

29th International Conference on Phenomena in Ionized Gases 2009

**Cancun, Mexico
12-17 July 2009**

Volume 1 of 2

Editors:

Jaime de Urquijo

Antonio Juarez

ISBN: 978-1-61567-694-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by Universidad Nacional de Autonoma de Mexico
Instituto de Ciencias Fisicas
All rights reserved.

Printed by Curran Associates, Inc. (2009)

For permission requests, please contact Universidad Nacional de Autonoma de Mexico
Instituto de Ciencias Fisicas
at the address below.

Universidad Nacional de Autonoma de Mexico
Instituto de Ciencias Fisicas
PO Box 48-3
62551 Cuernavaca, Morelos, Mexico

Phone: 52 555 622 7730
Fax: 52 555 622 7775

icpig2009@fis.unam.mx

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

**XXIX
INTERNATIONAL CONFERENCE ON
PHENOMENA IN IONIZED GASES**

Cancún, México

12-17 July, 2009



Sponsored by

International Union of Pure and Applied Physics
Universidad Nacional Autónoma de México
Universidad Autónoma Metropolitana
Universidad Autónoma Metropolitana-A
Instituto de Ciencias Físicas, UNAM
Institute of Physics Publishing
Consejo Mexiquense de Ciencia y Tecnología
Instituto de Ciencia y Tecnología del Distrito Federal
Wiley VCH
Aeroméxico

TABLE OF CONTENTS

Volume 1

GENERAL INVITED LECTURES

BOUNDARY PHENOMENA IN ELECTRONEGATIVE PLASMAS	1
<i>A. Kono</i>	
HELIUM AND HYDROGEN CHARGE EXCHANGE COLLISIONS AT KEV ENERGIES	2
<i>R. Cabrera-Trujillo</i>	
REACTION MECHANISMS IN INDUSTRIAL SILICON PLASMA ETCH REACTORS	3
<i>Gilles Cunge</i>	
REACTIVE PLASMA-SURFACE INTERACTION	4
<i>Juergen Meichsner</i>	
COMPARISON OF SURFACE AND VOLUME BREAKDOWN IN HIGH PRESSURE XENON MODEL LAMPS	5
<i>Erwin Kettlitz</i>	
THE PHYSICS OF SEMICONDUCTOR NANOCRYSTAL SYNTHESIS IN PLASMAS AND NANOCRYSTAL APPLICATIONS IN RENEWABLE ENERGY TECHNOLOGY	6
<i>Uwe Kortshagen</i>	
SHOCKS AND PARTICLE ACCELERATION IN MAGNETISED LASER PLASMAS FOR ASTROPHYSICS	7
<i>Nigel Woolsey</i>	
EXTREME STATES OF PLASMAS IN LABORATORY AND IN SPACE	8
<i>Vladimir E. Fortov</i>	
OBSERVATIONS OF LOW-FREQUENCY ELECTROSTATIC WAVES AND TURBULENCE IN THE IONOSPHERIC E-REGION	9
<i>Hans Pecséli</i>	
A REVIEW OF ELECTRODYNAMIC TETHERS FOR SCIENCE APPLICATIONS	10
<i>Juan R. Sanmartín</i>	

VON ENGEL PRIZE LECTURE

ANALYTICAL APPROACHES TO GLOW DISCHARGE PROBLEMS	11
<i>Lev D. Tsensin</i>	

IUPAP'S YOUNG SCIENTIST PRIZE

THE CHALLENGE OF REVEALING & TAILORING THE DYNAMICS OF RF PLASMAS	12
<i>Timo Gans</i>	

TOPICAL INVITED LECTURES

THE VALUE OF SWARM DATA FOR PRACTICAL MODELING OF PLASMA DEVICES	13
<i>A. P. Napartovich</i>	
MULTICOMPONENT TRANSPORT IN WEAKLY IONIZED MIXTURES	14
<i>V. Giovangigli</i>	
ATOM RECOMBINATION AT SURFACES ON PLASMAS	15
<i>V. Guerra</i>	
PLASMA-ASSISTED ATOMIC LAYER DEPOSITION OF ULTRATHIN OXIDE AND METAL FILMS	17
<i>W. M. M. Kessels</i>	
MICROSTRUCTURE CONTROL OF THIN FILM BY PLASMA DIAGNOSTICS IN MAGNETRON SPUTTERING	18
<i>J. G. Han</i>	

