZATION AND EVALUATION OF BACTERICIDAL EFFECT AND CYTOCOMPATIBILITY OF A LOW POWER ICP SOURCE FOR BIOMEDICAL APPLICATIONS
V. Colombi, D. Barbieri, M. Boselli, F. Cavrini, M. Gherardi, M. P. Landini, R. Laurita, A. Liguori, A. Stancampiano
Alma Mater Studiorum - University of Bologna, Bologna, Italy

17:30 2E-4 ELECTRIC FIELD MEASUREMENTS DURING PLASMA JET OPERATION ON/IN BIOLOGICAL SAMPLES AND TISSUES
T. Darny, E. Robert, S. Dozias, L.-M. Pouvesle
Orleans University/CNRS, GREMI, Orleans, France

17:45 2E-5 INVESTIGATION OF BACTERIAL INACTIVATION BY VARIOUS GAS PLASMAS AND ELECTRON MICROSCOPIC OBSERVATION OF TREATED BACTERIA
T. Takamatsu¹, T. Kobayashi², H. Kawano², Y. Sasaki², Y. Watanabe², Y. Matsumura³, H. Miyahara², A. Iwasawa³, A. Okino², T. Azuma¹

¹Department of Gastroenterology, Kobe University, Kobe, Japan
²Energy Sciences, Tokyo Institute of Technology, Yokohama, Japan
³Bioengineering, Tokyo Institute of Technology, Yokohama, Japan

18:00 2E-6 STERILIZATION OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS WITH DIELECTRIC BARRIER DISCHARGE
H. Ayan, N. Sanaei

Bioengineering, The University of Toledo, Toledo, OH, United States

18:15 2E-7 SENSOR PROPERTIES OF RF-TITANIUM DIOXIDE PLAZMA MODIFIED GRAPHENE
F. Kuralay¹, S. Tunc¹, F. Bozduman², A. Uygun Oksuz³, L. Oksuz²

¹Department of Chemistry, Ordu University, Ordu, Turkey
²Department of Physics, Suleyman Demirel University, Isparta, Turkey
³Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

Session PL3: Plenary PL3

Tuesday, May 26 09:00-10:00, Citrine II-III

Session Chairs:

9:00 PL3-1 ON EXCITATION OF ALFVEN WAVES BY ENERGETIC PARTICLES IN FUSION AND SPACE PLASMAS
L. Chen

ZheJiang University, Hangzhou, China

Session 3A: Basic Phenomena - I

Tuesday, May 26 10:30-13:00, Opal I

Session Chair: Amnon Fruchtman, Holon Institute of Technology

10:30 3A-1 (invited) COLLISIONLESS ELECTRON HEATING IN A SURFACE-WAVE DISCHARGE
J. P. Boeuf

LAPLACE, Universite de Toulouse, Toulouse, France

11:00 3A-2 INFLUENCE OF ELECTRON-ION COLLISIONS ON STABILITY OF CURRENT CARRYING PLASMA
E. V. Rostomyan

Theoretical Dept, Institute of Radiophysics & Electronics National Ac Sci of Armenia, Ashtarak, Armenia

11:15 3A-3 FLOATING POTENTIAL FLUCTUATION USING LASER HEATED EMISSIVE PROBE (LHEP) AND ITS NONLINEAR ANALYSIS
A. K. Sarma¹, P. Mehta², V. Mitra¹, J. Ghosh³, B. Sarma¹
11:30 3A-4 NEW ELECTROSTATIC PLASMA WAVES AND THEIR PROPERTIES
A. Esfandyari-Kalejahi, V. Ebrahimi
physics, Azarbaijan Shahid Madani university, Tabriz, Easten Azarbaijan, Iran

11:45 3A-5 PAST SUCCESSES AND FUTURE PROSPECTS FOR EXPERIMENTAL ELECTRON SCATTERING FROM FLUOROCARBON RADICALS
S. J. Buckman1, D. B. Jones2, G. B. da Silva3, M. J. Brunger4
1Research School of Physics and Engineering, Australian National University, Canberra, ACT, Australia
2School of Chemical and Physical Sciences, Flinders University, Adelaide, SA, Australia
3Universidade Federal de Mato Grosso, Barra do Garcas, Mato Grosso, Brazil
4Institute of Mathematical Sciences, University of Malaya, Kuala Lumpur, Malaysia

12:00 3A-6 THE LXCAT PROJET: AN OVERVIEW AND A BRIEF PROGRESS REPORT
L. C. Pitchford
LAPLACE, Universite de Toulouse and CNRS, Toulouse, France

12:15 3A-7 LOW FREQUENCY GLOBAL MODES IN INHOMOGENEOUS NON-MAXWELLIAN PLASMAS
Q. U. Haque1, A. Ahmad2
1Theoretical Physics Division, PINSTECH, Islamabad, Pakistan
2TPD, National Center for Physics, Islamabad, Pakistan

12:30 3A-8 INFLUENCE OF FINITE LARMOR RADIUS CORRECTION ON MAGNETO GRAVITATIONAL INSTABILITY OF ANISOTROPIC QUANTUM PLASMA
P. Sharma
Physics Department, Ujjain engineering college, Ujjain, Ujjain, India

12:45 3A-9 ANALYSIS OF THE STOCHASTIC PROCESS IN WIRE-PLATE NEGATIVE CORONA DISCHARGE USING STATISTICAL METHODS
K. Zhang1, L. Wei2, J. Tang2, D. Yu2, C. Zhang1
1School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China
2Academy of Fundamental and Interdisciplinary, Harbin Institute of Technology, Harbin, China

Session 3B: Intense Beam Microwave Generation

Tuesday, May 26 10:30-13:00, Opal II

Session Chair: Theodore C Grabowski, Air Force Research Laboratory

10:30 3B-1 VORTEX STRUCTURES FORMATION IN ULTRARELATIVISTIC ELECTRON BEAM WITH VIRTUAL CATHODE
A. E. Hramov1,2, S. A. Kurkin1, A. A. Badarin1,2, A. A. Koronovskiy2
1REC 'Nonlinear Dynamics of Complex Systems', Saratov State Technical University, Saratov, Russian Federation
2Faculty of Nonlinear Processes, Saratov State University, Saratov, Russian Federation
10:45 3B-2 GENERATION OF HIGHER HARMONICS IN RELATIVISTIC ELECTRON BEAM WITH VIRTUAL CATHODE
S. A. Kurkin\textsuperscript{1,2}, A. A. Badarin\textsuperscript{1}, A. A. Koronovskii\textsuperscript{1,2}, A. E. Hramov\textsuperscript{2,1}
\textsuperscript{1}Saratov State University, Saratov, Russian Federation
\textsuperscript{2}Saratov State Technical University, Saratov, Russian Federation

11:00 3B-3 (invited) HIGH EFFICIENCY RELATIVISTIC MAGNETRON WITH DIFFRACTION OUTPUT OPERATING WITH A VIRTUAL CATHODE
M. I. Fuks, E. Schamiloglu
Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

11:30 3B-4 AMPLIFICATION OF OUTPUT MICROWAVE POWER IN LOW-VOLTAGE VIRTUAL CATHODE OSCILLATOR UNDER EXTERNAL FORCE
N. S. Frolov\textsuperscript{1,2}
\textsuperscript{1}Saratov State University, Saratov, Russian Federation
\textsuperscript{2}Saratov State Technical University, Saratov, Russian Federation

11:45 3B-5 4 MM WAVE GENERATION IN TWO-CHANNEL PLANAR FEM AT STRONG ELECTRODYNAMIC COUPLING OF CHANNELS
S. L. Sinitsky\textsuperscript{1,2}, A. V. Arzhannikov\textsuperscript{1,2}, N. S. Ginzburg\textsuperscript{1}, P. V. Kalinin\textsuperscript{1,2}, N. Y. Peskov\textsuperscript{3}, A. S. Sergeev\textsuperscript{3}, V. D. Stepanov\textsuperscript{1,2}, V. Y. Zaslavsky\textsuperscript{3}
\textsuperscript{1}Plasma Department, Budker Institute of Nuclear Physics Novosibirsk, Novosibirsk, Russian Federation
\textsuperscript{2}Physics Department, Novosibirsk State University, Novosibirsk, Russian Federation
\textsuperscript{3}Plasma Physics and High Power Electronics Division, Plasma Physics and High Power Electronics Division, Institute of Applied Physics, Nizhnii Novgorod, Russian Federation

12:00 3B-6 A SERIES OF TUFTED CARBON FIBER CATHODE DESIGNED FOR DIFFERENT HIGH POWER MICROWAVE SOURCES
L. Liu, Z. -Q. Li, Y. -W. Fan
College of Optoelectric Science and Engineering, National University of Defense Technology, Changsha, China

12:15 3B-7 EXPERIMENTAL PROGRESS ON A PROTOTYPE MULTIFREQUENCY RECARCULATING PLANAR MAGNETRON
Nuclear Engineering and Radiological Sciences, University of Michigan, Ann Arbor, MI, United States

12:30 3B-8 COMPACT REFLEX TRIODE OPERATION AT 10 HZ REPETITION RATE AND LONG PULSED WIDTHS
E. Rocha\textsuperscript{1}, J. M. Parson\textsuperscript{1}, C. F. Lynn\textsuperscript{1}, J. C. Dickens\textsuperscript{1}, A. A. Neuber\textsuperscript{1}, J. J. Mankowski\textsuperscript{1}, T. Queller\textsuperscript{2}, J. Z. Gleizer\textsuperscript{2}, Y. E. Krasik\textsuperscript{2}
\textsuperscript{1}Pulsed Power and Power Electronics, Texas Tech University, Lubbock, Texas, United States
\textsuperscript{2}Physics Department, Technion-Israel Institute of Technology, Haifa, Israel

12:45 3B-9 INVESTIGATION OF A DISTRIBUTED FEEDBACK RESONANT TRAVELING WAVE TUBE
W. Song, Y. Shi, Y. Deng, L. Zhang, X. Li
Science and Technology on High Power Microwave Laboratory, Northwest institute of nuclear technology, Xian, China

Session 3C: Fast Z pinches I

Tuesday, May 26 10:30-13:00, Onyx
10:30 3C-1 (invited) RAYLEIGH-TAYLOR INSTABILITY AMPLIFICATION DUE TO RADIATIVE LOSSES
P. W. L. de Grouchy¹, N. Qi¹, B. R. Kusse¹, L. Atayan¹, J. Banasek¹, T. Byvank¹, A. Cahill¹, J. Engelbrecht¹, H. Moore¹, L. Ransohoff², S. Tian¹, D. Hammer¹, S. Pikuz², T. Shilkovenko²
¹Laboratory of Plasma Studies, Cornell University, Ithaca, NY, United States
²Lebedev Institute, Moscow, Russia

11:00 3C-2 CYLINDRICAL AND QUASI-SPHERICAL WIRE ARRAYS INVESTIGATION ON ANGARA-5-1 AND BAIKAL PROJECT
E. V. Grabovski¹, V. V. Smirnov¹, V. V. Aleksandrov¹, A. N. Gritsuk¹, A. N. Mitrofanov¹, G. M. Oleinik¹, V. I. Zaitsev¹, G. S. Volkov¹, A. P. Lototsky¹, A. N. Gribov¹, V. V. Jiangobegov¹, A. O. Schishlov¹, S. F. Medovschikov¹, A. V. Branitskii¹, V. A. Gasilov², O. G. Olkhovska², P. V. Sadorov², A. P. Shevelko², S. I. Tkachenko²
¹CDPD, SRC RF TRINITI, Moscow, Troitsk, Russian Federation
²Keldysh Institute of Applied Mathematics, RAS, Moscow, Russia, Moscow, Russian Federation

11:15 3C-3 HIGH ENERGY DENSITY PHYSICS RESEARCHES ON THE JULONG-I(PTS)
J. Deng, W. Xie, X. Huang
Institute of Fluid Physics, CAEP, Mianyang, Sichuan, 621900, China

11:30 3C-4 Z-PINCH EXPERIMENTS ON THE UM LINEAR TRANSFORMER DRIVER
Nuclear Engineering & Radiological Sciences, University of Michigan, Ann Arbor, MI, United States

11:45 3C-5 PLANAR WIRE ARRAY Z-PINCHES ON QIANGGUANG-I FACILITY
M. Li, L. Sheng, L. P. Wang, Y. Li, Y. Yuan, X. J. Zhang, M. Zhang, C. Zhao, B. D. Peng, J. H. Zhang
Northwest Institute of Nuclear Technology, Xi'an, China

12:00 3C-6 (invited) DOUBLE AND SINGLE PLANAR WIRE ARRAYS AT HIGH AND LOW IMPEDANCE UNIVERSITY-SCALE GENERATORS
A. S. Safronova¹, V. L. Kantsyrev¹, M. E. Weller¹, V. V. Shlyapteeva¹, I. K. Shrestha¹, A. Stafford¹, M. Y. Lorance¹, M. C. Cooper¹, S. G. Patel², A. M. Steiner², D. A. Yager-Elorriaga², N. M. Jordan², R. M. Gilgenbach², C. A. Coverdale², B. Jones², K. M. Williamson², A. S. Chuvatin³
¹University of Nevada, Reno, Reno, NV, United States
²University of Michigan, Ann Arbor, MI, United States
³Sandia National Laboratories, Albuquerque, NM, United States
⁴Ecole Polytechnique, Palaiseau, France

12:30 3C-7 PULSED POWER PRODUCED COUNTER-PROPAGATING SUPERSONIC PLASMA JET COLLISION AND THE STUDY OF SHOCK WAVE FORMATION
J. C. Valenzuela¹, G. W. Collins IV¹, C. Krauland¹, D. Mariscal¹, T. Zick¹, J. Narkis¹, I. Krasheninnikov¹, F. N. Beg¹, R. Presura², P. Wiewior², A. Covington²
¹Center for Energy Research, University of California, San Diego, La Jolla, CA, United States
²University of Nevada, Reno, Reno, NV, United States

12:45 3C-8 STRUCTURAL TRANSFORMATIONS OF PINCHED COLUMN IN PLASMA FOCUS DEVICE
P. Kubes¹, M. Paduch², J. Cikhardt¹, J. Kortanek¹, B. Cikhardtova¹, K. Rezaei², D. Kliir², J. Kravarik², E. Zielinska²
¹University of Nevada, Reno, Reno, NV, United States
²Ecole Polytechnique, Palaiseau, France
Session 3D: Diagnostics: Optical and X-ray, Microwave and FIR, and Particle

Tuesday, May 26 10:30-13:15, Quartz

Session Chairs: Simon Bland, Imperial College London
Stuart V Springham, NIE

10:30 3D-1 ANALYTIC DESCRIPTION OF THE RESONANCE FREQUENCIES OF CURLING PROBE
A. Arshadi, R. P. Brinkmann
Ruhr University Bochum, Institute for Theoretical Electrical Engineering, Bochum, Germany

10:45 3D-2 INVESTIGATION ON THE SPATIAL DISTRIBUTION OF ACTIVE SPECIES IN ATMOSPHERIC-PRESSURE PLASMA JET USING OPTICAL EMISSION SPECTROSCOPY AND FLUID SIMULATION
Department of Electrical and Computer Engineering, Pusan National University, Busan, South Korea

11:00 3D-3 DIAGNOSTICS OF BENT X-RAY DIAGNOSTIC CRYSTALS
N. R. Pereira¹, A. T. Macrander², Stoupin³, E. O. Baronova³
¹Ecopulse, Inc., Springfield VA, United States
²XSD, Advanced Photon Source, Argonne IL, United States
³Kurchatov Institute, Moscow, Russia

11:15 3D-4 TWO-COLOR INTERFEROMETRY FOR THE STUDY OF LASER FILAMENTATION TRIGGERED DISCHARGES IN AIR
G. Point, Y. Brelet, L. Arantchouk, J. Carbonnel, B. Prade, A. Mysyrowicz, A. Houard
Laboratoire d'Optique Appliquee - Ecole Polytechnique, ENSTA ParisTech, CNRS - France, Palaiseau, France

11:30 3D-5 FAST-FRAME OPTICAL IMAGING AND TIME-RESOLVED SPECTROSCOPY OF PLASMA IN A GAS DISCHARGE-BASED SWITCH OF A MICROWAVE PULSE COMPRESSOR
A. S. Shlapakovski, L. Beilin, Y. E. Krasik
Physics Department, Technion, Haifa, Israel

11:45 3D-6 (invited) MICROWAVE DIAGNOSTICS OF PLASMA FILAMENTS LEFT IN THE WAKE OF HIGH POWER FEMTOSECOND LASER PULSE.
J. Papeer¹, Z. Henis¹, M. Botton¹, A. Zigler¹, D. Gordon²
¹Racah Institute of Physics, The Hebrew University, Jerusalem, Israel
²Plasma Division, Naval Research Lab, Washington, DC, USA

12:15 3D-7 MODE TRANSITIONS IN LOW-PRESSURE NITROGEN RF-CCP AT DIFFERENT FREQUENCIES
U. Erozbek Gungor, S. K. Bilikmen
Physics, Middle East Technical University, Ankara, Turkey

12:30 3D-8 STUDIES OF PLASMA FOCUS FUSION ZONE GEOMETRY USING PROTON CODED APERTURE IMAGING
S. V. Springham¹, A. Talebitaher², P. M. E. Shutler³, R. S. Rawat¹, P. Lee¹
Session 3E: Environmental and Industrial Applications I

Tuesday, May 26 10:30-13:00, Topaz

Session Chair: Xinpei Lu, Huazhong University of Science and Technology, China

10:30 3E-1 (invited) SPATIAL DIAGNOSIS OF ATMOSPHERIC PRESSURE HELIUM PLASMA JET
R. Wang, Y. Shen, C. Zhang, T. Shao
Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China
School of Automation and Electrical Engineering, Nanjing University of Technology, Nanjing, China

11:00 3E-2 ATMOSPHERIC-PRESSURE MICROPLASMAS AND THEIR APPLICATIONS
D. P. Liu
Dalian Minzu University, Dalian, China

11:15 3E-3 A Study on the Mechanism of Ring-Shape Structure in the Atmospheric Pressure Plasma Jets
Y. F. Yue
School of Electrical and Electronic Engineering, Huazhong University of Science and Technology China, Wuhan, China

11:30 3E-4 REACTION OF CCl3F (CFC-11) WITH CH4 IN A DIELECTRIC BARRIER DISCHARGE REACTOR
S. K. Kundu, E. M. Kennedy, J. C. Mackie, C. I. Holdsworth, T. S. Molloy, V. V. Gaikwad, B. Z. Dlugogorski
Discipline of Chemical Engineering, University of Newcastle, Newcastle, NSW, Australia
Discipline of Chemistry, University of Newcastle, Newcastle, NSW, Australia
School of Engineering and Information Technology, Murdoch University, Perth, WA, Australia

11:45 3E-5 IMPROVING THE OPERATING PROPERTIES OF PARTS OF TITANIUM ALLOYS BY SURFACE HARDENING IN HIGH DENSITY PLASMA OF GLOW DISCHARGE
K. N. Ramazanov, I. V. Zolotov, Y. G. Khusainov, R. F. Khusnudinov
Ufa State Aviation Technical University, Ufa, Russian Federation

12:00 3E-6 SECONDARY ARCING IN SPACE ENVIRONMENT
A. V. Batrakov, E. L. Dubrovskaya, K. V. Karlik, A. V. Schneider
Institute of High Current Electronics SB RAS IHE SB RAS, Tomsk, Russian Federation
National Research Tomsk Polytechnic University, Tomsk, Russian Federation
12:15 3E-7 OPTICAL SENSOR FOR THE VECTORIAL ANALYSIS OF THE PLASMA INDUCED ELECTRIC FIELD
G. Gaborit1,2, J. Dahdah2, F. Lecoche2, T. Treve2, P. Jarrige2, L. Gillette1,2, J. Piquet1, L. Duvillaret2
1Photo, IMEP-LAHC, UMR 5130, Le Bourget-du-Lac, France
2R&D, Kapteos, St Helene-du-lac, France

12:30 3E-8 CONVERSION OF METHANE INTO HYDROGEN AND C2 HYDROCARBONS IN A DIELECTRIC BARRIER DISCHARGE REACTOR
S. Liu, D. Mei, X. Tu
Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom

Session 4A: Dusty & Strongly Coupled Plasmas
Tuesday, May 26 14:00-16:00, Opal I

Session Chair: Holger Kersten, University Kiel, Germany

14:00 4A-1 (invited) ISSUE OF PARTICLE FORMATION IN THE HIGH-RATE FILM DEPOSITION BY PLASMA ASSISTED DEPOSITION PROCESSES
J. G. Han, B. B. Sahu, K. S. Shin, J. S. Lee, S. B. Jin
Department of Advanced Materials Science and Engineering, Sungkyunkwan University; NU-SKKU Joint Institute for Plasma Nano Materials (IPNM), Center for Advanced Plasma Surface Technology (CAPST), Suwon, South Korea 440-746

14:30 4A-2 DUST CHARGING UNDER SURFACE ELECTRON EMISSION
F. Taccogna, G. Mizzi
CNR-IMIP, Bari, Italy

14:45 4A-3 PRACTICAL TOOL TO EVALUATE THERMODYNAMIC PROPERTIES OF YUKAWA SYSTEMS (DUSTY PLASMAS)
S. Khrapak
Research Group Complex Plasma, DLR German Aerospace Center, Oberpfaffenhofen, Germany

15:00 4A-4 (invited) STRONGLY COUPLED PLASMA, GENERATED BY THE INTENSIVE SHOCK WAVES AND RAREFACTION
V. E. Fortov
Joint Institute for High Temperature of RAS, Moscow, Russian Federation