DIRECT INJECTION OF LIQUID PRECURSORS INTO LOW PRESSURE PLASMAS	19
<i>L. Overzet</i>	
DEVELOPMENTS OF FINE-PARTICLE PLASMA SYSTEMS FOR BASIC AND APPLICATION RESEARCHES	20
<i>Y. Hayashi</i>	
PLASMA TECHNIQUES FOR NANOTECHNOLOGIES	21
<i>M. Mozetic</i>	
PLASMA TECHNIQUES FOR NANOSTRUCTURED CARBON MATERIALS SYNTHESIS	22
<i>Bogdana Mitu</i>	
UV RADIATION IN AR-O₂, N₂-O₂ AND AR-O₂-N₂ MICROWAVE DISCHARGES AND POST-DISCHARGES	23
<i>Kinga Kutasi</i>	
PLASMA GENERATED BY MILLIMETER WAVE BEAMS. STUDY AND APPLICATIONS	24
<i>Vladimir Zorin</i>	
UNDERWATER ELECTRICAL WIRE EXPLOSION	25
<i>Yakov Krasik</i>	
MASS ANALYSIS OF ATMOSPHERIC DISCHARGES	26
<i>Gordana Malovic</i>	
PLASMA-ASSISTED CONVERSION OF GREENHOUSE GASES	27
<i>Sabine Paulussen</i>	
NON-INVASIVE VHF MONITORING OF ATMOSPHERIC PRESSURE PLASMA	28
<i>Victor Law</i>	
THE FORMATION OF BEAMS AND INSTABILITIES IN NJORD – A NEW PLASMA DEVICE FOR SPACE RELATED EXPERIMENTS	30
<i>Åshild Fredriksen</i>	
LARGE AREA HIGH-DENSITY HELICON PLASMA SOURCE	31
<i>Shunjiro Shinohara</i>	
COLLECTIVE EFFECTS IN COMPLEX PLASMA	32
<i>Beatrice M. Annaratone</i>	
MODELING AND SIMULATION OF REPETITIVELY PULSED STREAMER DISCHARGES BETWEEN PIN ELECTRODES IN PREHEATED AIR AT ATMOSPHERIC PRESSURE	33
<i>Anne Bourdon</i>	
VIBRATIONAL KINETICS OF AIR PLASMAS INDUCED BY SPRITES IN THE MESOSPHERE OF THE EARTH	34
<i>Francisco J. Gordillo-Vázquez</i>	
UNDERSTANDING BIFURCATIONS ENCOUNTERED IN NUMERICAL MODELLING OF CURRENT TRANSFER TO CATHODES OF DC GLOW AND ARC DISCHARGES	35
<i>María J. Faria</i>	
MICROPLASMA SYNTHESIS OF NANOPARTICLES	36
<i>R. Mohan Sankaran</i>	
BIO-DECONTAMINATION BY DC DISCHARGES AT ATMOSPHERIC PRESSURE: VARIOUS METHODS FOR IDENTIFICATION OF MICROBIAL INACTIVATION MECHANISMS	37
<i>Zdenko Machala</i>	
USE OF VOLUME AND SURFACE BARRIER DISCHARGES FOR MATERIAL TREATMENT: A COMPARISON	38
<i>Josef Rahel</i>	
<u>INTERACTIONS OF ELECTRONS, POSITRONS AND BEAM/SWARM STUDIES AND APPLICATIONS</u>	
TRANSPORT OF POSITRONS AND ELECTRONS IN GASES	39
<i>Ron D. White</i>	
LOW ENERGY ELECTRON SCATTERING CROSS SECTIONS AND TRANSPORT COEFFICIENTS	40
<i>Olivera Šašić</i>	
ION TRANSPORT, CROSS SECTIONS AND REACTIVITY IN GASES	41
<i>Antonio M. Juárez-Reyes</i>	
BASIC DATA NEEDED FOR ATMOSPHERIC PRESSURE NON-THERMAL PLASMA INVESTIGATIONS IN ENVIRONMENTAL AND BIOLOGICAL APPLICATIONS	42
<i>Mohammed Yousfi</i>	

THE PHYSICS AND TECHNOLOGY OF GASEOUS PARTICLE DETECTORS	43
<i>Paulo Fonte</i>	

NON-THERMAL PLASMAS RELEVANT TO FUSION

MULTIFACETED PHYSICS OF EDGE PLASMA IN MAGNETIC FUSION DEVICES	44
<i>Sergei Krasheninnikov</i>	
THE PLASMATRON VISION I FOR PLASMA-WALL INTERACTION STUDIES AT SCK-CEN WITH DEUTERIUM/TRITIUM PLASMA	45
<i>Guido Van Oost</i>	
NEGATIVE ION SOURCES FOR TOKAMAK NEUTRAL BEAM INJECTORS: A STUDY OF NEGATIVE ION PRODUCTION ON GRAPHITE SURFACE IN H₂ / D₂ PLASMA	46
<i>Gilles Cartry</i>	
EXPERIMENTAL INVESTIGATIONS AND MODELING OF LOW-TEMPERATURE PLASMA REACTOR FOR SIMULATING DISCHARGES SUCH AS THOSE EXPECTED UNDER A TOKAMAK DIVERTOR DOME	47
<i>Guillaume Lombardi</i>	