15:30 4A-5 DYNAMICAL SCREENING AND WAKE EFFECTS IN CLASSICAL, QUANTUM, AND ULTRARELATIVISTIC PLASMAS
P. Ludwig1, Z. Moldabekov2, H. Kaehlert1, J.-P. Joost1, M. Bonitz1
1Theoretische Physik und Astrophysik, University of Kiel, Kiel, Germany
2Institute for Experimental and Theoretical Physics, Al-Farabi Kazakh National University, Almaty, Kazakhstan
15:45 4A-6 LIGHT SCATTERING ON DUSTY PLASMAS: HOW TO IMPROVE THE QUALITY OF WHITE LEDS?
L. P. Schepers¹, J. Beckers¹, T. W. Tukker², W. L. IJzerman³

1Department of Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands
2Philips Research, Eindhoven, Netherlands
3Philips Lighting, Eindhoven, Netherlands

Session 4B: Codes and Modeling

Tuesday, May 26 14:00-16:00, Opal II

Session Chairs:

14:00 4B-1 MAGIC3D FDTD EM-PIC CODE NON-CONFORMAL GEOMETRY (CUT CELL) SLOW WAVE SERPENTINE CALCULATION
A. J. Woods, L. D. Ludeking
Alliant Techsystems (ATK), Newington, VA, United States

14:15 4B-2 ADVANCES IN BEAM OPTICS ANALYZER
T. Buî¹, M. Read¹, M. C. Lin¹, B. Tallis², H. Tran²
¹Calabazas Creek Research, Inc., Mountain View, CA, United States
²North Carolina State University, Raleigh, NC, USA

14:30 4B-3 USING THE HIGDON OPERATOR FOR UWB MATCHING OF EM-PIC SIMULATIONS
L. D. Ludeking, A. J. Woods
Alliant Techsystems, LLC, Newington, VA, United States

14:45 4B-4 VERIFICATION OF PARTICLE-IN-CELL SIMULATIONS AGAINST EXACT SOLUTIONS OF THE BOLTZMANN-POISSON SYSTEM
M. Turner
School of Physical Sciences and National Centre for Plasma Science and Technology, Dublin City University, Dublin 9, Ireland

15:00 4B-5 MODELLING OF TRIDIMENSIONAL PLASMA ENHANCED CHEMICAL VAPOR DEOSITION REACTOR AT 2.45 GHZ
K. Bouherine¹, A. Tibouche¹, M. Labiode¹, N. Ikhlef¹, O. Leroy²
¹Laboratoire d'Etudes et Modelisation en Electrotechnique, Universite de Jijel, Jijel, Algeria
²Laboratoire de Physique des Gaz et des Plasmas (LPGP), CNRS, Universite Paris-Sud (UPS), 91405 Orsay, Paris, France

15:15 4B-6 Analytic model of the energy distribution for energetic electrons in HiPIMS
S. Gallian¹, J. Trieschmann¹, T. Mussenbrock¹, W. N. G. Hitchon², R. P. Brinkmann¹
¹Theoretical Electrical Engineering, Ruhr University Bochum, Bochum, Germany
²Electrical and Computer Engineering, University of Wisconsin-Madison, Madison, WI, USA

15:30 4B-7 SIMULATION OF NANOCOLUMN FORMATION IN A PLASMA ENVIRONMENT
J. W. Abraham¹, T. Strunskus², F. Faupel², M. Bonitz²
¹Institut fuer Theoretische Physik und Astrophysik, University of Kiel, Kiel, Germany
²Institut fuer Materialwissenschaft, University of Kiel, Kiel, Germany
15:45 4B-8 CHERENKOV RADIATION IN DIELECTRIC-LOADED WAVEGUIDES AND CAVITIES
A. F. Abdel-Rahman, T. M. Abuelfadl

Electronics and Electrical Communications Department, Faculty of Engineering, Cairo University, Giza, Egypt

Session 4C: Magnetic Fusion

Tuesday, May 26 14:00-16:00, Onyx

Session Chairs:

14:00 4C-1 PLASMA CONTROL FOR ITER AND FUTURE FUSION REACTORS
E. Kolemen¹, D. A. Gates², D. A. Humphreys³, M. L. Walker¹
¹Princeton University, Princeton, United States
²Princeton Plasma Physics Laboratory, Princeton, United States
³General Atomics, Princeton, United States

14:15 4C-2 ORIGIN AND DYNAMICS OF PLASMA BLOB
G. Sahoo¹, R. Paikaray¹, S. Samantaray¹,², P. Das¹, J. Ghosh¹, M. B. Chowdhuri¹, A. K. Sanyasi¹,³
¹Ravenshaw University, Cuttack, Odisha, India
²Christ College, Cuttack, Odisha, India
³Institute For Plasma Research, Bhat, Gandhinagar, India

14:30 4C-3 EFFECTIVE PARAMETERS OF RADIAL ELECTRIC FIELD IN IR-T1 TOKAMAK
K. Noori¹, P. Khorshid²
¹Dept. of Physics, Azarbaijan University of Shahid Madani, Tabriz, Iran
²Dept. of Physics, Islamic Azad University, Mashhad Branch, Mashhad, Iran

14:45 4C-4 EFFECT OF LIMITER BIASING ON ELECTRON TEMPERATURE IN IR-T1 TOKAMAK
S. Meshkani¹, M. Ghoranneviss¹
¹Plasma Physics Research Centre, Science and Research Branch, Islamic Azad University, Tehran, Iran, Tehran, Iran

15:00 4C-5 (invited) ORIGIN AND EVOLUTION OF SPONTANEOUS ROTATION IN PLASMA UNDER DIFFERENT MAGNETIC FIELD GEOMETRY IN TOKAMAK QUEST
K. Mishra¹, H. Zushi², H. Idei², T. Onchi², M. Hasegawa², K. Hanada²
¹AEES, IGSES, Kyushu University, Kasuga, FUKUOKA, Japan
²AFRC, RIAM, Kyushu University, Kasuga, Fukuoka, Japan

15:30 4C-6 COMPARISON OF HOLLOW AND PARABOLIC CURRENT DENSITY PROFILES AND THEIR EFFECTS ON TOKAMAK PLASMA EQUILIBRIUM
S. Sobhanian¹, M. Bagerpour¹, N. Alinejad², A. A. Sedigzadeh²
¹Department of Physics, Tabriz Branch, Islamic Azad University, Tabriz, Iran
²Department of Atomic and Molecular Physics, University of Tabriz, Tabriz, Iran

15:45 4C-7 SEMI ANALYTIC DETERMINATION OF EQUILIBRIUM PLASMA PARAMETER OF DAMAVAND TOKAMAK
E. Noori¹, Y. Sadeghi²
¹Plasma research school, Nuclear science and technology research institute, Tehran, Iran, Tehran, Iran
²Plasma research school, Nuclear science and technology research institute, Tehran, Iran, Tehran, Iran

Session 4D: Plasma Medicine II
Session Chair: Kai Masur, INP Greifswald - ZIK plasmatis

14:00 4D-1 ABOUT INTERNATIONALS STANDARDS IN PLASMA MEDICINE
M. S. Mann¹, R. Tiede², A. Raees³, S. Wurster⁴, K.-D. Weltmann⁵, G. Daeschlein⁶, S. Emmert⁷, T. von Woedtke⁸
¹Plasma Bioengineering, Leibniz-Institute for Plasma Science and Technology (INP Greifswald), Greifswald, Germany
²Department of Dermatology, Venereology and Allergology of the Goettingen University Medical Center, Goettingen, Germany
³Institut fuer anwendungsorientierte Forschung und klinische Studien GmbH (IFS), Goettingen, Germany
⁴Chair of Innovation Economics, Technical University of Berlin, Berlin, Germany
⁵Department of Dermatology of the Ernst Moritz Arndt University Greifswald, Greifswald, Germany

14:15 4D-2 COMBINATION OF PULSED ELECTRIC FIELDS AND NON-THERMAL PLASMA JET FOR MORE EFFECTIVE BACTERIAL DECONTAMINATION
Q. Zhang¹, J. Zhuang¹, T. von Woedtke¹, J. F. Kolb¹, K.-D. Weltmann¹, J. Zhang², J. Fang²
¹Bioelectrics, Leibniz Institute for Plasma Science and Technology, Greifswald, Germany
²Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China

14:30 4D-3 (invited) INVESTIGATION OF ANTIBACTERIAL EFFICACY OF A PLASMA GUN SOURCE FOR ENDODONTIC APPLICATIONS
M. Boselli, F. Cavrini, V. Colombo, M. Gherardi, R. Laurita, A. Liguori, E. Simoncelli, A. Stancampiano
Department of Industrial Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy

15:00 4D-4 A BATTERY-OPERATED ATMOSPHERIC-PRESSURE PLASMA WAND FOR BIOMEDICAL APPLICATIONS
X. Pei, X. Lu
School of Electrical and Electronic Engineering, Huazhong University of Science & Technology, Wuhan, China

15:15 4D-5 CHARACTERISTICS OF COLD ATMOSPHERIC PRESSURE PLASMA JET AND ITS ANTIMICROBIAL ACTIVITY
A. H. Basher¹, S. A. Ouf², S. M. Shariff³, M. Benghanem¹, A. A. Almashraqi¹, A.-A. H. Mohamed¹
¹Physics Department/Faculty of Science, Taibah University, Madinah, Saudi Arabia
²Biology Department/Faculty of Science, Taibah University, Madinah, Saudi Arabia
³Electrical Engineering Department/Faculty of Engineering, Taibah University, Madinah, Saudi Arabia

15:30 4D-6 CHARACTERISTICS OF A SURFATRON-PRODUCED ATMOSPHERIC-PRESSURE PLASMA JET AT LOW PLASMA TEMPERATURES
T. Doll, C. M. Oeguen, R. Kling
Light Technology Institute, Karlsruhe Institute of Technology, Karlsruhe, Germany

Session 4E: Insulation and Dielectric Breakdown

Tuesday, May 26 14:00-16:00, Topaz

Session Chair: Zoran Petrovic, Univ. of Belgrade

14:00 4E-1 DC BREAKDOWN IN VAPOURS OF LIQUIDS
J. Sivos, D. Marić, N. Skoro, G. Malović, Z. L. Petrović
14:15 4E-2 PREBREAKDOWN PROCESSES IN WATER WITH SCREENED ELECTRODES AND POSSIBILITY OF PULSE ELECTRICAL STRENGTH INCREASE
S. M. Korobeynikov1, A. V. Melekhov2
1Power Engineering, Novosibirsk State Technical University, Novosibirsk, Russian Federation
2Laser Plasma, Institute of Laser Physics, Novosibirsk, Russian Federation

14:30 4E-3 TWO-DIMENSIONAL SIMULATIONS OF GAS DISCHARGE IGNITION IN SHORT GAPS AT VOLTAGE VALUES BELOW PASCHEN MINIMUM
V. Y. Kozhevnikov1, A. V. Kozyrev1, L. A. Zjulkova2, N. S. Semeniuk2
1Faculty of Physics, Tomsk State University, Tomsk, Russian Federation
2Institute of High Current Electronics, Tomsk, Russian Federation

14:45 4E-4 DIELECTRIC WITHSTAND OF MULTI BARRIER ARRANGEMENTS IN AIR SUBJECT TO A LIGHTNING IMPULSE VOLTAGE PULSE
J. Ekeberg
Corporate Research, ABB Schweiz AG, Baden-Daettwil, Switzerland

15:00 4E-5 STUDY ON SPOTS ON ELECTRODES AND POLARITY EFFECT INVERSION IN A NANOSECOND-PULSE GAS BREAKDOWN
C. Zhang1,2, V. F. Tarasenko3, R. Wang2,1, T. Shao1,2
1Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
2Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China
3Institute of High Current Electronics, Russian Academy of Sciences, Tomsk, Russia

15:15 4E-6 NANOSECOND HIGH POWER MICROWAVE WINDOW BREAKDOWN DIAGNOSTIC AND ITS MECHANISM
C. Chang1,2, J. Verboncoeur3, C. Chen1
1Laboratory on Science and Technology of High Power Microwave, Xi'an, Shaanxi, China
2Key Laboratory of Physical Electronics and Devices of the Ministry of Education, Xi'an Jiaotong University, Xi'an, Shaanxi, China
3Department of Electrical and Computer Engineering, Michigan State University, East Lansing, Michigan, United States

15:30 4E-7 STREAMER DISCHARGES ALONG DIELECTRIC SURFACES - EXPERIMENTAL INVESTIGATIONS
A. Chvyreva1, A. J. M. Pemen1, T. Christen2
1Electrical Engineering, Eindhoven University of Technology, Eindhoven, Netherlands
2Corporate-Research, ABB Switzerland Ltd., Baden, Switzerland

15:45 4E-8 POLARITY EFFECTS ON BREAKDOWN STRENGTH FOR HIGH ENERGY STORAGE LIQUID DIELECTRICS IN MICROSECOND REGIME
W. Zhen1, Z. Zicheng1, Z. Jiande1, S. Zuyin2
1College of Optoelectronic Science and Engineering, National University of Defense Technology, Changsha, China
2Military Delegate of Air Force Resident Office in Hunan Province, Changsha, China

Session PL4: Plenary PL4

Tuesday, May 26 17:30-18:30, Citrine II-III
17:30 PL4-1 43 YEARS OF FUN BASIC PLASMA EXPERIMENTS
N. Hershkowitz
University of Wisconsin, Madison, Madison, WI, USA

Session 2P: Vacuum Microelectronics (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Yasir Alfadh, QMUL

2P-1 ON THE ROLE OF THE QUANTUM IMAGE FORCES ON THE INITIAL STAGE OF A PICOSECOND GAS DISCHARGE
Y. A. Barengolts¹, S. I. Beril¹, S. A. Barengolts²
¹Shevchenko Dniester State University, Tiraspol, Moldova
²Prohorov General Physics Institute RAS, Moscow, Russian Federation

2P-2 EFFECTS OF CATHODE TEMPERATURE AND GAP SPACING ON DEGRADATION OF THZ BUNCHING IN A VACUUM MICRODIODE.
A. Valfells, M. Ilkov, K. Torfason, A. Manolescu
School of Science and Engineering, Reykjavik University, Reykjavik, Iceland

2P-3 Numerical Study of a 170-GHz, gradient-cavity Gyrotron
Y.-H. Liu, X. Niu, H. F. Li
University of Electronic Science and Technology of China, Chengdu, Sichuan, China

2P-4 IONIC CONDUCTIVITY OF Li0.5-XLa0.5Ti1-XO3 ELECTROLYTE
S. Gulen¹, G. Aygun¹, L. Ozyuzer¹, M. Özdemir²
¹Physics department, İzmir Institute of Technology, İzmir-Urla, Turkey
²Department of Electrical and Electronics Engineering, Gediz University, İzmir-Seyrek, Turkey

2P-5 CHARACTERIZATION OF VO2 FILMS GROWN BY MAGNETRON SPUTTERING
H. Yuce¹, M. Koklu², G. Aygun¹, L. Ozyuzer¹
¹Department of Physics, İzmir Institute of Technology, İzmir, Turkey
²Department of Electrical-Electronics Engineering, Gediz University, İzmir, Turkey

Session 2P: Non-Fusion Microwave Systems (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chairs:
2P-6 FOUR-CHANNEL SOURCE OF SYNCHRONOUSLY MODULATED SUBGIGAWATT VOLTAGE PULSES
V. V. Rostov¹, S. N. Rukin², K. A. Sharypov², V. G. Shpak², S. A. Shunailov², M. R. Ul'masculov², M. I. Yalandin²
¹High Current Electronics Institute, Tomsk, Russian Federation
²Institute of Electrophysics, Ekaterinburg, Russian Federation

2P-7 LABORATORY STUDY OF AURORAL CYCLOTRON EMISSION MECHANISMS
A. W. Cross¹, D. C. Speirs¹, K. M. Gillespie¹, K. Matheson¹, M. King¹, S. L. McConville¹, A. D. R. Phelps¹, C. G. Whyte¹, C. W. Robertson¹, R. Bingham², M. E. Koepke³, R. A. Cairns⁴, I. Vorgul⁴, B. Kellet⁵, K. Ronald¹
¹Department of Physics, Strathclyde University, Glasgow, United Kingdom
²Rutherford Appleton Laboratory, STFC, Oxford, United Kingdom
³Department of Physics, West Virginia University, Morgantown, United States of America
⁴School of Mathematics and Statistics, St. Andrews University, St. Andrews, United Kingdom

Session 2P: THz Sources, Radiation & Applications (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Claudio Paoloni, University of Lancaster

2P-8 CHERENKOV MASER EXPERIMENTS BASED ON A TWO DIMENSIONAL (2D) PERIODIC SURFACE LATTICE
A. R. Phipps¹, A. J. MacLachlan¹, C. W. Robertson¹, I. V. Konoplev², K. Ronald¹, A. W. Cross¹, C. G. Whyte¹, A. D. R. Phelps³
¹Department of Physics, Strathclyde University, Glasgow, United Kingdom
²John Adams Institute, Department of Physics, Oxford University, Oxford, United Kingdom

2P-9 SUB -THZ TRAVELING WAVE AMPLIFIERS BASED ON THE DOUBLE CORRUGATED WAVEGUIDE
C. Paoloni, M. Mineo
Lancaster University, Lancaster, United Kingdom

2P-10 FABRICATION OF HIGH TEMPERATURE SUPERCONDUCTING BI2212 BOLOMETERS FOR TERAHERTZ SENSING
Y. Demirhan¹, T. Semerci¹, H. Alaboz¹, M. Kurt¹, N. Miyakawa³, K. Kadowaki³, L. Ozyuzer¹
¹Department of Physics, Izmir Institute of Technology, Urla, 35430, Izmir, TURKEY
²Department of Applied Physics., Tokyo University of Science, Tokyo, JAPAN
³Department of Physics, University of Tsukuba, Tsukuba, JAPAN

Session 2P: Microwave Plasma Interaction (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Ram Prakash, CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI)
2P-11 PIC-FDTD CODE FOR BEAM-WAVE INTERACTION ANALYSIS IN RIPPLED WALL SLOW WAVE STRUCTURE  
N. Pareek¹, R. Prakash¹, U. N. Pal¹, N. Kumar¹, N. Sarkar²  
¹Microwave Tubes Division, CSIR-CEERI Pilani, Pilani, Rajasthan, India  
²Physics Group, BITS, Pilani, Rajasthan, India

2P-12 PARTICLE BEAM DYNAMICS IN A MAGNETICALLY INSULATED COAXIAL DIODE  
V. G. Korenev, I. I. Magda, V. Sinitsin  
Div. of Plasma Electronics, Nat'l Sci Center 'Kharkov Inst of Phys and Technology', Nat'l Academy of Sciences, Kharkov, Ukraine

2P-13 A SIMPLIFIED GEOMETRIC APPROACH FOR SPACE CHARGE LIMITING CURRENT ANALYSIS IN INTERACTION REGION  
P. Shukla¹,², N. Kumar¹,², U. N. Pal¹,², R. Prakash¹,²  
¹Microwave Tubes Division, CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan, India  
²Academy of Scientific and Innovative Research, New Delhi, India

2P-14 COMPARISON OF A NUMERICAL AND ANALYTICAL MODEL FOR THE SIMULATION OF THE MODE PROPAGATION IN A MICROWAVE DRIVEN PLASMA DISCHARGE  
D. Szeremley¹, T. Mussenbrock¹, R. P. Brinkmann¹, M. Zimmermann², I. Rolfes², D. Eremin¹  
¹Theoretical Electrical Engineering, Ruhr University Bochum, Bochum, Germany  
²Institute of Microwave Systems, Ruhr University Bochum, Bochum, Germany

2P-15 NUMERICAL SOLUTION OF EXACT AXIAL MAGNETIC FIELD FOR PLANAR AND CYLINDRICAL BEAM DRIVEN BACKWARD WAVE OSCILLATOR  
T. S. Banerjee¹, A. Hadap², K. T. V Reddy³  
¹Electronics and Telecommunication, Assistant Prof, Mumbai, Maharashtra, India  
²Applied Physics, Assistant Prof, Mumbai, Maharashtra, India  
³Electronics and Telecommunication, Prof, Mumbai, Maharashtra, India

2P-16 A SIMPLIFIED 2-D FLUID MODEL OF PLASMA FORMATION UNDER PULSED HIGH POWER MICROWAVES IN ATMOSPHERIC GASES  
S. Lin¹,², S. Beeson³, Y. Li¹, C. Liu¹, A. Neuber²  
¹Key Laboratory for Physical Electronics and Devices of the Ministry of Education, Xi'an Jiaotong University, Xi'an, China  
²Center for Pulsed Power and Power Electronics, Texas Tech University, Lubbock, Texas, USA

2P-17 ENHANCED MICROWAVE ABSORPTION RATES IN STEALTH PLASMA  
M. S. Bawaaneh¹, A. M. Al - Khateeb²  
¹Dept. of Applied Math, Khalifa University of Science, Technology and Research, Sharjah, United Arab Emirates  
²Dept. of Physics, Yarmouk University, Irbid, Jordan

2P-18 MICROWAVE-EXCITED FIREBALLS IN AIR ATMOSPHERE  
E. Jerby, Y. Meir, R. Jaffe  
Faculty of Engineering, Tel Aviv University, Ramat Aviv, Israel

Session 2P: Laser Produced Plasmas (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I
Session Chairs:

2P-19 CONTROLLED GENERATION OF INTENSE TERAHERTZ FROM ULTRASHORT PULSE, HIGH INTENSITY LASER INDUCED SOLID DENSITY PLASMAS
DNAP, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India

2P-20 SELF-FOCUSING OF GAUSSIAN LASER BEAM IN WARM COLLISIONAL PLASMA WITH RAMP-UP DENSITY
M. R. Jafari Milani
Plasma Physics Research School, Amirkabir University of Technology, Tehran, Iran

2P-21 HIGH-SPEED SPECTRALLY-RESOLVED IMAGING OF THE LASER ABLCATION PLASMA
S. A. Popov, A. V. Batrakov, V. V. Mataibaev
1Institute of High Current Electronics, Siberian Branch, Russian Academy of Sciences (IHCE SB RAS), Tomsk, Russian Federation
2National Research Tomsk Polytechnic University, Tomsk, Russian Federation
3Central Research Institute of Engineering of Russian Federation, Moscow region, Russian Federation

Session 2P: Plasma Material Interaction (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Rajdeep Singh Rawat, National Institute of Education, Nanyang Technological University

2P-22 SURFACE MODIFICATION OF LDPE FILM BY NANOSECOND-PULSE DIELECTRIC BARRIER DISCHARGE AT ATMOSPHERIC PRESSURE
Y. Ma, C. Zhang, R. Wang, T. Shao
1School of Electrical Engineering, Zhengzhou University, Zhengzhou, China
2Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
3Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

2P-23 MODIFICATION OF DIFFERENT AREAS OF COPPER SURFACE BY DIFFUSE DISCHARGES AT ATMOSPHERIC PRESSURE
Z. Zhou, C. Cheng, R. Wang, Z. Zhi, T. Shao
1Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
2School of Automation and Electrical Engineering, Nanjing University of Technology, Nanjing, China
3Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

2P-24 CORROSION RESISTANCE OF SIO2 THIN FILM COATED BIOMEDICAL TI-13NB-13ZR TITANIUM ALLOY BY E-BEAM
1Faculty of Materials Science and Engineering, Warsaw University of Technology, Warsaw, Poland
2Physics Department, Suleyman Demirel University, Isparta, Turkey
3Institute of High Pressure Physics, Polish Academy of Sciences, Warsaw, Poland
4Chemistry Department, Suleyman Demirel University, Isparta, Turkey
2P-25 A STUDY ON CHARACTERIZATION OF POLYMER-COATED WOOL FABRICS USING PLASMA POLYMERIZATION
E. Eren¹, L. Oksuz², A. I. Komur², F. Bozduman², N. Maslakci³, A. Oksuz³
¹Hydrogen Technologies Research and Application Center, Suleyman Demirel University, Isparta, Turkey
²Department of Physics, Suleyman Demirel University, Isparta, Turkey
³Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

2P-26 DEPOSITION OF TRANSPARENT SIOXNY THIN FILM ON PET BY PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION
M. Shahpanah, M. Abbasi, H. Mehdikia, B. Shokri
Laser & Plasma Research Institute, Shahid Beheshti University, Tehran, Iran

2P-27 EFFECTS OF HYDROGEN FLUX AND PRESSURE ON THE STRUCTURAL PROPERTIES OF PECVD-SYNTHESIZED CARBON THIN FILMS
F. Rezaei¹, M. Abbasi-Firouzjah¹, B. Shokri¹,²
¹Physics Department, Shahid Beheshti University, Tehran, Iran
²Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

2P-28 SYNTHESIS OF FEW-LAYER GRAPHENE FILMS BY CONTROLLABLE C4F8 PLASMA ETCHING SIC
C. Jin¹,², T. Huang¹,², L. Zhuge²,³, X. Wu¹,²
¹College of Physics, Optoelectronics and Energy & Collaborative Innovation Center of Suzhou Nano Scie, Jiangsu, China
²Key Lab of Advanced Optical Manufacturing Technologies of Jiangsu Province & Key Lab of Modern Optical Technologies of Education Ministry of China, Jiangsu, China
³Analysis and Testing Center, Soochow University, Jiangsu, China

2P-29 SYNTHESIS OF GALLIUM NITRIDE NANOPARTICLES BY USING THERMAL PLASMA
T.-H. Kim, D.-W. Park
Department of Chemistry and Chemical Engineering, Inha University, Incheon, South Korea

2P-30 VACUUM ARC EXPLOSIVE CELLS
M. M. Tsventoukh
Lebedev Physical Institute RAS, Moscow, Russian Federation

2P-31 IMPROVING PHOTOVOLTAIC EFFICIENCY BY RF ROTATING PLASMA MODIFIED NANOTUBES
S. E. Ela¹, A. Verlek², F. Bozduman¹, M. Kiristi³, M. Remskar², L. Oksuz¹, A. Uygun Oksuz²
¹Solar Energy Institute, Ege University, İzmir, Turkey
²Solid State Department, Jozef Stefan Institute, Ljubljana, Slovenia
³Department of Physics, Suleyman Demirel University, Isparta, Turkey
⁴Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

2P-32 SYNTHESIS AND ANALYSIS OF TITANIUM NITRIDE THIN FILM IN ATMOSPHERIC THERMAL PLASMA TORCH
J. Fathi, S. Moshensian, M. Shafie, H. Mehdikia, B. Shokri
Plasma Engineering, Plasma Engineering, Laser and Plasma Institution, Tehran, Iran

2P-33 NITRIDING OF SUPER-FERRITIC STAINLESS STEEL BY PLASMA IMMERSION ION IMPLANTATION IN RADIO FREQUENCY AND ECR-MICROWAVE PLASMA SYSTEM
H. Bhuyan¹, S. Mandl², M. Favre¹, M. Cisternas¹, A. Henriquez¹, E. Wyndham¹, D. Manova³, M. Walczak³
**2P-34 EXPERIMENTAL INVESTIGATION OF DAMAGEABILITY OF AL2O3 CERAMIC UNDER POWERFUL PULSED ION AND PLASMA STREAMS AND LASER IRRADIATION**

V. A. Gribkov\(^1,2\), S. A. Maslyev\(^2\), E. V. Morozov\(^2\), P. A. Romakhin\(^2\), V. N. Pimenov\(^2\), A. V. Dubrovsky\(^2\), E. E. Kazilin\(^2\)

\(^1\)Department of Plasma Diagnostic and Technology, Institute of Plasma Physics and Laser Microfusion, Warsaw, Poland
\(^2\)Laboratory for Radiation Action upon Metals, A.A. Baikov Institute of Metallurgy and Material Sciences, Russ. Ac. Sci., Moscow, R.F.

**2P-35 STUDIES OF PULSED PLASMA-ION STREAMS DURING THEIR FREE PROPAGATION AND INTERACTION WITH SIC-TARGETS**


Plasma Research Division TJ5, National Centre for Nuclear Research (NCBJ), 05-400 Otwock, Poland

**2P-36 PARALLEL AND SEQUENTIAL TESTS OF RADIATION RESISTANCE OF DOUBLE FORGED TUNGSTEN IN VARIOUS PLASMA DEVICES**

E. V. Demina\(^1\), V. A. Gribkov\(^1,2\), M. D. Prusakova\(^1\), S. A. Maslyaev\(^1\), V. N. Pimenov\(^1\), A. V. Voronin\(^3\), I. E. Garkusha\(^4\), V. A. Makhlaj\(^4\), T. Laas\(^5\), V. Shirokova\(^5\)

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\(^4\)Institute of Plasma Physics, Kharkov, Ukraine
\(^5\)Tallinn University, Tallinn, Estonia

**2P-37 IMPURITY ISSUES IN MATERIAL IRRADIATION STUDIES IN PLASMA FOCUS DEVICE**

K. S. Tan, P. Lee, S. V. Springham, T. L. Tan, R. S. Rawat

Natural Sciences and Science Education, National Institute of Education, Nanyang Technological University, Singapore, Singapore

**2P-38 DYE-SENSITIZED SOLAR CELL PRODUCED WITH PLASMA COATING METHOD**

I. U. Koc\(^1\), N. C. Bezir\(^1\), L. Oksuz\(^1\), A. Uygun Oksuz\(^2\), G. Y. Karaca\(^2\), F. Bozduman\(^1\)

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**Session 2P: Plasmas for Lighting, Displays, and Microdischarges (poster)**

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Juergen Kolb, INP Greifswald

**2P-39 PLASMA TREATMENT ON INDIUM-TIN-OXIDE ANODE SURFACE FOR ORGANIC LIGHT EMITTING DIODES**

I. U. Koc\(^1\), L. Oksuz\(^1\), G. Yurdabak\(^2\), F. Bozduman\(^1\), A. Uygun\(^2\)
2P-40 STUDIES ON BIOCIDAL ACTIVITY OF AN UV-C DBD LAMP
B. Caillier¹, C. Muja¹, A. S. Kone¹, P. Philippe Guillot¹, J. Dexpert-Ghys², J. M. A. Caiut³
¹DPHE, Universite de Toulouse, Centre Universitaire - J. F. Champollion, Albi, France
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³Department of Chemistry, University of Sao Paulo, FFCLRP, Ribeirao Preto-SP, Brazil

2P-41 RADIATION CALCULATION IN ELECTRODED AND MICROWAVE HID LAMPS
M. Hamady¹, G. Zissis²
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²Universite de Toulouse, UPS, INPT, LAPLACE (Laboratoire Plasma et Conversion d’Energie), 118 route de Narbonne, F-31062 Toulouse Cedex9, France

2P-42 THREE-DIMENSIONAL MODELLING OF SELF-ORGANIZATION PHENOMENA IN CATHODE BOUNDARY LAYER DISCHARGES USING COMSOL MULTIPHYSICS
M. S. Bieniek, P. G. C. Almeida, M. S. Benilov
Fisica, University of Madeira, Funchal, Portugal

Session 2P: Plasma Thrusters (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chairs:

2P-43 EXPERIMENTAL STUDY ON LOW-FREQUENCY OSCILLATION OF THE PLUME DIVERGENCE ANGLE OF HALL THRUSTERS
J. Li, L. Wei, L. Han, D. Yu
Laboratory of Plasma Propulsion, Harbin Institute of Technology, Harbin, China

2P-44 FORMATION OF MULTIPLE AXIAL POTENTIAL STRUCTURES IN EXPANDING RF PLASMAS
S. Ghosh, P. K. Chattopadhyay, J. Ghosh, D. Bora
Institute for Plasma Research, Bhat, Gandhinagar-382428, India, Gujarat, India

2P-45 HOLLOW CATHODES FOR HALL THRUSTERS: MODELLING AND SCALING TRENDS
G. Sary, L. Garrigues, J. P. Boeuf
CNRS/Laplace, Toulouse, France

2P-46 PLASMA PHYSICS OF STARSHIPS
J. N. Benford
Microwave Sciences, Lafayette, CA, United States

Session 2P: Plasma Medicine (poster)

Poster Session
Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Xinpei Lu, Huazhong University of Science and Technology, China

**2P-47 EFFECTS OF AGED PAM ON CANCER CELLS**  
M. Laroussi, S. Mohades, N. Barekzi, H. Razavi  
*Old Dominion University, Norfolk, VA, United States*

**2P-48 USING FLUORESCENCE TO MEASURE HYDROGEN PEROXIDE CONCENTRATIONS IN PLASMA ACTIVATED MEDIA**  
J. Sears, S. Mohades, H. Razavi, M. Laroussi  
*Old Dominion University, Norfolk, VA, United States*

**2P-49 APPLICATION OF UNDERWATER ELECTRIC BARRIER DISCHARGE AS A WASHING SYSTEM TO INACTIVATE SALMONELLA TYPHIMURIUM ON PERILLAR LEAVES**  
Y. J. Kim, J. S. Kim, E. J. Lee  
*Research Group of Food Safety, Korea Food Research Institute, Seongnam, South Korea*

**2P-50 ATMOSPHERIC PEN PLASMA STERILIZING HELP PAPER SURFACE**  
F. Bozduman, A. I. Komur  
*Science, Isparta, Turkey*

**2P-51 INHIBITION BY LOW-TEMPERATURE PLASMA JET ON THE VIABILITY OF HEPATOMA CELLS AND ITS MECHANISM**  
X. -M. Shi1, G. -M. Xu2, S. -L. Chen2, C. -W. Yao3, W. -L. Liao3, J. -F. Cai1, G. -J. Zhang2  
1School of Public Health, Xi'an Jiaotong University, Xi'an, Shaanxi, China  
2State Key Lab of Electrical Insulation & Power Equipment, School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, China

**2P-52 A BATTERY-OPERATED ATMOSPHERIC-PRESSURE PLASMA ROD FOR BIOMEDICAL APPLICATIONS**  
X. Lu, X. Pei  
*Huazhong University of Science and Technology, China, WuHan, China*

**2P-53 COLD ATMOSPHERIC PRESSURE PLASMA JET FOR TOOTH ROOT CANAL DISINFECTION**  
P. Asadi1, P. Shali1, M. Asna Ashari2, B. Shokri1,3  
1Laser & plasma research institute, Shahid Beheshti university, Tehran, Iran, Tehran, Iran  
2Department of Endodontics, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Tehran, Iran  
3Physics Department, Shahid Beheshti University G.C., Evin, Tehran, Iran., Tehran, Iran

**2P-54 CHARACTERISTICS OF DIABETIC WOUND HEALING RATE AND ENZYMES ACTIVITY AFTER ATMOSPHERIC PRESSURE PLASMA TREATMENT**  
P. Asadi1, P. Shali1, M. Bigdeli2, B. Shokri1,2  
1Laser & plasma research institute, Shahid Beheshti university, Tehran, Iran, Tehran, Iran  
2Laser & plasma research institute, Shahid Beheshti university, Tehran, Iran, Tehran, Iran

**2P-55 THE EFFECT OF ATMOSPHERIC PRESSURE PLASMA JET ON MACROPHAGE ACTIVATION**  
E. -J. Lee1,2, J. -S. Kwon1, J. -Y. Om1, J. -W. Yu1, E. H. Choi2, K. -N. Kim1,2, K. -M. Kim2  
1Department and Research Institute of Dental Biomaterials and Bioengineering, Yonsei University College of Dentistry, Seoul, South Korea  
2BK21 PLUS Project, Yonsei University College of Dentistry, Seoul, South Korea
2P-56 THE EFFECT OF NON-THERMAL ATMOSPHERIC PRESSURE MICROWAVE-PULSED PLASMA ON STAPHYLOCOCCUS AUREUS AND FIBROBLAST L929 CELLS

S.-H. Seo1,2, S.-H. Uhm1, J.-S. Kwon1, K.-N. Kim1,2, J. J. Choi3, E. H. Choi3, G. Park3, K.-M. Kim1

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3Plasma Bioscience Research Center, Kwangwoon University, Seoul, South Korea

2P-57 APPLICATIONS OF NON-THERMAL ATMOSPHERIC PRESSURE PLASMA IN PREVENTION AND REGENERATION OF ORAL DISEASES


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2P-58 RF-TITANIUM DIOXIDE PLAZMA MODIFIED GRAPHENE COATED ELECTRODES FOR PROTEIN SENSING

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2P-59 MEASUREMENT OF STERILIZATION ABILITY AND REACTIVE SPECIES OF VARIOUS PLASMA BUBBLED-UP WATER

T. Kobayashi1, Y. Watanabe1, T. Oshita1, T. Takamatsu1,2, H. Matsubara3, S. Oshima3, T. Kamiya3, Y. Matsumura4, H. Miyahara1, A. Iwasawa4, T. Azuma2, A. Okino1

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4Department of Bioengineering, Tokyo Institute of Technology, Yokohama, Japan

2P-60 THE TREATMENT WITH NON-THERMAL PLASMA ON HACAT HUMAN KERATINOCYTES CAN BLOCK TNF-α AND IFN-γ MEDIATED PRO-INFLAMMATORY GENE EXPRESSIONS

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Session 2P: High Pressure and Thermal Plasma Processing (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Tamer Akan, Univ. of Osmangazi
**2P-61 EFFECTS OF GEOMETRY OF AUTO-EXPANSION VOLUME ON SF6 ARC BEHAVIOUR**  
J. Zhang  
Electrical and Electronic Engineering, Xi'an Jiaotong-Liverpool University, Suzhou, China

**2P-62 PULSED PLASMA PROCESSING OF INSTRUMENTAL STEELS**  
A. Zhukeshov, A. Amrenova, A. Gabdullina, Z. Moldabekov, S. Baysenbaev, K. Serik  
*Plasma physics, Science Research Institute of Experimental and Theoretical Physics, Almaty, Kazakhstan*

**2P-63 A METHOD TO REALIZE MULTIPLET IGNITION WITH MICROWAVE PLASMA**  
L. Hou, G. Zhang  
Department of Electrical, Tsinghua University, Beijing, China

**2P-64 AN EXPERIMENTAL AND COMPUTATIONAL STUDY OF THE INTERACTION BETWEEN THE JET OF AN ICP TORCH AND A CYLINDRICAL SUBSTRATE**  
M. Boselli, V. Colombo, M. Fiorini, E. Ghedini, M. Gherardi, P. Saniboni, A. Stancampiano, E. Traldi  
Department of Industrial Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy

**2P-65 A NOVEL STRAIN GAUGE APPLIED TO STRONG ELECTROMAGNETIC FIELD**  
Q. Liu, W. Ding, J. Wu, R. Han, H. Zhou  
*Xi'an Jiaotong University, Xi'an, China*

**2P-66 STUDY OF ARC PLASMA JET EFFECTIVE PARAMETERS (POWER AND FLOW RATE)**  
H. Mehdi kia, M. Shafiae, M. Shahpanah, M. R. Khani, B. Shokri  
Laser & plasma research institute, Shahid Beheshti university, Tehran, Iran, Tehran, Iran

**2P-67 THERMAL INSTABILITY IN NON-UNIFORMITIES ON THE SURFACE OF CATHODES OF VACUUM ARCS**  
M. S. Benilov, M. D. Cunha, W. Hartmann, N. Wenzel  
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2Siemens AG, Corporate Technology, Erlangen, Germany

**2P-68 FABRICATION AND CHARACTERIZATION OF INDIUM TIN OXIDE AND BILAYER MOLYBDENUM THIN FILMS ON GLASS AND POLYIMIDE**  
M. Kurt, F. G. Akca, M. D. Yaman, L. Ozyuzer  
1Department of Physics, Izmir Institute of Technology, Izmir, Turkey  
2Teknoma Technological Materials Ltd., Izmir, Turkey

**2P-69 CLEANING AND MODIFICATION OF THE NEAR-SURFACE LAYERS OF METALS UNDER THE ACTION OF RUNAWAY ELECTRON PREIONIZED DIFFUSE DISCHARGE**  
V. F. Tarasenko, M. V. Erofeev, M. A. Shulepov  
Dep. Optical Radiation Laboratory, High Current Electronics Institute, Tomsk, Russian Federation

**2P-70 PHYSICS OF SPOTLESS MODE ON CATHODES OF METAL VAPOR ARCS**  
M. S. Benilov, L. G. Benilova  
Departamento de Fisica, Universidade da Madeira, Funchal, Portugal

**Session 2P: Partially ionized Plasmas (poster)**

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I
2P-71 RUNAWAY ELECTRONS PREIONIZED DIFFUSE DISCHARGES IN SF6, ARGON, AIR AND NITROGEN
V. F. Tarasenko, D. V. Beloplotov, M. I. Lomaev, D. A. Sorokin
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2P-72 HYBRID MODEL OF RUNAWAY ELECTRONS GENERATION PROCESS IN NANOSECOND HIGH PRESSURE GAS DISCHARGE
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2P-73 BOUNDARY CONDITIONS AT THE PLASMA-CATHODE INTERFACE IN HIGH-PRESSURE ARCS
N. A. Almeida¹, M. S. Benilov¹, L. G. Benilova¹, M. Baeva²
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2P-74 GASEOUS BREAKDOWN IN THE TOWNSEND DISCHARGE
F. Ghaleb, D. A. Aid, S. Saidi, H. Loukil, A. Belasri
Laboratory of Plasma Physics, Conducting Materials and their Applications Faculty of Physics, Department of Physics Energy, El M'Naour B.P.1505 USTMB, Oran, Algeria

2P-75 MODIFICATION OF PASCHEN'S LAW FOR THE NONUNIFORM ELECTRIC FIELD BETWEEN TWO PLANE-PARALLEL ELECTRODES
X. Wang, Y. Fu, H. Luo, X. Zou
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2P-76 THE INFLUENCE OF AMBIPOLAR ELECTRIC FIELD ON THE EDF FORMATION AND THE ELECTRON PROCESSES IN PARTIALLY IONIZED PLASMAS
A. A. Kudryavtsev¹, M. V. Krasilnikov¹, K. D. Kapustin²
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2P-77 CONTROL OF PARTICLES DISTRIBUTION FUNCTIONS BY MAGNETIC FIELD IN HELICON PLASMA DISCHARGE
T. Huang¹,², C. Jin¹,², J. Yu¹,², L. Zhuge²,³, X. Wu¹,²
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³Soochow University, Analysis and Testing Center, Suzhou, China

2P-78 STUDY ON THE PARAMETERS OF SPARK DISCHARGE PLASMA IN A GAS MIXTURE OF ATMOSPHERIC PRESSURE UNDER METAL TREATMENT
M. V. Zhuravlev, G. E. Remnev, B. G. Shubin
Tomsk Polytechnic University, Tomsk, Russian Federation

2P-79 DYNAMIC BEHAVIORS OF HELIUM ATMOSPHERIC PRESSURE PLASMA JET INVESTIGATED BY STEAK IMAGES
W. Ning, L. Wang, S. Jia, C. Wu
2P-80 WEAKLY IONIZED HYPERSONIC RE-ENTRY FLOW ANALYSIS
T. Piskin, S. Eyi
Aerospace Engineering, Middle East Technical University, Ankara, Turkey

2P-81 EQUATION OF STATE OF DENSE KRYPTON PLASMA IN THE PARTIAL IONIZATION REGIME
Q. F. Chen, J. Zheng, Y. J. Gu, L. C. Cai
Institute of fluid physics, CAEP, Mianyang, China

2P-82 THE SAG OF THE POTENTIAL IN LOW PRESSURE REFLEX DISCHARGE
G. Liziakin1, A. Gavrikov1, V. Smirnov1, R. Usmanov2, A. Samokhin1
1JIHT RAS, Moscow, Russian Federation
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2P-83 EMISSION AND LEVEL POPULATION IN THE NUCLEAR-INDUCED PLASMAS OF GAS MIXTURES
M. Khasenov
Nazarbaev University Research and Innovation System PI, Astana, Kazakhstan

Session 2P: Space Plasmas (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Peter H Yoon, University of Maryland, College Park

2P-84 ELECTROSTATIC EXCITATIONS IN NON-MAXWELLIAN SPACE PLASMAS
S. Ali
Theoretical Physics Department, National Centre for Physics, Quaid-e-Azam University, Islamabad, Pakistan

2P-85 ROLE OF CIRCULARLY POLARIZED DISPERSIVE ALFVEN WAVE IN SOLAR WIND TURBULENCE
S. Sharma, R. P. Sharma
Centre for Energy Studies, IIT delhi, Delhi, India

2P-86 EFFECTS OF ELECTRON SUPRATHERMALITY AND POSITRON DENSITY ON ION ACOUSTIC DRESSED SOLITONS IN AN ELECTRON-POSITRON-ION PLASMA
R. Amour, M. Tribeche
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2P-87 Propagation of dust acoustic waves in a dusty plasma in the presence of ion nonthermality and background nonextensivity
M. Benzekka1,2, M. Tribeche1
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2P-88 DUST-ION-ACOUSTIC SOLITARY WAVES IN A DEGENERATE PAIR PLASMA
2P-89 MODIFIED JEANS INSTABILITY OF MAGNETIZED QUANTUM VISCOUS PLASMA WITH ROTATION

S. Jain¹, P. Sharma², R. K. Chhajlani³

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2P-90 MAXIMUM MAGNETIC FIELD IN COSMIC OUTFLOWS SYSTEMS

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Session 2P: Plasma Chemistry (poster I)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Zhi Fang, School of Automation and Electrical Engineering, Nanjing Technology University

2P-91 CHARACTERISTICS OF ATMOSPHERIC-PRESSURE CAPACITIVE DISCHARGE OPERATING ON PURE WATER-VAPOUR AND MIXTURE WITH HELIUM.

Z. Kechidi¹, A. H. Belbachir², M. Announ³

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2P-92 MULTI-WALL CARBON NANOTUBE FUNCTIONALIZED WITH CDS NANOPARTICLE BY PLASMA DEPOSITION METHOD

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2P-93 CONTROL OF TRIBOLIUM CASTANEUM IN STORED WHEAT BY CORONA DISCHARGE TREATMENT

M. Amini, M. Ghoranneviss, H. Nikmaram

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2P-94 DECONTAMINATION OF SAFFRON BY COLD ATMOSPHERIC PRESSURE ARGON PLASMA JET

H. Nikmaram, M. Ghoranneviss, M. Amini

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2P-95 THE INFLUENCE OF PLASMA TREATMENT ON THE PROPERTIES OF CARBON AND GRAPHENE BASED MATERIAL

V. Shakeri Siavashani¹, N. Ucar¹, N. Demirel¹, N. Yavuz², A. Onen³, L. Oksuz⁴

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³Hacettepe University, Engineering Faculty, Department of Physics, Ankara, Turkey
⁴Middle East Technical University, Department of Physics, Ankara, Turkey
2P-96 RF ROTATING PLASMA MODIFIED OF CHITOSAN WITH 3,4-ETHYLENEDIOXYTHIOPHENE, THIOPHENE AND FURAN: INVESTIGATION OF NANOFIBERS IN-SITU WITH QUARTZ CRYSTAL MICROBALANCE (QCM) AND ELECTROSPINNING SYSTEM
N. Nohut Maslakci, A. Oksuz
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2P-97 ELECTROSPUN FIBERS COATED ONTO PLASMA MODIFIED AND NONMODIFIED WOOLS
N. Nohut Maslakci¹, A. Oksuz¹, L. Oksuz², F. Bozduman², E. Eren²
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2P-98 NANOPATTERNS BASED ON PLASMA ETCHING FOR NANOSTRUCTURED DEVICE APPLICATIONS
M. Kus¹, S. Buyukcelebi¹, F. Ozel², K. Kara¹, N. M. Varal¹, A. Erdogan¹, M. Ersoz¹
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2P-99 SYNTHESIS OF MOS2 NANOTUBE/POLYTHIOPHENE COMPOSITE BY ATMOSPHERIC PRESSURE RF GLOW PLASMA
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2P-100 PLASMA MODIFICATION OF EXPANDED PERLITE PARTICLES ON A ROTATING BED PECVD SYSTEM
M. Gursoy, M. Karaman
Selcuk University, Konya, Turkey

2P-101 PLASMA POLYMERIZED ELECTROSPUN PEDOT-S NANOFIBERS OBTAINED BY IN-SITU RADIO FREQUENCY PLASMA TREATMENT
C. Dulgerbaki¹, M. Kiristi¹, F. Bozduman², S. Ahmad³, L. Oksuz², A. Uygun Oksuz¹
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³Polymer Chemistry, Max Planck Institute, Mainz, Germany

2P-102 THEORETICAL KINETICS INVESTIGATION OF KRYPTON DIELECTRIC BARRIER DISCHARGE FOR EXCIMER LAMP
R. Kemiti, H. Loukil, A. Belasri
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2P-103 PLASMA-CATALYTIC OXIDATION OF DILUTED FORMALDEHYDE OVER CU-CE OXIDE CATALYSTS
X. Zhu¹, X. Tu¹, X. Gao²
¹Chemistry, SDU, Isparta, Turkey
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2P-104 PLASMA-CATALYTIC DRY REFORMING OF METHANE OVER AL2O3 SUPPORTED METAL CATALYSTS
Y. Zeng, S. Liu, D. Mei, X. Tu
Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom

2P-105 DETERMINING THE CONDUCTIVITY BEHAVIOURS OF PLAZMA POLYMERIZED PPY/MNO2 COMPOSITE AGAINST TEMPERATURE
S. Sen Gursoy1, U. Yalcin1, S. Cogal2, G. Celik Cogal3
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2Polymer Engineering, Mehmet Akif Ersoy University, Faculty of Engineering and Architecture, Burdur, Turkey
3Materials Technology Engineering, Mehmet Akif Ersoy University, Institute of Natural and Applied Sciences, Burdur, Turkey

2P-106 RF-ROTATING PLASMA MODIFICATION OF GRAPHENE WITH POLY(3,4-ETHYLENEDIOXYTHIOPHENE)
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2P-107 PLASMA MODIFIED CHITOSAN/N-ACETYL-2-PYRAZOLINE DERIVATIVE NANOFIBERS
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2P-108 STRUCTURAL, THERMAL AND MORPHOLOGICAL PROPERTIES OF PLASMA POLYMERIZED PPY/MNO2 COMPOSITE
S. Sen Gursoy1, G. Celik Cogal2, S. Cogal3, F. Bozduman4
1Department of Chemistry, Mehmet Akif Ersoy University, Faculty of Arts and Sciences, Burdur, Turkey
2Department of Materials Technology Engineering, Mehmet Akif Ersoy University, Institute of Sciences and Technology, Burdur, Turkey
3Department of Polymer Engineering, Mehmet Akif Ersoy University, Faculty of Engineering and Architecture, Burdur, Turkey
4Department of Physics, Suleyman Demirel University, Faculty of Arts and Sciences, Isparta, Turkey

2P-109 MODIFICATION OF CARBON NANOTUBE WITH POLY(3,4-ETHYLENEDIOXYTHIOPHENE) BY USING RF ROTATING PLASMA
S. Cogal1, F. Bozduman2, G. Yurdabak3, A. Oksuz3
1Polymer Engineering, Mehmet Akif Ersoy University, Burdur, Turkey
2Department of Physics, Suleyman Demirel University, Isparta, Turkey
3Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

2P-110 MODIFICATION OF CARBON NANOTUBE WITH POLY(3-HEXYLTHIOPHENE) BY USING RF ROTATING PLASMA
G. Celik Cogal1, S. Cogal2, A. Oksuz3
Session 2P: Switching

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Rina Baksh, Tel Aviv University

2P-111 EFFECTS OF ARcing IN AIR ON THE PHOTOELECTRIC WORK FUNCTION OF SILVER ALLOYS USED FOR SWITCHERS
M. Akbi

Department of Physics, Faculty of Sciences, University of Boumerdes, Boumerdes, Algeria

2P-112 EFFECT OF POLYMER BASED NANOCOMPOSITES ON THE ELECTRICAL ARCS IN AIR
V. Dodapaneni1,2, A. Bissal1, J. Magnusson2, R. Gati3, H. Edin, T. S. Muhammet1

1Department of Materials and Nano Physics, KTH Royal Institute of Technology, 164 40 Kista, Sweden
2Department of Electromagnetic Engineering, KTH Royal Institute of Technology, 100 44 Stockholm, Sweden
3Switchgear Group, ABB Corporate Research, 5405 Baden-Dattwil, Switzerland

2P-113 SPATIAL DISTRIBUTION OF CHARGED PARTICLE EMISSION IN A COPPER-CHROMIUM HIGH-CURRENT VACUUM ARC

INP Greifswald, Greifswald, Germany

2P-114 SMALL-SIZE CONTROLLED VACUUM SPARK-GAP IN AN EXTERNAL MAGNETIC FIELD
A. N. Dolgov, S. G. Davydov, R. K. Yakubov

All-Russia Research Institute of Automatics (VNIIA), Moscow, Russian Federation

2P-115 LASER TRIGGERED DISCHARGE GAP
V. O. Revazov, S. G. Davydov, A. N. Dolgov, V. P. Selezniev, R. K. Yakubov

All-Russia Research Institute of Automatics (VNIIA), Moscow, Russian Federation

2P-116 ELECTRODE EROSION CHARACTERISTICS OF REPETITIVE GAS SPARK SWITCH UNDER AIRTIGHT AND LARGE CURRENT CONDITIONS
J. Wu, R. Han, Y. Liu, H. Zhou, A. Qiu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, China, Xi'an, China

2P-117 EFFECT OF DIFFERENT ELECTRODE MATERIALS ON ELECTRODE EROSION CHARACTERISTICS AND FAILURE MODES OF GAS SPARK SWITCH
J. Wu, R. Han, Q. Liu, Y. Jing, Y. Wang, A. Qiu

State Key Laboratory of Electrical Insulation and Power Equipment, Xi'an Jiaotong University, China, Xi'an, China

2P-118 ELECTRICALLY EXPLODED OPENING SWITCHES FOR HIGH-CURRENT EXPLOSIVE MAGNETIC FLUX COMPRESSION GENERATORS
A. M. Buyko

Russian Federal Nuclear Center - All Russian Scientific Research Institute of Experimental Physics, Sarov, Russian Federation
2P-119 EXPERIMENTAL AND NUMERICAL STUDY OF A WIRE-EXPLOSION-POS DYNAMICS
S. I. Tkachenko¹,², V. A. Gasilov³, G. A. Bagdasarov³, O. G. Olikhovskaya¹, G. I. Dolgachev⁴, Y. G. Kalinin⁴, A. A. Shvedov⁴
¹Moscow Institute of Physics and Technology, Dolgoprudny, Moscow Region, Russian Federation
²JIHT RAS, Moscow, 125412 Russia, Moscow, Russian Federation
³KIAM RAS, Moscow, 125047 Russia, Moscow, Russian Federation
⁴NRC, Moscow, Russian Federation

2P-120 CHARACTERISTICS OF MICROSECOND-PULSE GLIDING DISCHARGES IN AIR FLOW
Z. Niu¹,², C. Zhang²,³, R. Wang²,³, K. Zhang², T. Shao²,³
¹School of Electrical Engineering, Zhengzhou University, Zhengzhou, China
²Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China
³Key Laboratory of Power Electronics and Electric Drive, Chinese Academy of Sciences, Beijing, China

2P-121 LOW INDUCTANCE SWITCHES FOR PULSED MAGNETIZATION OF HOT PLASMAS
J. Larour¹, P. Auvray¹, S. D. Moustazis², P. Lalousis²
¹Laboratoire de Physique des Plasmas, Ecole Polytechnique, Palaiseau, France
²Technical University of Crete, Chania, Crete, Greece
³Institute of Electronic Structure and Laser, FORTH, Heraklion, Crete, Greece

Session 2P: Generators & Networks (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I

Session Chair: Keiichi Takasugi, Nihon University

2P-122 DEVELOPMENT OF A HIGH PERFORMANCE TIGGER GENERATOR WITH LOW JITTER, FAST RISE TIME
W. Ding, Y. Wang, Y. Gou, X. Zhong, R. Han, Y. Jing, J. Xia
Xi'an Jiaotong University, Xi'an, China

2P-123 GENETIC ALGORITHM APPLIED TO PROGRAMMABLE CURRENT ADDER
Y. Gou¹, W. Ding¹, Y. Wang¹, Y. Jing¹, R. Han¹, G. Wang², X. Chen²
¹Xi'an Jiaotong University, Xi'an, China
²China Academy of Engineering Physics, Mianyang, China

2P-124 COMPARISON BETWEEN EXPERIMENT AND 3-DIMENTIONAL ELECTROMAGNETIC SIMULATION OF MONOLITHIC RADIAL TRANSMISSION LINES FOR Z-PINCH
C. Mao, X. Zou, X. Wang
Department of Electrical Engineering, Tsinghua University, Beijing, China

Session 2P: Compact Pulsed Power and applications (poster)

Poster Session

Tuesday, May 26 16:00-17:30, Citrine I
Session Chairs:

2P-125 COMPARATIVE RESEARCH OF BIG SIZE MC & MD CATHODES
S. Y. Sokovnin1, M. E. Balezin2
1Experimental Physics Department, Ural Federal University, Yekaterinburg, Russian Federation
2ElectroPhysics Technology Group, IEP UB RAS, Yekaterinburg, Russian Federation

2P-126 FEW SECONDS AND ~40KV COMPACT HIGH VOLTAGE PULSE POWER SUPPLY
S. C. Kim, H. Heo, H. S. Gong, S. H. Nam
Pohang Accelerator Laboratory, Pohang, South Korea

2P-127 A COMPACT HIGH-VOLTAGE, SPIRAL STRIP-LINE PFN TRIGGER GENERATOR
J. M. Koutsoubis, P. G. Pouraimis, A. P. Platis, C. X. Manasis
Electrical Engineering, Technological Educational Institute (TEI) of Sterea Ellada, in Chalkida, Chalkis, Euboea, Greece

2P-128 ULTRAFAST OF-THE-SHELF V-DOT PROBES: THEORY AND EXPERIMENTATION
B. M. Novac1, L. Pecastaing2, M. Wang1, A. deFerron2
1School of Electronic, Electrical and Systems Engineering, Loughborough University, Loughborough, United Kingdom
2SIAME, Pau University, Pau, France

2P-129 PERFORMANCE OF THE TPS PULSE MAGNETS
National Synchrotron Radiation Research Center, Hsinchu, Taiwan

2P-130 ALL SOLID STATE PULSED POWER SOURCE BASED ON PHOTOCONDUCTIVE SWITCHES: FROM MODULE TO GENERATOR
J. Yuan, W. Xie, H. Liu, X. Ma, P. Jiang, L. Wang, J. Liu, H. Li
Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, China

2P-131 Status of MJ Power Conditioning System for High Power Laser Facility
Z. Qi, D. Chen, G. Lai, L. Guo, H. Tang, Y. Luan, D. Li, P. Zhou, Y. Li
China Academy of Engineering Physics, Mianyang, Sichuan, China

2P-132 WIDEBAND ROGOWSKI COIL BASED ON LOW RESISTANCE INTEGRATING RESISTOR
R. Han, J. Wu, Y. Jing, Q. Liu, H. Zhou, W. Ding
State Key Laboratory of Electrical Insulation for Power Equipment, Xi’an Jiaotong University, Xi’an, China

2P-133 COMPACT SEMICONDUCTOR-BASED MARX GENERATOR DESIGN FOR MICROSECOND PULSED ELECTRON BEAM DEVICES
G. Mueller, M. Sack
Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology, Karlsruhe, Germany

2P-134 COMPACT EQUIPMENT USED FOR UNDERWATER ELECTRICAL WIRE EXPLOSION
R. Han, J. Wu, H. Zhou, Y. Chao, Q. Qiu, X. Li
Xi’an Jiaotong University, Xi’an, Shaanxi, China

Session PL5: Plenary PL5

Wednesday, May 27 09:00-10:00, Citrine II-III

Session Chair: Don Shiffler, AFRL
9:00 PL5-1 MITIGATION OF RAYLEIGH-TAYLOR INSTABILITY IN HIGH-ENERGY-DENSITY PLASMAS
A. L. Velikovich

Naval Research Lab, Washington DC, USA

Session 5A: Computational Plasma Physics

Wednesday, May 27 10:30-13:00, Opal I

Session Chair: Anatoly A Kudryavtsev, St.Petersburg State University

10:30 5A-1 AN NUMERICAL APPROACH FOR SIMULATIONS OF THE MODE PROPAGATION IN A MICROWAVE DRIVEN PLASMA DISCHARGE
D. Szeremley¹, T. Mussenbrock¹, R. P. Brinkmann¹, M. Zimmermanns², I. Rolfes², D. Eremin¹
¹Theoretical Electrical Engineering, Ruhr University Bochum, Bochum, Germany
²Institute of Microwave Systems, Ruhr University Bochum, Bochum, Germany

10:45 5A-2 INFLUENCE OF GUIDING MAGNETIC FIELD ON BEAM CURRENT AND PLASMA EXPANSION IN FOIL-LESS DIODE
P. Wu¹,², J. Sun², H. Ye¹,²
¹Department of Engineering Physics, Tsinghua University, Beijing, China
²Science and Technology on High Power Microwave Laboratory, Northwest Institute of Nuclear Technology, Xi'an, China

11:00 5A-3 THREE-DIMENSIONAL, HIGH-ORDER SEMI-IMPLICIT PARTICLE-IN-CELL SOLVER BASED ON A DISCONTINUOUS GALERKIN SPECTRAL ELEMENT METHOD
P. Ortwein, S. Keller, C. -D. Munz
Institute of Aerodynamics and Gas Dynamics, University of Stuttgart, Stuttgart, Germany

11:15 5A-4 COMPLEX-FREQUENCY SHIFTED PERFECTLY MATCHED LAYERS WITH RESPECT TO PARTICLE TREATMENT IN A PARTICLE-IN-CELL SCHEME
S. M. Copplestone, C. -D. Munz
Institute of Aerodynamics and Gas Dynamics, University of Stuttgart, Stuttgart, Germany

11:30 5A-5 FROM STATIONARY 2-DIMENSIONAL TO TRANSIENT GLOBAL (VOLUME-AVERAGED) MODELS OF THE MICROWAVE DEPOSITION REACTOR FED WITH O2
E. H. Kemaneci¹,², E. Carbone³, M. Jimenez-Diaz², W. Graef², M. van Stralen¹, S. Rahimi², J. van Dijk², G. Kroesen²
¹Theoretical Electrical Engineering, Ruhr University Bochum, Bochum, Germany
²Applied Physics, Eindhoven University of Technology, Eindhoven, Netherlands
³Univ. Grenoble Alpes, Grenoble, France
⁴Universite Paul Sabatier, Toulouse, France
⁵Draka Comteq Fibre BV, Eindhoven, Netherlands

11:45 5A-6 PHYSICS-BASED PRECONDITIONERS FOR FLUID-PLASMA SIMULATIONS WITH ELECTROMAGNETICS
K. Beckwith¹, P. H. Stoltz¹, S. F. McCormick², J. W. Ruge²
¹Tech-X Corp., Boulder, CO, United States
²Front Range Scientific Computations, Lake City, CO, United States

12:00 5A-7 MINI-PIC - A PARTICLE-IN-CELL (PIC) CODE ON UNSTRUCTURED GRIDS FOR NEXT GENERATION PLATFORMS
12:15 5A-8 RELATIVISTIC MODELING CAPABILITIES IN PERSEUS EXTENDED MHD SIMULATION CODE FOR HED PLASMAS

N. D. Hamlin, C. E. Seyler

School of Electrical and Computer Engineering, Cornell University, Ithaca, NY, United States

12:30 5A-9 FIELD-ALIGNED SEMI-LAGRANGIAN METHODS FOR TURBULENCE SIMULATIONS OF STRONGLY MAGNETIZED PLASMAS

Y. Güçlü1, E. Sonnendrücker1, M. Mehrenberger2

1Div. of Numerical Methods for Plasma Physics, Max-Planck-Institut für Plasmaphysik, Garching bei München, Germany
2Institut de Recherche Mathématique Avancée, University of Strasbourg, Strasbourg, France

12:45 5A-10 COMPUTING DC DISCHARGES IN A WIDE RANGE OF CURRENTS WITH COMSOL MULTIPHYSICS: TIME-DEPENDENT SOLVERS VS. STATIONARY SOLVERS

P. G. C. Almeida1, M. S. Benilov1, M. D. Cunha1, J. G. L. Gomes1, D. Tereshonok2

1Universidade da Madeira, Funchal, Portugal
2Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia

Session 5B: Fast Wave and Slow Wave Devices

Wednesday, May 27 10:30-13:00, Opal II

Session Chair: Edl Schamiloglu, University of New Mexico

10:30 5B-1 PROGRESS ON THE DEVELOPMENT OF THE EUROPEAN GYROTRON FOR ITER - FIRST EXPERIMENTAL RESULTS

I. G. Pagonakis1, F. Albajar2, S. Alberti3, K. Avramidis1, W. Bin4, T. Bonicelli2, F. Braunmueller3, A. Bruschi4, I. Chelis5, F. Cismondi2, G. Gantenbein1, V. Hermann6, K. Hesch1, J. -P. Hogge6, J. Jelonnek1, J. Jin1, S. Illy1, Z. Ioannidis7, T. Kobarg1, G. Latzas7, F. Legrand4, M. Lontano4, B. Piosczyk1, Y. Roziev6, T. Rzesnicki1, A. Samartsev1, C. Schlatter5, M. Thumm1, I. G. Tigelis7, M. -Q. Tran1, T. -M. Tran3, J. Weggen1, J. L. Vomvoridis5

1Institute for Pulsed Power and Microwave Technology (IHM), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany
2The European Joint Undertaking for ITER and the Development of Fusion Energy (F4E), Barcelona, Spain
3Plasma Physics Research Center (CRPP), Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland
4Plasma Physics Institute, National Research Council of Italy (CNR), Milano, Italy
5School of Electrical and Computer Engineering, National Technical University of Athens (NTUA), Athens, Greece
6Thales Electron Devices (TED), Velizy-Villacoublay, France
7Faculty of Physics, National and Kapodistrian University of Athens, Athens, Greece

10:45 5B-2 STUDY OF SUB-TERAHERTZ HIGH POWER GYROTRON FOR ECH&CD SYSTEM OF DEMO

K. Sakamoto1, T. Kariya2, Y. Oda1, R. Minami2, R. Ikeda1, K. Kajiwara1, T. Kobayashi1, K. Takahashi1, S. Moriyama1, T. Imai2

1RF heating Technology group, Japan Atomic Energy Agency, Naka, Ibaraki, Japan
2Plasma Research Center, University of Tsukuba, Tsukuba, Ibaraki, Japan
11:00 5B-3 (invited) SUMMATION OF EMISSION FROM SUPERRADIANT SOURCES AS A WAY TO OBTAIN EXTREME POWER DENSITY MICROWAVES

N. S. Ginzburg1, A. W. Cross2, A. A. Golovanov1, A. D. R. Phelps2, I. V. Romanchenko3, V. V. Rostov3, K. A. Sharypov4, V. G. Shpak4, S. A. Shunailov4, M. R. Uliamov3, V. V. Rostov4, I. V. Zotova4

1Institute of Applied Physics, RAS, N. Novgorod, Russia
2Dept. of Physics, University of Strathclyde Glasgow, Glasgow, UK
3Institute of High-Current Electronics, SB RAS, Tomsk, Russia
4Institute of Electrophysics, UB RAS, Ekaterinburg, Russia

11:30 5B-4 A COMPACT MAGNETICALLY INSULATED TRANSMISSION LINE OSCILLATOR WITH TE11 MODE OUTPUT

D. Wang, F. Qin, S. Xu

Laboratory of High Power Microwave Technology, Institute of Applied Electronics, Mianyang, China

11:45 5B-5 DEVELOPMENT AND MODELING OF A G-BAND SHEET-BEAM TRAVELING WAVE TUBE AMPLIFIER WITH GRATING SLOW-WAVE STRUCTURE

T. A. Karetnikova1, A. G. Rozhnev1, N. M. Ryskin1, G. V. Torgashov2, N. I. Sinitsyn2, A. A. Burtsev1, P. D. Shalaev3

1Department of Nonlinear Physics, Saratov State University, Saratov, Russian Federation
2Saratov Branch, Institute of Radio Engineering and Electronics RAS, Saratov, Russian Federation
3Almaz, Saratov, Russian Federation

12:00 5B-6 INVESTIGATING THE POWER FLOW IN A RELATIVISTIC MAGNETRON WITH RADIAL OUTPUT

J. G. Leopold, A. S. Shlapakovski, A. F. Sayapin, Y. E. Krasik

Physics Department, Technion, Haifa, Israel

12:15 5B-7 MULTI-GW RELATIVISTIC BACKWARD WAVE OSCILLATOR WITH TM02 OPERATING MODE

V. V. Rostov1, R. V. Tsygankov1, A. V. Gunin1, A. A. Elchaninov1, J. C. Ju3, W. Li3, H. W. Yang3, J. Zhang2

1High Current Electronics Institute, Tomsk, Russian Federation
2College of Optoelectronic Science and Engineering, Changsha, China

12:30 5B-8 SIMULATIONS OF A 100 KW CW, 650 MHZ GRIDDED MAGNETRON

M. E. Read, M.-C. Lin, T. Bui, R. L. Ives

Calabazas Creek Research Inc., San Mateo, CA, United States

12:45 5B-9 ADVANCED COATINGS FOR RF SOURCES

L. Ives1, L. Falce1, M. Flannery2, T. Desai2, G. Collins1

1Calabazas Creek Research, Inc., San Mateo, CA, United States
2Advanced Cooling Technologies, Inc., Lancaster, PA, United States

Session 5C: Plasma, Ion and Electron Sources

Wednesday, May 27 10:30-13:00, Onyx

Session Chair: Yakov E Krasik, Physics Department, Technion

10:30 5C-1 EXPERIMENTAL STUDY OF VACUUM ARC WITH LOW CATHODE CURRENT DENSITY AS A SOURCE OF METAL PLASMA
R. K. Amirov1, N. A. Vorona1,2, A. V. Gavrikov1,2, G. D. Liziakin1, V. P. Polistchook1, I. S. Samoylov1, V. P. Smirnov1, R. A. Usmanov1,2, I. M. Yartzev1
1Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russian Federation
2Moscow Institute of Physics and Technology, Dolgoprudny, Russian Federation

10:45 5C-2 SPECIAL FEATURES OF PLASMA GENERATION AND BEAM FORMATION FOR FORE-VACUUM PLASMA ELECTRON SOURCES
E. M. Oks1,2
1Physics Department, Tomsk State University of Control System and Radioelectronics, Tomsk, Russian Federation
2Plasma Sources Department, High Current Electronics Institute, Tomsk, Russian Federation

11:00 5C-3 A NOVEL PLASMA SOURCE FOR PLASMA WAKEFIELD ACCELERATORS
E. Oz, J. Moody, F. Batsch, P. Muggli
Max Planck Institute for Physics, Munich, Germany

11:15 5C-4 THE ELECTRON ENERGY DISTRIBUTION IN A LOW-PRESSURE SYSTEM COMBINED INDUCTIVE AND CAPACITIVE DISCHARGE
J. S. Kim, G. C. Kim, H. -J. Lee, H. J. Lee
Pusan National University, Busan, South Korea

11:30 5C-5 (invited) CHARACTERIZATION OF AN ELECTROTHERMAL PLASMA WITH POLYMER AND METAL SOURCE MATERIALS
T. E. Gebhart, J. R. Echols, A. L. Winfrey
Nuclear Engineering Program, University of Florida, Gainesville, FL, United States

12:00 5C-6 LONG-LIFE, HIGH QE PHOTOCATHODES
L. Ives1, E. Montgomery2, G. Collins1, L. Falce1, R. Karimov1, D. Marsden1
1Calabazas Creek Research, Inc., San Mateo, CA, United States
2Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, MD, United States

12:15 5C-7 CHARACTERIZATION OF NEGATIVE ION BEAM EXTRACTED FROM A NEGATIVE ION SOURCE WITH A PARTICLE-IN-CELL MODEL
L. Garrigues, G. Fubiani, J. P. Boeuf
CNRS/Laplace, Toulouse, France

12:30 5C-8 EXPERIMENTAL RESULTS FOR UNIFORMITY AND IEDF CONTROL WITH PHASE-LOCKED RF SOURCE AND BIAS ON AN INDUCTIVELY COUPLED PLASMA SYSTEM
D. J. Coumou1, S. C. Shannon2
1MKS Instruments Inc., ENI Products, Rochester, NY, United States
2Department of Nuclear Engineering, North Carolina State University, Raleigh, NC, United States

12:45 5C-9 A SELF-MAGNETIC FIELD PENNING-LIKE VACUUM ARC ION SOURCE DESIGN
J. Long, P. Dong
Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, China

Session 5D: Plasmas for Lighting, Displays, and Microdischarges

Wednesday, May 27 10:30-13:00, Quartz

Session Chair: Juergen Kolb, INP Greifswald
10:30 5D-1 THREE MODES IN THE ARRAY OF SURFACE MICRO-DISCHARGE IN ATMOSPHERIC PRESSURE HE+N2 MIXTURE
D. Li, T. He, D. Liu, M. G. Kong
Xi’an Jiaotong University, Xi’an Shanxi, China

10:45 5D-2 BIFURCATIONS OF STEADY-STATE SOLUTIONS IN DC GLOW MICRODISCHARGES
P. G. C. Almeida, M. S. Benilov, D. F. N. Santos
Universidade da Madeira, Funchal, Portugal

11:00 5D-3 STREAMER INHIBITION CHARACTERISTICS OF SURFACE DIELECTRIC BARRIER DISCHARGE IN DIFFERENT ELECTRODE CONFIGURATIONS
Y. Zhang, J. Li
Dalian University of Technology, College of Electrical Engineering, Dalian, China

11:15 5D-4 NANOSECOND, PULSED MICRODISCHARGE UV AND VUV SOURCES
J. Stephens, D. Mauch, S. Feathers, J. Mankowski, J. Dickens, A. Neuber
Center for Pulsed Power and Power Electronics, Texas Tech University, Lubbock, TX, United States

11:30 5D-5 SPATIOTEMPORAL EVOLUTION OF A SINGLE-ELECTRODE NANOSECOND PULSED MICROPLASMA JET OVER WATER
S. Song, J. L. Lane, C. Jiang
frank reidy center for bioelectrics, Old Dominion University, Norfolk, VA, United States

11:45 5D-6 ENHANCED EFFICIENCY OF ATOMIC OXYGEN GENERATION IN A SINGLE-ELECTRODE, 5 NS PULSED MICROPLASMA JET
J. Lane1, S. Song1, J. Neuber1, C. Jiang1, J. Sanders2, A. Kuthi2, M. Gundersen2
1Frank Reidy Research Center for Bioelectrics, Old Dominion University, Norfolk, VA, United States
2Department of Electrical Engineering-Electrophysics, University of Southern California, Los Angeles, CA, United States

12:00 5D-7 (invited) MINI SPRITES AND MINI BLUE JETS IN RUNAWAY ELECTRONS PREIONIZED DIFFUSE DISCHARGES
V. F. Tarasenko
Dep. Optical Radiation Laboratory, High Current Electronics Institute, Tomsk, Russian Federation

12:30 5D-8 EXPERIMENTAL STUDY AND SIMULATION OF DISCHARGES EVOLVEMENT OF AN ARRAY MICRO-HOLLOW CATHODE (MHC) TRIGGERED BY NANOSECOND PULSES AT AN ATMOSPHERIC PRESSURE
C. Zhang, K. Liu
Institute of Electric Light Sources, Fudan University, Shanghai, China

12:45 5D-9 FULLY KINETIC SIMULATION OF ATMOSPHERIC PRESSURE MICROCAVITY DISCHARGE DEVICE
Sandia National Labs, Albuquerque, NM, United States

Session 5E: Nonequilibrium Plasma Applications

Wednesday, May 27 10:30-13:00, Topza

Session Chair: Jean-Pierre BOEUF, Universitat de Toulouse, LAPLACE, CNRS
10:30 5E-1 (invited) SURFACE DIELECTRIC BARRIER DISCHARGE ACTUATOR: ELECTRICAL, OPTICAL AND MECHANICAL CHARACTERIZATION
E. Moreau, N. Benard
Pprime Institute - CNRS, University of Poitiers, Poitiers, France

11:00 5E-2 CHARACTERIZATION OF A COLD ATMOSPHERIC PRESSURE PLASMA JET DRIVEN BY NANOSECOND HIGH-VOLTAGE PULSES
M. Boselli, V. Colombo, M. Gherardi, R. Laurita, A. Liguori, P. Sanibondi, E. Simoncelli, A. Stancampiano
Department of Industrial Engineering, Alma Mater Studiorum - University of Bologna, Bologna, Italy

11:15 5E-3 IMPROVEMENT OF DYNAMIC RANGE OF ELECTRON ENERGY PROBABILITY FUNCTION FROM TWO ASYMMETRICAL COLLECTING AREA PROBE DATA FILTERED BY SAVITZKY-GOLAY AND BLACKMAN WINDOW METHODS
Energy Systems Engineering, Seoul National University, Seoul, South Korea

11:30 5E-4 INFLUENCES OF MICROPLASMA GENERATED MICROBUBBLE BY MODERATE ENVIRONMENTAL PRESSURE
P. Xiao, D. Staack
Mechanical Engineering Department, Texas A&M University, College Station, TX, United States

11:45 5E-5 ELECTRON PROPERTIES OF RADIO-FREQUENCY CAPACITIVE DISCHARGE AT ATMOSPHERIC PRESSURE
S. Park1, W. Choe1, S. Y. Moon2, K. Kim1, J. Y. Park1
1Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea
2Department of Quantum System Engineering, Chonbuk National University, Jeonju, Republic of Korea

12:00 5E-6 EFFECTS OF PLASMA TREATMENTS ON THE ADHESION BETWEEN POLYESTER FABRICS AND SILICONE RUBBER COATING
Y. B. Sari1, B. Kutlu1, B. Mizrak2
1Textile Engineering Department, Dokuz Eylul University, Izmir, Turkey
2Rultrans Transmisyon A.Ş., Izmir, Turkey

12:15 5E-7 HIGH VOLTAGE ATMOSPHERIC COLD PLASMA TREATMENT OF FRESH CANTALOupe TO IMPROVE SAFETY AND QUALITY
J. L. Jensen1, T. Lim1, B. Applegate1, K. M. Keener1,2
1Department of Food Sciences, Purdue University, West Lafayette, IN, USA
2Agricultural and Biological Engineering, Purdue University, West Lafayette, IN, USA

12:30 5E-8 HIGH-SPEED LOW-COST SURFACE TREATMENTS USING A NOVEL ATMOSPHERIC-PRESSURE PLASMA SOURCE
D. Kovacik, P. Stahel, J. Rahel, M. Cernak
Department of Physical Electronics, Faculty of Science, Masaryk University, Brno, Czech Republic

12:45 5E-9 PREPARATION OF ANTIBACTERIAL NON-WOVEN FABRIC VIA ATMOSPHERIC PRESSURE PLASMA PROCESS
X. Deng1, A. Nikiforova1, C. Leys1, D. Vujosevic2
1Department of Applied Physics, Ghent University, Ghent, Belgium
2Center for Medical Microbiology, Institute of Public Health, Podgorica, Montenegro

Session PL6: Plenary PL6

Wednesday, May 27 14:00-14:00, Citrine II-III
Session Chair: Edl Schamiloğlu, University of New Mexico

14:00 PL6-1 LIGHTNING-DRIVEN PHENOMENA IN NEAR-EARTH SPACE
U. Inan
Koç Üniversitesi, Istanbul, Turkey

Session 3P: Plasma Chemistry Poster (poster II)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Dingxin Liu, Xi'an Jiaotong University

3P-1 ARC DISCHARGE CHARACTERISTICS OF SILICONE OIL
R. Zhang, G. Guo, H. Xin
Graduated School at Shenzhen Tsinghua University, Shenzhen, China

3P-2 THE GENERATION AND CHARACTERISTICS OF ATMOSPHERIC PRESSURE PLASMA JET ARRAY IN ARAGON
Z. Fang, W. J. Wu, Z. F. Ding
School of Automation and Electrical Engineering, Nanjing Technology University, Nanjing, Jiangsu Province, China

3P-3 STUDY OF CHARACTERISTICS OF NE-XE BARRIER DISCHARGE EXCIMER LAMPS USING A 2-D FLUID MODEL FOR SINUSOIDAL VOLTAGE WAVEFORM
S. Saidi
Physique Energetique, student, oran, Algeria

3P-4 CHEMICAL KINETIC SIMULATION OF ANALYSIS OF NOX REMOVAL BY NEGATIVE CORONA DISCHARGE
A. K. Ferouani1,2, M. Lemerini2, M. Houalef3, Y. Guaybess4
1Department of Physics, Ecole Preparatoire en Sciences et Techniques, Tlemcen, Algeria
2Department of Physics, LPT, University A. Belkaid, Tlemcen, Algeria
3Department of Maths, Ecole Preparatoire en Sciences et Techniques, Tlemcen, Algeria
4Department of Physics, University Hassan II, Casablanca, Morocco

3P-5 MODELLING OF SPREADING OF PULSED ELECTRON BEAM INTO HIGH PRESSURE GASES
N. E. Aktaev, G. E. Remnev
National Research Tomsk Polytechnic University, Tomsk, Russia, Russian Federation

3P-6 A NEW EXPERIMENTAL SYSTEM FOR PLASMA EDUCATION
D. S. Korkmaz1, S. Pat2
1Education Faculty, Eskişehir Osmangazi University, Eskişehir, Turkey
2Physics Department, Eskişehir Osmangazi University, Eskişehir, Turkey

3P-7 SCATTERING CROSS SECTION SET FOR ELECTRONS IN CH3OCH3
O. M. Sasic, S. Dupljanin, Z. L. Petrovic
University of Belgrade, Institute of Physics, Belgrade, Serbia

3P-8 THE STUDY OF PARTITION EXCITATION ATMOSPHERIC PRESSURE NON EQUILIBRIUM PLASMA SOURCE ARRAY
Z. Yu, Z. Zhang, Z. Zhang, Y. Gao
Dalian Maritime University, Dalian, China

3P-9 REMOVAL OF ORGANIC POLLUTANTS AND SIMULTANEOUS REGENERATION OF GRANULAR ACTIVATED CARBON BY DIELECTRIC BARRIER DISCHARGE PLASMA
J. Li, S. Tang, N. Jiang, N. Lu, K. Shang, Y. Wu
School of Electrical Engineering, Dalian University of Technology, China, Dalian, China

3P-10 STUDY of voltage EFFECT on SYNTHESIS OF SILVER NANOPARTICLES BY CYLINDRICAL DIELECTRIC BARRIER DISCHARGE PLASMA
Z. Bahrami, M. R. Khani, B. Shokri
Physics Department, Shahid Beheshti University G.C., Evin, Tehran, Iran, Tehran, Iran

3P-11 FASTNESS PROPERTIES OF PLASMA TREATED WOOL
F. Nuralın\textsuperscript{1}, F. Bozduman\textsuperscript{2}
\textsuperscript{1}Chemistry, Gazi University, Ankara, Turkey
\textsuperscript{2}Physics, Suleyman Demirel University, Isparta, Turkey

3P-12 DEVELOPMENT ON ROGOWSKI COIL MEASURING NANOSECONDS RISETIME MEGAMPERE CURRENTS
Y. Jing, W. Ding, R. Han, H. Zhou, Q. Liu, J. Wu, Y. Gou, Y. Wang
State Key Laboratory of Electrical Insulation and Power Equipment, Xi\textsuperscript{'}an Jiaotong University, Xi\textsuperscript{'}an, China

3P-13 INDUCTIVELY COUPLED PLASMA FOR GRAPHENE PRODUCTION
Physics Department, Suleyman Demirel University, Isparta, Turkey

3P-14 PENNING ELECTRONS ENERGY SPECTRA IN DC HE–AR MICRODISCHARGE
A. A. Kudryavtsev\textsuperscript{1}, M. S. Stefanova\textsuperscript{2}, P. M. Pramatarov\textsuperscript{2}, A. I. Saifutdinov\textsuperscript{1}
\textsuperscript{1}Physics, St.Petersburg State University, St. Petersburg, Russian Federation
\textsuperscript{2}Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria

3P-15 STREPTAVIDIN COATING ON THE SURFACE OF POLYSTYRENE MICROPLATES BY PLASMA TECHNIQUE AND DEVELOPMENT OF ELISA SYSTEMS FOR HUMAN PAPILLOMA VIRUS (HPV)
S. O. Kose
Analytical Chemistry, Bionkit LTD. ŞTi., ESKİŞEHİR, Turkey

3P-16 PROTEIN A COATING ON THE SURFACE OF POLYSTYRENE MICROPLATES BY PLASMA TECHNIQUE AND DEVELOPMENT OF ELISA SYSTEMS FOR HEAT SHOCK PROTEIN 70 (HSP70)
B. Yildiz
R\&D, Bionkit, Eskisehir, Turkey

3P-17 VIBRATIONAL AND ROTATIONAL TEMPERATURES OF NO A 2Σ+ METASTABLE STATE IN N2-O2 MIXTURE MICROWAVE DISCHARGE
H. Tan, A. Nezu, H. Akatsuka
Tokyo Institute of Technology, Tokyo, Japan

3P-18 PLASMA CHEMICAL COMPLEX PROCESSING OF SOLID FUEL
A. B. Ustimenko, V. E. Messerle, O. A. Lavrichshev
Plasmatechnics, Research Institute of Experimental and Theoretical Physics of Kazakhstan National University, Almaty, Kazakhstan

Session 3P: Fast-Wave Devices (poster)
Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chairs:

**3P-19 STUDY OF THE MULTI-MODES BEHAVIOUR IN A HIGH HARMONIC LARGE ORBIT GYROTRON**
X. Li, Y. Alfadhl, X. Chen
School of Electronic Engineering and Computer Science, Queen Mary University of London, London, United Kingdom

**3P-20 OPTIMIZATION OF STARTING CONDITIONS OF TERAHERTZ RANGE GYROTONS BY INCREASING OF ELECTRON INTERACTION TIME IN THE "DEPRESSED" RESONATOR**
N. S. Ginzburg, M. Y. Glyavin, I. V. Zotova, I. V. Zheleznov
Institute of Applied Physics RAS, N. Novgorod, Russian Federation

**3P-21 HIGH POWER W-BAND GYRO-BWO EXPERIMENTS**
Department of Physics, Strathclyde University, Glasgow, United Kingdom

Session 3P: Slow Wave Devices (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Edl Schamiloglu, University of New Mexico

**3P-22 APPLICATION OF A PSEUDOSPARK-GENERATED ELECTRON BEAM TO A 200GHZ BACKWARD WAVE OSCILLATOR**
Department of Physics, Strathclyde University, Glasgow, United Kingdom

**3P-23 INVESTIGATION OF THE EFFECT OF HELIX TAPE-THICKNESS ON THE PERFORMANCE OF PLASMA-FILLED HELIX TRAVELING-WAVE TUBES**
A. Mahmoudi
Faculty of Engineering, School of electrical and computer engineering, University of Tehran, Tehran, Iran

**3P-24 NON-RESONANT METAMATERIALS FOR HIGH-POWER VACUUM ELECTRONICS APPLICATIONS**
A. Hopper, R. Seviour
International Institute for Accelerator Applications, University of Huddersfield, Huddersfield, United Kingdom

**3P-25 DESIGN AND SIMULATION OF AN S-BAND CLOVERLEAF AMPLIFIER USING ICEPIC**
P. D. Gensheimer¹, J. J. Watrous², R. W. Ziolkowski³
¹AFRL, Kirtland AFB, NM, United States
²Confluent Sciences, LLC, Albuquerque, NM, United States
³ECE Department, University of Arizona, Tucson, AZ, United States
3P-26 HIGH POWER MICROWAVE SOURCE LOADED BY A TWO-SPIRAL METAMATERIAL STRUCTURE FOR CHERENKOV RADIATION
S. C. Yurt, A. Elfrgani, E. Schamiloglu

Electrical and Computer Engineering, University of New Mexico, Albuquerque, United States

3P-27 EVOLUTION OF WAVE DISPERSION IN PERIODIC STRUCTURES WITH INCREASING AMPLITUDE OF CORRUGATION
S. C. Yurt, A. Elfrgani, K. Ilyenko, M. I. Fuks, E. Schamiloglu

Electrical and Computer Engineering, University of New Mexico, Albuquerque, United States

3P-28 TESTING OF THE A6 MAGNETRON WITH RADIAL EXTRACTION ON THE PULSERAD ELECTRON BEAM ACCELERATOR
S. Prasad, J. W. McConaha, C. J. Leach, C. J. Buchenauer, M. Fuks, E. Schamiloglu

Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

3P-29 EXPERIMENTAL RESEARCH OF MAGNETICALLY INSULATED TRANSMISSION LINE OSCILLATOR WITH METAL ARRAY CATHODE
F. Qin1, D. Wang1, S. Xu1, Y. Wu1, Z. Fan2

1Key Laboratory on High Power Microwave Technology, Institute of Applied Electronics, China Academy of Engineering Physics, Mianyang, Sichuan, China
2Graduate School, China Academy of Engineering Physics, Beijing, China

3P-30 TEST OF A HIGH EFFICIENCY RELATIVISTIC MAGNETRON WITH DIFFRACTION OUTPUT (MDO) AND SPHERICAL CATHODE ENDCAP*
C. J. Leach, S. Prasad, M. Fuks, J. Buchenauer, J. McConaha, E. Schamiloglu

Electrical and Computer Engineering Dept., University of New Mexico, Albuquerque, NM, United States

3P-31 COMPACT A6 MAGNETRON WITH A NEODYMIUM PERMANENT MAGNET
J. W. McConaha, S. Prasad, C. Leach, M. Fuks, E. Schamiloglu

Electrical and Computer Engineering, University of New Mexico, Albuquerque, United States

3P-32 EMITTANCE GROWTH ANALYSIS OF ELECTRON BEAMS DUE TO NONLINEAR FOCUSINGIELDS OF PPM MAGNETS
K. E. Nichols, B. E. Carlsten

Los Alamos National Laboratory, Los Alamos, NM, United States

3P-33 VARIATION OF RELATIVISTIC BWO GENERATION MODE CONSIDERING THE FEATURES OF PULSED GUIDING MAGNETIC FIELD
V. V. Rostov1, K. A. Sharypov2, V. G. Shpak2, S. A. Shunailov2, M. R. Ul'masculov2, M. I. Yalandin2

1High Current Electronics Institute, Tomsk, Russian Federation
2Institute of Electrophysics, Ekaterinburg, Russian Federation

Session 3P: Codes and Modeling (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chairs:

3P-34 MODELING OF INDUCTIVELY COUPLED PLASMA SOURCE WITH ARGON/OXYGEN GAS MIXTURE FOR ETCHING
Session 3P: Plasma, Ion and Electron Sources (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Efim M Oks, High Current Electronics Institute

3P-39 RF ION SOURCE MODELING USING FLUID-BASED PLASMA MODELS
K. Beckwith, S.Veitzer, P. H. Stoltz
Tech-X Corp., Boulder, CO, United States

3P-40 PLASMA LENS CLEARING OF THE MICRODROPLETS IN CATHODIC ARC PLASMA FLOW
V. I. Gushenets¹, A. S. Bugaev¹, E. M. Oks¹, A. A. Goncharov², A. N. Dobrovolsky²
¹Plasma Sources Laboratory, High Current Electronics Institute, Tomsk, Russian Federation
²Institute of Physics NASU, Kiev, Ukraine

3P-41 STUDY OF THE ELECTRIC FIELD SCREENING EFFECT ON LOW NUMBER OF CARBON FIBER FIELD EMITTERS
W. Tang¹, D. Shiffler¹, M. LaCour², K. Golby², T. Knowles³
¹Air Force Research Laboratory, Albuquerque, NM, United States
²Leidos Inc., Albuquerque, NM, United States
³Energy Science Laboratory Inc., San Diego, CA, United States

3P-42 CHARACTERISTICS OF A SINGLE-UNIT, PLASMA GUN GENERATOR FOR RADIOGRAPHY APPLICATIONS
J. Macdonald¹, B. M. Novac², P. Senior², K. Omar¹, M. Sinclair¹, I. R. Smith²
3P-43 BEAM PLASMA PRODUCED BY ELECTRON BEAM IN DIELECTRIC CAVITY
D. B. Zolotukhin, V. A. Burdovitsin, E. M. Oks
Department of Physics, Tomsk State University of Control Systems and Radioelectronics (TUSUR), Tomsk, Russian Federation

3P-44 PARAMETERS OF VACUUM ARC PLASMA WITH DEUTERIUM AND HYDROGEN SATURATED ZIRCONIUM CATHODE
S. A. Barengolts¹, D. Y. Karnauchov², A. G. Nikolaev³, K. P. Savkin³, E. M. Oks³, I. V. Uimanov⁴, V. P. Frolova⁵, D. L. Shmelev⁶, G. Y. Yushkov³
¹Prohorov General Physics Institute RAS, Moscow, Russian Federation
²Lebedev Physical Institute, RAS, Moscow, Russian Federation
³Institute of High Current Electronics, Siberian Branch, RAS, Tomsk, Russian Federation
⁴Institute of Electrophysics, Ural Branch, RAS, Yekaterinburg, Russian Federation

3P-45 DEVELOPMENT OF ROBUST, HIGH CURRENT CNT FIBER CATHODE ARRAYS
S. B. Fairchild¹, T. C. Back²,³, G. J. Gruen²,³, P. T. Murray²,³
¹Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB, OH 45433, USA
²Research Institute, University of Dayton, Dayton, OH 45469, USA
³Center of Excellence in Thin Film Research and Surface Engineering, University of Dayton, Dayton, OH 45469, USA

3P-46 MAGNETIC THIN FILMS DEPOSITION USING DC GRID-ATTACHED MAGNETRON.
E. M. Oks¹, A. V. Tyunkov¹, M. V. Shandrikov², A. V. Vizir², K. P. Savkin²
¹Tomsk State University of Automated Control Systems and Radioelectronics, Tomsk, Russian Federation
²Institute of High Current Electronics, Tomsk, Russian Federation

3P-47 STUDY OF EXPLOSIVE ELECTRON EMISSION FROM A PIN CATHODE USING HIGH RESOLUTION POINT-PROJECTION X-RAY RADIOGRAPHY
P. N. Lebedev Physical Institute RAS, Moscow, Russian Federation

3P-48 CHARACTERISTICS OF AN ATMOSPHERIC GLIDING ARC PLASMA
R. Hosseinirad, M. R. Khani, M. Shahpanah, M. Adhami, B. Shokri
Laser & Plasma Research Institute, Shahid Beheshti University, Tehran, Iran

3P-49 OPTICAL INVESTIGATIONS OF CATHODE PLASMA DYNAMICS OF LONG PULSE ELECTRON ACCELERATOR GESA
W. An¹, G. Mueller¹, R. Fetzer¹, A. Weisenburger¹, V. Engelko²
¹Karlsruhe Institute of Technology, Karlsruhe, Germany
²Efremov Institute of Electrophysical Apparatus, St. Petersburg, Russia

3P-50 COMPUTATIONAL CHARACTERIZATION OF THE ELECTROTHERMAL ENERGETIC PLASMA SOURCE (ETEPS) CONCEPT FOR HIGH-ENTHALPY FLOW
S. Mittal, L. Winfrey
Virginia Tech, Blacksburg, VA, United States

3P-51 ELECTROSTATIC PROBE MEASUREMENT OF THE PIEZOELECTRIC TRANSFORMER PLASMA SOURCE
E. A. Baxter, S. D. Kovaleski, P. Norgard
Electrical and Computer Engineering, University of Missouri-Columbia, Columbia, MO, United States
3P-52 THREE-DIMENSION NUMERICAL SIMULATION OF A LARGE-SCALE RECTANGULAR SURFACE WAVE PLASMA SOURCE
Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, China

3P-53 HIGH CHARGE STATES METAL ION BEAM BASED ON VACUUM SPARK DISCHARGE
E. M. Oks1,2, V. P. Frolova2, G. Y. Yushkov2, A. G. Nikolaev2, K. P. Savkin2
1Tomsk State University of Control System and Radioelectronics, Tomsk, Russian Federation
2High Current Electronics Institute, Tomsk, Russian Federation

3P-54 FIELD ASSISTED PHOTOEMISSION DC-PULSED CATHODE FOR 5TH GENERATION LIGHT SOURCES AND ACCELERATORS THEORETICAL STUDY
J. L. J. Babigeon1, N. Holtzer2, M. El khalidi1
1LAL/Dpt accélateur, CNRS, ORSAY, France
2Consultant, STRASBOURG, France

3P-55 COMPUTATIONAL STUDY OF REAL TIME MODIFICATION FOR PURE ELECTROTHERMAL GUN BALLISTICS
S. Mittal, L. Winfrey
Virginia Tech, Blacksburg, Va, United States

3P-56 SIMULATION OF THE PROCESSES ACCOMPANYING THE FORMATION AND TRANSPORTATION OF AN ELECTRON BEAM IN A GAS-FILLED ELECTRON-OPTICAL SYSTEM WITH A PLASMA EMITTER
N. Rempe1, S. Kornilov1, A. Grishkov2
1Tomsk State University of Control Systems and Radioelectronics, Tomsk, Siberia, Russian Federation
2Institute of High Current Electronics SB RAS, Tomsk, Siberia, Russian Federation

3P-57 EVALUATION AND ANALYSIS OF SOURCE LINERS AND EJECTED MATERIALS FROM AN ELECTROTHERMAL PLASMA DISCHARGE
J. R. Echols1, M. D. Hamer2, T. E. Gebhart1, A. L. Winfrey1
1University of Florida, Gainesville, FL, United States
2Enercon Services Inc., Germantown, MD, United States

3P-58 METAL AND GAS ION SOURCE FOR MODIFICATION OF ORGANIC POLYMERS SURFACES
E. M. Oks1, K. P. Savkin1, I. V. Puhova1, G. Y. Yushkov1, M. V. Shandriko1, A. V. Vizir1, I. A. Kurzina2
1Institute of High Current Electronics, Tomsk, Russian Federation
2National Research Tomsk State University, Tomsk, Russian Federation

3P-59 DEVELOPMENT OF A HYBRID HELICON-ECR PLASMA SOURCE
A. M. Hala
KACST, Riyadh, Saudi Arabia

3P-60 RUNAWAY ELECTRON BEAM GENERATION AND DISRUPTION AT PULSED GAS DISCHARGE
M. M. Tsventoukh
Lebedev Physical Institute RAS, Moscow, Russian Federation

3P-61 PRIMARY EXPERIMENT ON HIGH CURRENT HOLLOW CATHODE ION SOURCE
Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, SiChuan Province, China

Session 3P: Fusion - Magnetic, Inertial, and Magneto-Inertial (poster)
Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chairs:

3P-62 STABLE PLASMA AT CONVEX-CONCAVE FIELD LINES
M. M. Tsventoukh1, G. V. Krashkevskaya2, A. S. Prishvitsyn2
1Lebedev Physical Institute RAS, Moscow, Russian Federation
2National Research Nuclear University MEPhI, Moscow, Russian Federation

3P-63 KINETIC SIMULATION OF DIRECT X-B MODE CONVERSION FOR HIGH-β SPHERICAL TORUS NSTX IN THE NONLINEAR REGIME USING PARTICLE IN CELL METHOD
M. Ali Asgarian1, M. Abbasi2,3
1Faculty of Advanced Sciences and Technology, University of Isfahan, Isfahan 81746-73441, Iran
2Plasma Physics Research School, NSTRI, Tehran, Iran
3Department of Energy Engineering and Physics, Amirkabir University of Technology, Tehran, Iran

3P-64 INVESTIGATION OF LARGE AMPLITUDE UHR LOCALIZED OSCILLATION AND ITS INFLUENCE ON REDUCTION OF DIRECT X-B MODE CONVERSION EFFICIENCY FOR HIGH-β NSTX IN NONLINEAR REGIME
M. Abbasi1,2, M. Ali Asgarian3, Y. Sadeghi1, S. Sobhanian4
1Plasma Physics Research School, NSTRI, Tehran, Iran
2Department of Energy Engineering and Physics, Amirkabir University of Technology, Tehran, Iran
3Department of Advanced Sciences and Technology, University of Isfahan, Isfahan, Iran
4Department of Physics, Tabriz University, Tabriz, Iran

3P-65 ANALYSIS OF WAVE INSTABILITIES EVOLUTION IN PLASMA AND TURBULENT PROCESSES IN FLUID
D. N. Karbushev, V. I. Khvesyuk, T. N. Polozova
Bauman Moscow State Technical University, Moscow, Russian Federation

3P-66 DETERMINATION OF ELECTRON ENERGY DISTRIBUTION FUNCTION IN TOKAMAK PLASMA
F. S. Mir Mohammad Ali Roudaki, A. Salar Elahi, M. Ghoranneviss
Plasma Physics Research Center, Science and Research Branch, Islamic Azad University, Tehran, Iran

3P-67 SIMULATION OF MAGNETIC FIELD PERTURBATION COILS ON IR-T1 TOKAMAK
Y. Adltalab, P. Khorshid, E. Abizimoghadam
Dept. of Physics, Islamic Azad University, Mashhad Branch, Mashhad, Iran

3P-68 MAGNETO-HYDRODYNAMIC KELVIN-HELMHOLTZ INSTABILITY IN RESISTIVE AND COMPRESSIBLE TOKAMAK PLASMA
M. Mosiehi-Fard, S. J. Pestehe, M. Rasoli Heykalabad
Physics, University of Tabriz, Tabriz, Iran

3P-69 PERFORMANCE OF THE PULSE FLASH LAMP IN THE LASER INERTIAL CONFINEMENT FUSION
Z. Yang, S. Jia, X. Li, J. Wu
College of Electrical Engineering, Xi’An Jiaotong University, Xi’an, Shaanxi, China

3P-70 TIME INTEGRATED STUDY OF X-RAY EMISSION BY APF PLASMA FOCUS DEVICE
M. Habibi

Energy Engineering and Physics, Amirkabir University of Technology, Iran, Iran

3P-71 INCREASING PERFORMANCE OF THE FRCHX PLASMA INJECTOR SYSTEM
C. Grabowski1, J. H. Degnan1, M. Domonkos1, E. L. Ruden1, G. A. Wurden2

1Air Force Research Laboratory, Kirtland AFB, NM, United States
2Los Alamos National Laboratory, Los Alamos, NM, United States

3P-72 MODELING EXPERIMENTS OF NEW COMPACT HOHLRAUM CONFIGURATION WITH MULTIPLE PARALLEL-DRIVEN X-RAY SOURCES WITH APPLICATION OF VISRAD CODE
V. V. Shlyaptseva1, V. L. Kantsyrev1, A. S. Safronova1, I. K. Shrestha1, M. C. Cooper1, A. Stafford1, A. S. Chuvatin2

1University of Nevada, Reno, Reno, NV, United States
2Ecole Polytechnique, Palaiseau, France

3P-73 THERMAL DAMAGE MECHANISM OF PULSED XENON LAMP SILICA ENVELOPE DURING HIGH-POWER DISCHARGE
J. Liu, H. Li, X. Guo, R. Wu, R. Shao, H. Liang, W. Lin, L. Hu

laser source center, Shanghai Institute of Optics and Fine Mechanics, The Chinese Academy of Sciences, Shanghai, China

Session 3P: Intense Electron and Ion Beams (Poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Mark D Johnston, Sandia National Laboratories

3P-74 NUMERICAL MODELING OF DROPLETS GROWTH AND THEIR THERMAL RADIATION FROM METALLIC TARGETS HEATED BY HEAVY ION BEAMS
A. V. Ostrik

RAS, Institute of Problems of Chemical Physics, Chernogolovka, Russia

3P-75 MAGNETICALLY INSULATED COAXIAL DIODE NON-LINEAR PROPERTIES
V. V. Rostov1, K. A. Sharpyov2, V. G. Shpak2, S. A. Shumailov2, M. R. Ul'masculov2, M. I. Yalandin2

1High Current Electronics Institute, Tomsk, Russian Federation
2Institute of Electrophysics, Ekaterinburg, Russian Federation

3P-76 INFRARED-IMAGE DIAGNOSTICS OF A LOW-ENERGY, HIGH-CURRENT ELECTRON BEAM TRANSPORTED THROUGH A PLASMA CHANNEL IN A GUIDE MAGNETIC FIELD
A. V. Batrakov1,2, P. P. Kiziridi1, G. E. Ozur2

1Institute of High Current Electronics SB RAS, Tomsk, Russian Federation
2National Research Tomsk Polytechnic University, Tomsk, Russian Federation

3P-77 HYBRID SIMULATION OF INTERACTION BETWEEN ELECTRON-BEAM-GENERATED PLASMAS AND AIR FLOW
D. D. Zou

Electrical Engineering, Huazhong University of Science and Technology, Wuhan, China

3P-78 STUDY OF ELECTRON BEAM DYNAMICS IN A PLANAR DIODE WITH EXPLOSIVE EMISSION CATHODE
3P-79 ELECTRON BEAM TEST SYSTEM OF COMPACT ELECTRON GUN FOR X-RAY SOURCE
J. Lee, Y. Yeon, H. Kim, S. Lee, J. Chai
Department of Energy Science, SungKyunKwan University, Suwon si, South Korea

3P-80 FORMATION OF HIGH-BRIGHTNESS REB TO GENERATE THZ RADIATION IN BEAM-PLASMA SYSTEM
S. L. Sinitsky1,2, A. V. Arzhannikov1,2, V. T. Astrelin1,2, M. A. Makarov1, V. D. Stepanov1,2
1Plasma department, Budker Institute of Nuclear Physics, Novosibirsk, Russian Federation
2Physics Department, Novosibirsk State University, Novosibirsk, Russian Federation

3P-81 SPECTROSCOPIC DETERMINATION OF MAGNETIC FIELDS IN HIGH ENERGY ELECTRON BEAM DIODES
M. D. Johnston1, S. G. Patel1, D. J. Muron1, M. L. Kiefer1, Y. Maron2
1Sandia National Laboratories, Albuquerque, NM, United States
2Weizmann Institute of Science, Rehovot, Israel

3P-82 MAGNETIC FIELD MEASUREMENTS ON THE SELF MAGNETIC PINCH DIODE AT SNL USING ZEEMAN SPLITTING
S. G. Patel1, M. D. Johnston1, D. J. Muron1, T. J. Webb1, M. L. Kiefer1, R. M. Gilgenbach2
1Radiographic Technologies, Sandia National Labs, Albuquerque, NM, United States
2Plasma, Pulsed Power, and Microwave Lab, University of Michigan, Ann Arbor, MI, United States

3P-83 TRANSPORTATION OF A PULSED ION BEAM FORMED BY A SELF-MAGNETICALLY INSULATED DIODE
Y. I. Isakova, A. I. Pushkarev, I. P. Khaylov
High technology physics institute, Tomsk Polytechnic University, Tomsk, Russian Federation

3P-84 ROD-PINCH DIODE EXPERIMENTS AT A 1.2 MV PULSED POWER GENERATOR
J. Yuan, W. Xie, H. Li, S. Feng, B. Wei, H. Liu, L. Wang, X. Ma, Y. Qing, Y. Huang, S. Ding
Institute of Fluid Physics, China Academy of Engineering Physics, Mianyang, China

Session 3P: Particle Acceleration with Lasers and Beams (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Stephane Sebban, LOA

3P-85 CAIRNS-GUREVICH EQUATION FOR SOLITON IN PLASMA EXPANSION
K. Annou, D. Bara, D. Bennaceur-Doumaz
MIL, CDTA, Baba Hassen, Algeria

3P-86 OPTIMUM TRAPPING CONDITION FOR LASER WAKEFIELD ACCELERATION OF ELECTRONS IN AN INHOMOGENIOUS PLASMA
K. Gopal1, I. Nam2, D. N. Gupta1, H. Suk2
3P-87 IMPULSE ION IMPLANTER
A. V. Stepanov, V. I. Shamanin, G. E. Remnev, A. V. Petrov
Tomsk Polytechnic University, Tomsk, Russian Federation

3P-88 THE PROTOTYPE RF POWER COUPLERS FOR THE RAON NORMAL CONDUCTING CAVITIES
W. K. Han, B. H. Choi, H. J. Kim, J. Han, M. O. Hyun, O. R. Choi
Accelerator Systems Division, Institute for Basic Science, Daejeon, South Korea

3P-89 OPTIMIZATION STUDIES ON CSRR LOADED WAVEGUIDE FOR PARTICLE ACCELERATOR APPLICATIONS
R. Letizia, E. Sharples
1Lancaster University, Lancaster, United Kingdom
2Cockcroft Institute, Warrington, United Kingdom

3P-90 ENHANCING BEAM CHARGE IN LWFA EXPERIMENTS USING SELF-INJECTION THROUGH PULSE COMBINATION
P. G. Cummings, A. Schmitt-Sody, W. White
Air Force Research Laboratory, Albuquerque, NM, United States

3P-91 ENHANCED BETATRON RADIATIONS BY OFF-AXIS LASER INJECTION IN A CAPILLARY PLASMA SOURCE
S. Lee, T. -H. Lee, H. S. Uhm, I. Nam, H. Suk
1Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea
2Department of Electronical and Biological Physics, Kwangwoon University, Seoul, South Korea

3P-92 MONOENERGETIC ION ACCELERATION BY LASER DRIVEN SHOCK WAVES
A. S. Nindrayog, A. Macchi, F. Pegoraro
1Department of Physics, Lyallpur Khalsa College, Jalandhar, Punjab, India
2Department of Physics, E-Fermi, University of Pisa, Pisa, Italy

Session 3P: Radiation Physics and X-Ray Lasers (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chair: Stephane Sebban, LOA

3P-93 PCA MODELING OF THE L-SHELL COPPER X PINCH PLASMA PRODUCED BY THE COMPACT GENERATOR OF ECOLE POLYTECHNIQUE
J. Larour, L. Aranchuk, M. F. Yilmaz, A. Eleyan, Y. Danisman
1Laboratoire de Physique des Plasmas, Ecole Polytechnique, UPMC, CNRS, Palaiseau, France
2Engineering Department, Turgut Ozal University, Ankara, Turkey
3Mevlana University, Konya, Turkey
3P-94 LINEAR DISCRIMINANT ANALYSIS OF ELECTRON BEAM EFFECTS ON THE RELATIVISTIC LASER-PRODUCED K-SHELL AL PLASMAS
M. F. Yilmaz¹, Y. Danisman¹, A. S. Safronova³, V. L. Kantsyrev³, P. Viewior¹, A. Stafford¹, I. K. Shrestha³, V. V. Shlyaptseva³, A. Y. Faenov⁴
¹Engineering Department, Turgut Ozal University, Ankara, Turkey
²Educational Mathematics, Mevlana University, Konya, Turkey
³Physics Department, University of Nevada, Reno, NV, USA
⁴Institute for Academic Initiatives, Osaka University, Suita, Osaka, Japan

3P-95 EXPERIMENTAL STUDY OF NEON SOFT X-RAY AT SAHAND PLASMA FOCUS
M. A. Mohammadi¹, A. Piri¹, H. Naghshara², R. S. Rawat³
¹Department of Atomic and Molecular Physics, Faculty of Physics, University of Tabriz, Tabriz, Iran
²Department of Solid State Physics, Faculty of Physics, University of Tabriz, Tabriz, Iran
³Natural Sciences and Science Education, National Institute of Education, Nanyang Technological University, Singapore, Singapore

3P-96 A NOVEL METHOD TO GENERATE X-RAY CONTINUOUSLY BY TRIBOLUMINESCENCE
S. Furuya
Saitama Institute of Technology, Fukaya, Japan

3P-97 INFLUENCE OF PREIONIZATION ON IRRADIATION CHARACTERISTICS OF PULSED XENON LAMP
H. Li, R. Wu, R. Shao, J. Liu, W. Lin
R&D Center of Laser Source, Shanghai Institute of Optics and Fine Mechanics, The Chinese Academy of Sciences, Shanghai, China

Session 3P: Environmental and Industrial Applications (poster II)
Poster Session
Wednesday, May 27 15:00-16:30, Citrine I

Session Chairs:

3P-98 COMBINING CATALYSIS WITH NON-THERMAL PLASMA FOR VOLATILE ORGANIC COMPOUNDS ABATEMENT
Z. Xiao, K. Liu
Institute of Electric Light Sources, Fudan University, Shanghai, China

3P-99 EXACT ION ENERGY IN PLASMA IMMERSSION ION IMPLANTATION
N. Sakudo, N. Ikenaga, K. Matusi, N. Sakumoto
Kanazawa Institute of Technology, Hakusan, Ishikawa, Japan

3P-100 THE Mo DOPED GAN THIN FILM GROWTH USING THERMIonic VACUUM ARC (TVA)
S. Ozen¹, S. Şenoğlu¹, S. Pat¹, S. Korkmaz¹
¹Physics Department, Eskişehir Osmangazi University, Eskişehir, Turkey
²Primary Science Education Department, Bayburt University, Bayburt, Turkey

3P-101 STERILIZATION OF MICROORGANISM SPORES WITH PLASMA-EXCITED NEUTRAL GAS AT ATMOSPHERIC PRESSURE
K. Matsui, N. Ikenaga, N. Sakudo
Kanazawa Institute of Technology, Hakusan, Japan

3P-102 ON THE PLASMA SYSYEM FOR CO2 DISSOCIATION
H.-Y. Chang
Physics, KAIST, Daejeon, South Korea

3P-103 PLASMA TREATMENT FOR THE INACTIVATION OF ESCHERICHIA COLI IN WATER
M. S. Ismael1, F. Bozduman1, A. Gulec1, S. Noree1, M. Al-Mamoori1, Y. Durmaz1, I. U. Koç1, S. U. Ulusoy2
1Physics, Suleyman Demirel Universite, Isparta, Turkey
2Biology, Suleyman Demirel Universite, Isparta, Turkey

3P-104 PLASMA HELP PREPARATION OF ELECTROSPUN CARBON NANOFIBERS
E. Uygun1, F. Bozduman1, N. Nohut2, A. Uygun Oksuz2, L. Oksuz1
1Department of Physics, Suleyman Demirel University, Isparta, Turkey
2Department of Chemistry, Suleyman Demirel University, Isparta, Turkey

3P-105 CONTINUOUS PLASMA-CHEMICAL PROCESSING OF FABRICS AT ATMOSPHERIC PRESSURE
D. Kovacik1,2, P. Stahel1, R. Krumpolec2, M. Cernak1,2
1Department of Physical Electronics, Faculty of Science, Masaryk University, Brno, Czech Republic
2Department of Experimental Physics, Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovak Republic

3P-106 HUMAN HEALTH IMPACT OF MULTIFUNCTIONAL TEXTILES OBTAINED BY USING PLASMA TECHNOLOGY
R. M. Aileni1, L. Oksuz2, L. Surdu3
1Information Technology, INCDTP, Bucharest, Romania
2Research, PLAZMATEK, Isparta, Turkey
3Material Investigation, INCDTP, Bucharest, Romania

3P-107 LIFE CYCLE AND ENVIRONMENT IMPACT FOR TEXTILE MATERIALS FUNCTIONALIZED BY USING PLASMA TECHNOLOGY
R. M. Aileni1, L. Oksuz2, L. Surdu3
1Information Technology, INCDTP, Bucharest, Romania
2Research, PLAZMATEK, Isparta, Turkey
3Material Investigation, INCDTP, Bucharest, Romania

3P-108 SURFACE PROPERTIES OF PLASMA TREATED WOOL AND DENIM
G. Yurdabak1, L. Oksuz2, F. Bozduman2, M. Kiristi1, I. Komur1, A. Uygun Oksuz1
1Department of Chemistry, Suleyman Demirel University, Isparta, Turkey
2Department of Physics, Suleyman Demirel University, Isparta, Turkey

3P-109 WATER AND GAS TREATMENT BY USING PULSED CORONA DISCHARGE TECHNIQUE
M. Kebriaei
Department of Electrical and Computer Engineering, University of Kashan, Kashan, Iran

3P-110 OPTIMIZATION OF A LABORATORY SCALE BIOMASS PLASMA GASIFICATION REACTOR
J. I. van der Walt, P. N. Makaringe
R&D, Necsa, Pelindaba, South Africa
3P-111 DIRECT AND FAST GROWTH OF A SIGAAS THIN FILM BY MEANS OF THERMIONIC VACUUM ARC
V. Senay¹, S. Ozen², S. Pat², S. Korkmaz²
¹Science Education, Bayburt University, Bayburt, Turkey
²Physics, Eskisehir Osmangazi University, Eskisehir, Turkey

Session 3P: Diagnostics: Optical and X-ray, Microwave and FIR, and Particle (poster)

Poster Session

Wednesday, May 27 15:00-16:30, Citrine I

Session Chairs: Simon Bland, Imperial College London
Anatoli S. Shlapakovski, Technion

3P-112 INVESTIGATION OF SHEATH EFFECT ON THE RESONANCE FREQUENCIES OF CURLING PROBE
A. Arshadi, R. P. Brinkmann
Ruhr University Bochum, Ruhr University Bochum, TET Institute, Bochum, Germany

3P-113 FINITE PLASMA SHEATH CORRECTIONS APPLIED TO ELECTROSTATIC PROBES
C. Ribeiro
Centro de Investigaciómicas Nucleares y Moleculares, School of Physics, University of Costa Rica, San Jose, Costa Rica

3P-114 THE FIRST RESULTS OF THE HEAVY ION BEAM PROBING DIAGNOSTIC (HIBP) ON THE URAGAN-2M TORSATRON.
L. Krupnik², O. Zhezhera¹, O. Chmyga¹, G. Deshko¹, O. Kozachek¹, O. Komarov¹, S. Khrebtov¹, Y. Tashchev¹, G. Lesnyakov¹, I. Tarasov¹, S.Perfilov²
¹IPP NSC KIPT, Kharkov, Ukraine
²ITP, NRC "Kurchatov Institute", Moscow, Russia

3P-115 SPECTROSCOPIC STUDY ON THE TEMPERATURE EVOLUTION OF EXPLODING WIRES IN UNDERWATER DISCHARGES
K. Lee¹, K. J. Chung¹, D.-K. Kim², Y. S. Hwang¹
¹Department of Nuclear Engineering, Seoul National University, Seoul, South Korea
²Agency for Defence Development, Daejeon, South Korea

3P-116 A SIMPLE AXICON-BASED OPTICAL DIAGNOSTIC FOR MEASURING CYLINDRICALLY SYMMETRICAL PLASMA RADIAL MOVEMENT
F. Veloso, H. Bhuyan, M. Favre, E. Wyndham
Instituto de Fisica, Pontificia Universidad Catolica de Chile, Santiago, Chile

3P-117 DIAGNOSIS OF A HYBRID X-PINCH BY MEANS OF ABSORPTION SPECTROSCOPY
A. D. Cahill, S. A. Pikuz, T. A. Shklavenko, D. A. Hammer
Electrical and Computer Engineering, Cornell University, Ithaca, NY, United States

3P-118 DIAGNOSING PULSED POWER PRODUCED PLASMAS WITH X-RAY THOMSON SCATTERING
J. C. Valenzuela¹, C. Krauland¹, D. Mariscal¹, I. Krasheninnikov¹, F. N. Beg¹, R. Presura², P. Wiewior², A. Covington¹, T. Ma³, C. Niemann³
¹Texas A&M University, College Station, TX, USA
²IFIC, University of Seville, Seville, Spain
³University of Utah, Salt Lake City, UT, USA
3P-119 ARI LASER INDUCED FLUORESCENCE SYSTEM FOR MEASUREMENT OF NEUTRAL DYNAMICS IN A LARGE SCALE HELICON PLASMA
M. Gilmore, R. Kelly, A. G. Lynn, T. R. Desjardins
University of New Mexico, Albuquerque, NM, United States

3P-120 SCHLIEREN TECHNIQUE AS A POSSIBLE WAY TO DETERMINE GAS TEMPERATURE IN COLD NON-EQUILIBRIUM PLASMA JETS
A. M. Astafiev, A. A. Kudryavtsev, O. M. Stepanova, M. E. Pinchuk
1St.Petersburg State University, St. Petersburg, Russian Federation
2Institute for Electrophysics and Electric Power of RAS, St. Petersburg, Russian Federation

Session 6A: Microwave Plasma Interaction

Wednesday, May 27 16:30-18:30, Opal I

Session Chair: Ram Prakash, CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI)

16:30 6A-1 GAS HEATING AND SHOCKWAVE EFFECTS ON MICROWAVE STREAMER DEVELOPMENT IN ATMOSPHERIC PRESSURE AIR
K. Kourtzanidis, F. Rogier, J.-P. Boeuf
1ONERA, Toulouse, France
2LAPLACE, Universite de Toulouse, Toulouse, France

16:45 6A-2 NUMERICAL STUDY ON HIGH POWER MICROWAVE FLASHOVER AND BREAKDOWN ON OUTPUT-WINDOW BY EM-FLUID SIMULATION
Y. Dong, Q. Zhou, W. Yang, Z. Dong, H. Zhou
Institute of Applied Physics and Computational Mathematics, Beijing, China

17:00 6A-3 PLASMA EMPOWERED LIMESTONE MINERAL 😁 FILLER FOR ASPHALT PERFORMANCE APPLICATIONS
S. Karahancer, M. Kiristi, S. Terzi, M. Saltan, A. Uygun Oksuz, L. Oksuz
1Civil Engineering Department, Suleyman Demirel University, Isparta, Turkey
2Chemistry Department, Suleyman Demirel University, Isparta, Turkey
3Physics Department, Suleyman Demirel University, Isparta, Turkey

17:15 6A-4 SELF-CONSISTENT PLASMA DENSITY EVOLUTION DURING RF ENERGY EXTRACTION FROM A MICROWAVE PULSE COMPRESSOR
A. S. Shlapakovski, L. Beilin, M. Donskoy, E. Schamiloğlu, Y. E. Krasik
1Physics Department, Technion, Haifa, Israel
2Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, USA

17:30 6A-5 SWITCHING OF CIRCULAR WAVEGUIDE H11 MODE BY PLASMA OF GAS MICROWAVE DISCHARGE
V. S. Igumnov, S. N. Artemenko, V. A. Avgustinovich, S. A. Gorev, S. A. Novikov, Y. G. Yushkov
Laboratory №46, National Research Tomsk Polytechnic University, Tomsk, Russian Federation
17:45 6A-6 DECOMPOSITION OF P-XYLENE BY MICROWAVE PLASMA GENERATED AT ATMOSPHERIC PRESSURE
C. Liu, G. Zhang, L. Hou, B. Zhang, Q. Wang

Department of Electrical Engineering, Tsinghua University, Beijing, China

18:00 6A-7 DISPERSION RELATION FOR DEEPER CORRUGATION OF A RIPPLED WALLED SLOW WAVE STRUCTURE
N. Pareek, M. Ahmad, N. Kumar, U. Na, P. Pal, R. Prakash

1PDT/MWT, ceeri pilani, Pilani,Rajasthan, India
2AcSIR, Delhi, India

18:15 6A-8 THE CONCEPT OF EQUIPMENT THERMAL POWER PLANT BOILERS INSTALLATIONS
MICROWAVE IGNITION PULVERIZED COAL MIXTURE.
A. M. Danylenko, N. V. Danylenko, B. İbrahimoğlu, İ. İbrahimoğlu

1Research and Production Firm Ukrplasma, Kharkiv, Ukraine
2Anadoly Plazma Technology Center, Ankara, Turkey

Session 6B: Plasma Chemistry II

Wednesday, May 27 16:30-18:30, Opal II

Session Chair: Xin Tu, University of Liverpool

16:30 6B-1 PLASMA COMBUSTION MECHANISM FOR SMALL HYDROCARBONS
A. Starikovskiy

Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ, United States

16:45 6B-2 MORPHOLOGY CONTROL OF GRAPHENE BY PECVD
A. Jafari, M. Ghoranneviss, M. R. Hantehzadeh

Plasma Physics Research Centre, Science and Research Branch, Islamic Azad University, Tehran, Iran

17:00 6B-3 INITIATED PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION (I-PECVD) OF POLY(ALKYL ACRYLATES)
M. Karaman, M. Gursoy, T. Ucar, E. Demir, E. Yenice

Chemical Engineering, Selcuk University, Konya, Turkey

17:15 6B-4 INFRARED SPECTROSCOPY OF CH4/N2 AND C2HM/N2 (M =2, 4, 6) GAS MIXTURES AND DEPOSITION OF NITROGEN-CONTAINING POLYMER FILMS IN A DIELECTRIC BARRIER DISCHARGE
H. C. Thejaswini, V. Sushkov, R. Hippler

1Mechanical & Aerospace Engineering, Case Western Reserve University, Cleveland, OH 44106, USA
2Institute of Physics, University of Greifswald, 17487 Greifswald, Germany

17:30 6B-5 MASS TRANSFER AND CHEMICAL PROCESSES IN THE INTERACTION BETWEEN SURFACE MICRO-DISCHARGE AND DEIONIZED WATER
D. Liu, Z. Liu, D. Li, M. G. Kong

Xi’an Jiaotong University, Xi’an Shanxi, China

17:45 6B-6 SIMULATION OF A PULSED DISCHARGE IN CF3I/HE/O2/O2(A1Δ) MIXTURE IN A PULSED CHEMICAL OXYGEN-IODINE LASER
Y. Wang, J. Zhang, J. Zhang, D. Wang

School of Physics and Optoelectronic Technology, Dalian University of Technology, Dalian, China
18:00 6B-7 STUDY OF ETHANOL PLASMA POLYMERS DEPOSITED IN CAPACITIVELY COUPLED PLASMAS
S. Saboohi
Mawson Institute, University of South Australia, SA 5095, Australia

18:15 6B-8 PLASMA-CATALYTIC DESTRUCTION OF BENZENE IN A HYBRID SURFACE/PACKED-BED DISCHARGE OVER AgxCe1-x/γ-Al2O3 CATALYST
N. Jiang, J. Li, N. Lu, K. Shang, Y. Wu
College of Electrical Engineering, Dalian University of Technology, Dalian, China

Session 6C: Plasma Material Interactions

Wednesday, May 27 16:30-18:45, Onyx

Session Chair: Rajdeep Singh Rawat, National Institute of Education, Nanyang Technological University

16:30 6C-1 NEUTRAL DESORPTION AND SECONDARY ELECTRON EMISSION FROM SIMULATED ANODES IN VACUUM ELECTRONIC DEVICES
P. T. Murray1,2, T. C. Back1,2, S. B. Fairchild3, B. I. Bentley4, G. J. Gruen1,2
1Research Institute, University of Dayton, Dayton, OH, United States
2Center of Excellence in Thin Film Research and Surface Engineering, University of Dayton, Dayton, OH, United States
3Materials and Manufacturing Directorate, Air Force Research Laboratory, WPAFB, OH, United States
4Air Force Institute of Technology, WPAFB, OH, United States

16:45 6C-2 PLASMA-MATERIAL INTERACTION IN IR-T1 TOKAMAK
M. Ghoranneviss, S. Meshkani, A. Jafari
Plasma Physics Research Centre, Science and Research Branch, Islamic Azad University, Tehran, Iran

17:00 6C-3 SMALL PARTICLE TRANSPORT EXPERIMENTS IN VACUUM AND GAS USING PULSED-POWER Z-PINCH LINER-ON-TARGET DRIVE AND DIAGNOSED WITH PROTON RADIOGRAPHIC IMAGING.
Los Alamos National Laboratory, Los Alamos, NM, United States

17:15 6C-4 INVESTIGATION OF NON-THERMAL ATMOSPHERIC PRESSURE PLASMA JET IN CONTACT WITH LIQUIDS-USING ICCD CAMERA
W. B. Adress1, Y. Abe2, B. W. Graham2
1Medical Instrumentation engineering, Technical College, Iraq, Mosul, Iraq
2Centre for Plasma Physics, Queen’s University Belfast, Belfast, UK

17:30 6C-5 CROSSLINKING OF WATER-SOLUBLE PULLULAN NANOFIBROUS MATS THROUGH ATMOSPHERIC PLASMA TREATMENT
V. Colombo, M. L. Focarete, M. Gherardi, C. Gualandi, R. Laurita, A. Liguori, L. Paltrinieri, A. Stancampiano
Alma Mater Studiorum - University of Bologna, Bologna, Italy

17:45 6C-6 ATMOSPHERIC PRESSURE NON-THERMAL PLASMA FOR THE PRODUCTION OF COMPOSITE MATERIALS
18:00 6C-7 STRUCTURAL AND ELECTRICAL CHARACTERIZATION OF MAGNETRON SPUTTERED MOOX THIN FILMS
Z. Ghorannevis1, E. Akbarnejad2, M. Ghoranneviss2
1Department of Physics, College of Basic Sciences, Karaj Branch, Islamic Azad University, Alborz, Alborz, Iran
2Science & Research Branch, Physics Department, Islamic Azad University, Tehran, Iran

18:15 6C-8 GRAPHENE SYNTHESIS BY PECVD
S. N. Al-olbaidi, F. Bozduman, &. ï¿½. Koç, A. Gulec, M. Ismael, Y. Durmaz, L. Oksuz
Physics Department, Suleyman Demirel Univesity, Isparta, Turkey

18:30 6C-9 COAXIAL ELECTROSPUN PCL/PVA-CHTOSAN NANOFIBERS: A NOVEL NON-VIRAL GENE DELIVERY SCAFFOLD
Z. Sultanova1, G. Kabay1, G. Kaleli1, M. Mutlu2
1Micro and Nanotechnology Graduate Program, Institute of Science and Technology, Ankara, Turkey
2Department of Biomedical Engineering, Engineering Faculty, Ankara, Turkey

Session 6D: High Energy Density Matter

Wednesday, May 27 16:30-18:30, Quartz

Session Chairs:

16:30 6D-1 STUDY OF THE FEASIBILITY OF WARM DENSE MATTER GENERATION USING METAL FOIL ELECTRIC EXPLOSION UNDER MEGAAMPERE CURRENT DRIVE
S. F. Garanin1, S. D. Kuznetsov1, R. E. Reinovsky2
1All-Russian Research Institute of Experimental Physics (VNIIEF), Sarov, Russian Federation
2Los Alamos National Laboratory, Los Alamos, NM, USA

16:45 6D-2 GENERATION OF FAST CUMULATIVE WATER JETS BY UNDERWATER ELECTRICAL EXPLOSION OF CONICAL WIRE ARRAYS
D. Shafer, V. T. Gurovich, D. Yanuka, E. Zvulun, S. Gleizer, G. R. Toker, Y. E. Krasik
Physics, Technion Israel Institute of Technology, Haifa, Israel

17:00 6D-3 NONLINEAR MAGNETIC DIFFUSION AND THE SURFACE EXPLOSION OF METALS IN FAST RISING MEGAGAUSS MAGNETIC FIELD
S. A. Chaikovsky, V. I. Oreshkin, N. A. Labetskaya, I. M. Datsko, N. A. Ratakhin
Institute of High Current Electronics SB RAS, Tomsk, Russian Federation

17:15 6D-4 RESONANT ABSORPTION EFFECTS IN NEON INTERACTION WITH ULTRAINTENSIVE (SOFT) X-RAY LASER PULSES WITH PHOTON ENERGY FROM 800 TO 1300 eV
J. Zeng, J. Yuan
Physics Department, National University of Defense Technology, Changsha, China

17:30 6D-5 MULTIPHASE EQUATIONS OF STATE FOR METALS UNDER PULSED POWER INFLUENCES
K. V. Khishchenko
Joint Institute for High Temperatures RAS, Moscow, Russian Federation
17:45 6D-6 INVERSE PROBLEM OF THE CURRENT PULSE RECONSTRUCTION ACCORDING TO THE PENETRATION RATE OF ELECTRIC FIELD INDUCED INSIDE THE TUBULAR ELECTRODE
A. I. Khirianova¹, S. I. Tkachenko, E. V. Grabovskii², G. M. Oleinik², P. S. Sasorov²
¹Department of Radio Engineering and Cybernetics, MIPT (Moscow Institute of Physics and Technology State University), Dolgoprudny, Russian Federation
²Troitsk Institute for Innovation and Fusion Research, Moscow Troitsk, Russian Federation

18:00 6D-7 (invited) HEAT WAVES AND IONIZATION FRONTS
R. P. Drake, P. A. Keiter, J. S. Davis
University of Michigan, Ann Arbor, MI, United States

Session 6E: Plasma Thrusters

Wednesday, May 27 16:30-18:30, Topaz

Session Chairs:

16:30 6E-1 HYBRID SIMULATION OF WEAKLY-IONIZED RAREFIED ARC-JET FLOWING SUPERSONICALLY ALONG DIVERGING MAGNETIC FIELD
A. Laosunthara, S. Tsuno, T. Nakahagi, H. Akatsuka
Tokyo Institute of Technology, Tokyo, Japan

16:45 6E-2 INITIAL OPERATION OF THE CUBESAT AMBIPOLAR THRUSTER
University of Michigan, Ann Arbor, MI, United States

17:00 6E-3 (invited) AZIMUTHAL MICRO-INSTABILITY INSIDE A WALL-LESS HALL THRUSTER
L. Garrigues¹, S. Mazouffre², J. Vaudolon², S. Tsikata²
¹CNRS/LAPLACE, Toulouse, France
²CNRS/ICARE, Orleans, France

17:30 6E-4 INSTABILITIES AND TRANSPORT IN PLASMAS WITH EXB DRIFT
A. Smolyakov¹, I. Romadanov¹, W. Frias¹, A. Koshkarov¹, Y. Raitses², I. Kaganovich²
¹University of Saskatchewan, Saskatoon, Saskatchewan, Canada
²Princeton Plasma Physics Laboratory, Princeton, NJ, USA

17:45 6E-5 A SURVEY ON MICROPLASMA THRUSTERS FOR CUBESAT MISSIONS
M. Durna, N. Alemdaroglu
Middle East Technical University, Ankara, Turkey

18:00 6E-6 MULTIPOLY CHARGED IONS IN HALL THRUSTER PLASMAS
W. Choe¹, H. Kim¹, Y. Lim¹, J. Seon²
¹Korea Advanced Institute of Science and Technology, Daejeon, South Korea
²Kyung Hee University, Yongin, South Korea

18:15 6E-7 TIME-RESOLVED LASER-INDUCED FLUORESCENCE MEASUREMENTS IN THE PLUME OF A 6-KW HALL THRUSTER
C. J. Durot, M. Georgin, A. D. Gallimore
University of Michigan, Ann Arbor, MI, United States

Session PL7: Plenary PL7
Thursday, May 28 09:00-10:00, Citrine II-III

Session Chair: Mounir Laroussi, Old Dominion University

9:00 PL7-1 PLASMA SOURCES FOR BIOMEDICAL APPLICATIONS: PAST, PRESENT, AND FUTURE
X. Lu
Huazhong University of Sci & Tech, State Key Laboratory of AEET, Wuhan, Hubei, China

Session 7A: Basic Phenomena - II

Thursday, May 28 10:30-13:00, Opal I

Session Chairs:

10:30 7A-1 THEORETICAL INVESTIGATION OF ANODE SPOT FORMATION AND ITS
CHARACTERISTICS BY THE APPLICATION OF KAPPA DISTRIBUTION FUNCTION AS A TOOL FOR
NON-EQUILIBRIUM STEADY STATE (NESS) PLASMAS
S. Jahanbakhsh, M. Celik
Department of Mechanical Engineering, Bogazici University, Istanbul, Turkey

10:45 7A-2 EFFECT OF DIELECTRIC TEMPERATURE ON AR ATMOSPHERIC PRESSURE
NONEQUILIBRIUM PLASMA JET WITH DIFFERENT DIELECTRIC MATERIALS
J. Song¹, Y. Wang¹, Y. Piao², J. Tang¹, D. Yu¹
¹School of Energy Science and Engineering, Harbin Institute of Technology, Harbin/Heilongjiang, China
²School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin/Heilongjiang, China

11:00 7A-3 IMAGING STUDIES OF PLASMA STREAMERS IN LIQUIDS FOR THE PRODUCTION OF
HYDROGEN-RICH GAS
A. Dirnberger¹, S. D. Kovaleski², P. Norgard¹, S. Mededovic Thagard², J. Franclemont²
¹University of Missouri, Columbia, MO, United States
²Plasma Research Laboratory, Clarkson University, Potsdam, NY, USA

11:15 7A-4 OBSERVATION OF TWO-ION-STREAM INSTABILITY IN SHEATH-PRESHEATH
TRANSITION REGION BY LIF MEASUREMENT
N.-K. Kim, G.-H. Kim
Department of Energy Systems (Nuclear) Engineering, Seoul National University, Seoul, South Korea

11:30 7A-5 INTERFEROMETRIC STUDY ON THE SHOCK WAVE COLLISIONS DURING DOUBLE
LASER PRODUCED PLASMAS
W. Wei¹, Z. Yang¹, J. Wu¹, X. Li¹, Q. Wang²
¹Xi'an Jiaotong University, Xi'an, Shaanxi, China
²Xi'an University of Technology, Xi'an, Shaanxi, China

11:45 7A-6 PHOTOIONIZATION RELEVANT EXTREME ULTRAVIOLET EMISSION FROM
DEVELOPING LOW TEMPERATURE PLASMAS IN AIR
J. C. Stephens, A. Fierro, S. Beeson, J. Dickens, A. Neuber
Center for Pulsed Power and Power Electronics, Texas Tech University, Lubbock, TX, United States

12:00 7A-7 EFFECT OF MAGNETIC FIELD ON THE PROPAGATION OF AR ATMOSPHERIC
PRESSURE NONTHERMAL PLASMA JETS
D. Zhou¹, Y. Piao¹, Y. Wang¹, J. Tang², C. Zhang¹

¹School of Electrical Engineering and Automation, Harbin Institute of Technology, harbin/heilongjiang, China
²Academy of Fundamental and Interdisciplinary Sciences, Harbin Institute of Technology, harbin/heilongjiang, China

12:15 7A-8 SELF-ORGANIZED PATTERN FORMATION IN AN ATMOSPHERIC-PRESSURE SINGLE DIELECTRIC BARRIER DISCHARGE
J. Zhang, Y. Wang, D. Wang
Dalian University of Technology, Dalian, China

12:30 7A-9 THERMAL CONDUCTIVITY OF 3D COMPLEX (DUSTY) PLASMAS USING HOMOGENEOUS NONEQUILIBRIUM MOLECULAR DYNAMICS COMPUTER EXPERIMENT
A. Shahzad¹,2, H. Mao-gang²
¹Physics, GC University Faisalabad, Faisalabad, Punjab, Pakistan
²Key Laboratory of Thermo-Fluid Science and Engineering of Ministry of Education (MOE), Xi’an Jiaotong University, Xi'an, Shaanxi, China

12:45 7A-10 MICROSTRUCTURE EVOLUTION AND MAGNETIC PROPERTIES OF NANOCRYSTALLINE Ni75Fe25 THIN FILMS: EFFECTS OF SUBSTRATE AND THICKNESS.
A. Kaibi¹, A. Guittoum², R. M. Öksüzoglu³, C. Yavru³, S. Özgün³, M. Boudissa⁴, M. Kechouane¹
¹Physics of Materials Laboratory (LPM), Faculty of Physics, University Of Sciences And Technology Houari Boumediene, Algiers, Algeria
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³Faculty of Engineering, Department of Materials Sciences and Engineering, İki Eylül Campus, University of Anadolu, 26555 Eskişehir, Turkey
⁴ENMC Laboratory, Physics Department, University of Sétif, Sétif, 19000, Algeria

Session 7B: Particle Acceleration with Lasers and Beams, Radiation Physics and X-Ray Lasers

Thursday, May 28 10:30-13:00, Opal II

Session Chair: Hyyong Suk, Gwangju Institute of Science and Technology

10:30 7B-1 (invited) OPTIMIZATION OF LASER TRIGGERED PROTON SOURCE AND NEW MECHANISMS OF ION ACCELERATION: FROM THIN SOLID-DENSE FOILS TO LOW-DENSE TARGET
A. V. Brantov, P. A. Ksenofontov, V. Y. Bychenkov
P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russian Federation

11:00 7B-2 (invited) FEMTosecond SOFT X-RAY LASER BY IONIZATION TEMPORAL GATING
S. Sebban
Laboratoire d’Optique Appliquée, Palaiseau, France

11:30 7B-3 DESIGN AND PRIMARY RESULTS OF X-RAY HEATING ALUMINUM FOIL EXPERIMENTS AT PTS FACILITY
Key Laboratory of Pulsed Power, Institute of Fluid Physics, CAEP, Mianyang 621999, China

11:45 7B-4 HIGH-ENERGY ELECTRON GENERATIONS BY A HIGH POWER LASER AND A DENSITY-TAPERED GAS CELL
H. Suk, I. Nam, M. Kim, S. Lee  
Dept. of Physics and Photon Science, Gwangju Institute of Science and Technology, Gwangju, South Korea

12:00 7B-5 CHROMATIC FOCUSING AND RE-ACCELERATION OF LASER DRIVEN PROTON BEAMS  
H. Ahmed  
Physics, Queen's University Belfast, Belfast, United Kingdom

12:15 7B-6 ASYMMETRIC LASER-PULSE BASED MAGNETIC FIELD ENHANCEMENT IN A PLASMA  
K. Gopal, M. Singh, D. N. Gupta  
University of Delhi, Department of Physics and Astrophysics, Delhi-110007, India

12:30 7B-7 DESIGN AND SIMULATION OF A NOVEL KLYNAC DEVICE FOR GENERATION OF BREMSSTRAHLUNG RADIATION  
K. E. Nichols, B. E. Carlsten, A. Malyzhenkov  
Los Alamos National Laboratory, Los Alamos, NM, United States

12:45 7B-8 THE ELECTRON DYNAMICS IN AN ION CHANNEL IN PRESENCE OF AN INHOMOGENEOUS BACKGROUNDFIELD  
A. Kargaryan¹, A. Sadighzadeh²  
¹plasma physics research school, Tehran, Iran  
²plasma physics research school, Tehran, Iran

Session 7C: Compact Pulsed Power and Applications

Thursday, May 28 10:30-13:00, Onyx

Session Chair: Georg Mueller, Karlsruhe Institute of Technology

10:30 7C-1 (invited) DESIGN AND CHARACTERIZATION OF A MARX GENERATOR FOR LOW IMPEDANCE HPM AND RADIOGRAPHIC LOADS  
A. Kuskov, A. Elshafiey, S. Horne, S. Portillo  
Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States

11:00 7C-2 COMPARING A DES TO A BREECH FED RAILGUN USING A SPICE SIMULATION  
S. Hundertmark  
ERG, ISL, Saint Louis, France

11:15 7C-3 EVOLUTION OF A LASER FILAMENTATION TRIGGERED ELECTRIC DISCHARGE IN AIR  
G. Point, L. Arantchouk, J. Carbonnel, A. Mysyrowicz, A. Houard  
Laboratoire d'Optique Appliquée - Ecole Polytechnique, ENSTA ParisTech, CNRS - France, Palaiseau, France

11:30 7C-4 CAPACITIVE ENERGY STORES WITH NANOSECOND ENERGY TRANSFER  
I. V. Lavrinovich¹, A. P. Artyomov¹, A. S. Zhigalin¹, V. I. Oreshkin¹, N. A. Ratakhin¹, A. G. Roussikh¹, A. V. Fedynin¹, S. A. Chaikovsky¹, A. A. Erfot¹, V. F. Feduschak²  
¹High Energy Density, Institute of High Current Electronics (HCEI SB RAS), Tomsk, Russian Federation  
²Joint Institute for High Temperatures RAS, Moskow, Russian Federation

11:45 7C-5 (invited) EXPERIMENTS WITH TWO STAGES OF THE AUGMENTED ELECTROMAGNETIC LAUNCHER (MASEL)  
M. Roch, S. Hundertmark  
French German Research Institute of Saint Louis (ISL), Saint-Louis, France
12:15 7C-6 COMPACT LTD FOR PULSED POWER APPLICATIONS
W. Jiang, A. Tokuchi
Nagaoka University of Technology, Nagaoka, Niigata, Japan

12:30 7C-7 A COMPACT REPETITIVE PFN-MARX GENERATOR
Z. Li, J. Yang, L. Liu
College of Photoelectric Science and Engineering, National University of Defense Technology, Changsha, China

12:45 7C-8 NON-THERMAL PLASMA EXCITED BY COMPACT NANOSECOND SOLID-STATE PULSE FORMING LINE IN ATMOSPHERIC AIR
J. Li, Y. Liu, X. Li, P. Dong, W. Wang
Institute of fluid physics, CAEP, Mianyang, Sichuan, China

**Session 7D: Fast Z pinches II**

Thursday, May 28 10:30-13:00, Quartz

Session Chair: Alexander L. Velikovich, NAVAL RESEARCH LABORATORY

10:30 7D-1 THE RESEARCH AND APPLICATION AN X-PINCH ON COMPACT PULSED POWER GENERATORS
A. S. Zhigalin
Institute of High Current Electronics SB RAS, Tomsk, Russian Federation

10:45 7D-2 POLARIMETRY MEASUREMENTS OF MAGNETIC FIELD AND ELECTRON DENSITY IN A HIGH REPETITION RATE DENSE PLASMA FOCUS
M. Krishnan¹, S. Chapman¹, P. L. Coleman², L. S. Caballero-Bendixen³, S. Bott-Suzuki³, S. Cordaro³
¹Alameda Applied Sciences Corporation, San Leandro, CA, United States
²Evergreen Hill Sciences, Philomath, OR, United States
³Center for Energy Research, University of California, San Diego, CA, United States

11:00 7D-3 INVESTIGATION OF A SPHERICAL PLASMA FOCUS CONCEPT AS A NEUTRON AND BREMSTRAHLUNG RADIATION SOURCE
Y. Ay¹, M. A. Abd Al-Halim², M. Bourham³
¹Department of Nuclear Engineering, North Carolina State University, Raleigh, NC, United States
²Department of Physics, Benha University, Benha, Egypt

11:15 7D-4 EXPERIMENTS AND SIMULATIONS OF MAGNETICALLY DRIVEN IMPLOSIONS IN HIGH REPETITION RATE DENSE PLASMA FOCUS
L. S. Caballero Bendixsen¹, S. C. Bott-Suzuki¹, S. W. Cordaro¹, M. Krishnan², S. Chapman², P. Coleman²
¹Center for Energy Research, University of California San Diego, La Jolla, CA, United States
²Alameda Applied Sciences Corporation, San Leandro, CA, United States

11:30 7D-5 HIGH CURRENT DISCHARGE IN HIGH PRESSURE GAS
M. E. Pinchuk, A. A. Bogomaz, A. V. Budin, P. G. Rutberg
Institute for Electrophysics and Electric Power of Russian Academy of Sciences, St.-Petersburg, Russian Federation

11:45 7D-6 3D MHD SIMULATION OF CAPILLARY DISCHARGE FOR THE BELLA PROJECT
G. A. Bagdasarov¹, P. V. Sasorov¹, V. A. Gasilov¹, O. O. Olkhovskaya¹, S. S. Bulanov², C. G. R. Geddes², H. -S. Mao³, C. B. Schroeder³, E. Esarey³, W. P. Leemans³
¹Space Plasma Research Center, University of California, San Diego, CA, United States
²Institute for Nuclear Physics, Fraszowka, Poland
³Center for Astrophysical Particle Physics, Stanford University, Stanford, CA, United States
12:00 7D-7 (invited) MEASUREMENTS OF THE MAGNETIC FIELD DISTRIBUTION IN A Z-PINCH PLASMA DURING AND NEAR STAGNATION, USING POLARIZATION SPECTROSCOPY
G. Rosenzweig¹, E. Kroupp¹, A. Starobinets¹, A. Fisher¹, Y. Maron¹, H. R. Strauss², J. L. Giuliani³, W. J. Thornhill³, A. L. Velikovich³
¹Weizmann Institute of Science, Rehovot, Israel
²HRS Fusion, West Orange, NJ, USA
³Naval Research Laboratory, Washington, DC, USA

12:30 7D-8 EXTENDED MHD PLASMA JETS WITH EXTERNAL MAGNETIC FIELDS
T. Byvank, P. C. Schrafel, C. E. Seyler, B. R. Kusse
Cornell University, Ithaca, NY, United States

12:45 7D-9 NUMERICAL INVESTIGATION ON PLASMA FORMATION AND CURRENT TRANSFER IN ELECTRICAL EXPLOSION OF SINGLE WIRE
Dept. of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China

Session 7E: Environmental and Industrial Applications II

Thursday, May 28 10:30-13:00, Topaz

Session Chair: Dongping Liu, Dalian Nationalities University

10:30 7E-1 EXPERIMENTAL AND NUMERICAL STUDY OF SHOCK WAVE PROPAGATION PRODUCED BY UNDERWATER ELECTRICAL WIRE EXPLOSION
Y. Chao, H. Zhou, R. Han, X. Li
Xi'an Jiaotong University, Xi'an, Shaanxi, China

10:45 7E-2 TEMPORAL EVOLUTION OF PLASMA SUSTAINED IN SINGLE BUBBLES IN LIQUID WATER
Y. Yang, Y. Tu, H. Xia, X. Lu
Huazhong University of Science and Technology, Wuhan, China

11:00 7E-3 INVESTIGATION OF THE DECOLORIZATION EFFICIENCY OF PIN-TO-PLATE CORONA DISCHARGE PLASMA SYSTEM FOR INDUSTRIAL WASTEWATER TREATMENT
A. El-Tayeb¹, A. H. El-Shazly³, M. F. El - Kady¹, A. B. Abdel-Rahman²
¹Chemical and Petrochemical Engineering Department, Egypt-Japan University of Science and Technology (E-just), New Borg El-Arab City, Alexandria, Egypt
²Electronics and Communications Engineering Department, Egypt-Japan University of Science and Technology (E-just), New Borg El-Arab City, Alexandria, Egypt

11:15 7E-4 DEGRADATION OF PHARMACEUTICAL RESIDUES IN WATER BY PULSED CORONA DISCHARGES - INVESTIGATION OF REACTION MECHANISM
R. Banaschik¹, J. F. Kolb³, C. Miron¹, K. -D. Weltmann¹, P. Lukes³, P. Bednarski³, S. Yu³, J. Zhang³, J. Fang³
¹Bioelectrics, Leibniz Institute for Plasma Science and Technology, Greifswald, Germany
²Pulse Plasma Systems, Institute of Plasma Physics, Prague, Czech Republic
11:30 7E-5 DIELECTRIC BARRIER DISCHARGE GENERATED FROM THE LIQUID ELECTROLYTE
D. Pavlinak, O. Galmiz, M. Zemanek, M. Cernak
Masaryk University Brno, Brno, Czech Republic

11:45 7E-6 TREATMENTS OF DYE WASTEWATER BY WATER SPOUT IN THE PULSED DBD
S. Jiang, K. Liu, Y. Wen
Institute of Electric Light Sources, Fudan University, Shanghai, China

12:00 7E-7 COMBINATION OF ADSORPTION WITH PULSE-MODULATED AC DBD DISCHARGE AND
OZONATION FOR MICROPOLLUTANT REMOVAL
P. Vanraes¹, G. Willems¹, A. Nikiforov¹, C. Leys¹, P. Surmont², F. Lynen², J. Vandamme³, J. Van Durme³
¹Department of Applied Physics, Ghent University, Ghent, Belgium
²Separation Science Group, Department of Organic Chemistry, Ghent University, Ghent, Belgium
³Research Group Molecular Odor Chemistry, Department of Microbial and Molecular Systems (M2S), KU Leuven,
Ghent, Belgium

12:15 7E-8 INVESTIGATION ON ATMOSPHERIC PLASMA SURFACE TREATMENT FOR
STRUCTURAL BONDING OF TITANIUM AND CFRP
J. Haag¹, T. Mertens¹, L. Kotte², S. Kaskel²
¹IW-MS, Airbus Group Innovations, Munich, Germany
²IWS, Fraunhofer Institute for Material and Beam Technology, Dresden, Germany

12:30 7E-9 MAGNETIC CONTROL OF ELECTRIC DISCHARGE LOCATION IN SUPersonic FLOW
A. A. Firsov¹, D. A. Yarantsev¹, S. B. Leonov²
¹Joint Institute for High Temperatures (JIHT RAS), Moscow, Russian Federation
²University of Notre Dame, Notre Dame, IN, USA

12:45 7E-10 INVESTIGATION ON THE PULSE-MODULATED RATIO FREQUENCY DISCHARGE AND
ITS APPLICATION ON THE NOX REMOVAL
Q. Wang, D. Wang
School of Physics and Optoelectronic Engineering, Dalian University of Technology, Dalian, 116023, China