ELEMENTARY PROCESSES AND FUNDAMENTAL DATA

LOW KINETIC ENERGY PHOTOELECTRON ANGULAR DISTRIBUTIONS OF N=2 TO N=6 HELIUM SATELLITE STATES USING A VELOCITY MAP IMAGING SPECTROMETER	48
<i>L. M. Hoyos, E. C. Red, A. Aguilar, M. Hoener, A. M. Juárez</i>	
EXCITATION OF AR ATOMS INTO (3P⁵ 4P) STATES AT LOW-ENERGY AR-AR COLLISIONS	52
<i>S. Yu. Kurskov, A. S. Kashuba</i>	
CONFINEMENT POTENTIALS AND ULTRA-COLD PLASMA TRAPPING IN ATOMIC CHIPS: A NUMERICAL APPROACH	55
<i>J. López-Miranda, R. Cabrera-Trujillo, B. D. Esry</i>	
NUMERICAL APPROACH TOWARDS THE STUDY OF LASER-ASSISTED ATOMIC COLLISIONS	59
<i>F. J. Domínguez-Gutiérrez, R. Cabrera-Trujillo</i>	
STUDY OF VUV EMISSION OF KRYPTON USING TWO-PHOTON ABSORPTION LASER INDUCED FLUORESCENCE (TALIF) TECHNIQUE	63
<i>F. Marchal, G. Jabbour, M. Yousfi, G. Ledru, N. Sewraj</i>	
SPECTRAL DATA FOR CHLORINE CL I - CL XVII	67
<i>L. I. Podobedova</i>	
ABSOLUTE SINGLE PHOTOIONIZATION OF SE³⁺ IONS FOR THE DETERMINATION OF ELEMENTAL ABUNDANCES IN ASTROPHYSICAL NEBULAE	69
<i>D. A. Esteves, N. C. Sterling, A. L. D. Kilcoyne, R. C. Bilodeau, E. Red, R. A. Phaneuf, B. M. McLaughlin, C. P. Ballance, A. Aguilar</i>	
DETERMINATION OF COLLISIONAL QUENCHING RATE COEFFICIENT OF (N₂ (A³SU⁺) BY FORMALDEHYDE	73
<i>S. Suzuki, D. Shibuya, M. Aoyagi, H. Itoh</i>	
DOUBLE ELECTRON CAPTURE BY PROTONS FROM AR, H₂ AND HE	77
<i>O. González-Magaña, R. Cabrera-Trujillo, M. Salazar, C. Gleason, E. González, G. Hinojosa</i>	
COLLISION INDUCED FRAGMENTATION CROSS SECTIONS OF CO₂⁺ ON HE: EXPERIMENT AND THEORY	81
<i>O. González-Magaña, R. Cabrera-Trujillo, G. Hinojosa</i>	
BOLTZMANN EQUATION ANALYSIS OF THE OFF-DIAGONAL ELEMENTS OF THE DIFFUSION TENSOR IN ELECTRIC AND MAGNETIC FIELDS IN GASES	85
<i>S. Dujko, R. D. White, R. E. Robson, Z. Lj. Petrovic</i>	
ON THE EFFECT OF RUNAWAY ELECTRONS IN PARTIALLY IONIZED HYDROGEN DENSE PLASMA	89
<i>T. S. Ramazanov, K. M. Turekhanova</i>	
SWARM DATA OF (H₂O)NH⁺ IONS IN N₂, O₂ AND DRY AIR	91
<i>A. Bekstein, M. Benhenni, M. Yousfi</i>	
MOBILITY OF DAUGHTER NEGATIVE IONS IN IODO-FLUOROCARBON, FLUOROCARBON, AND HYDROFLUOROCARBON PARENT GASES	95
<i>J. De Urquijo, A. M. Juárez</i>	

ELECTRON DETACHMENT AND ION CONVERSION IN SF6: SIMULATION OF TIME-RESOLVED PULSED TOWNSEND PULSES	99
<i>O. Ducasse, J. De Urquijo, G. Ruíz-Vargas</i>	
THE ELECTRON DRIFT VELOCITY AND EFFECTIVE IONIZATION IN THE MIXTURES OF CF3I WITH Xe	103
<i>J. L. Hernández-ávila, E. Basurto, A. M. Juárez, J. De Urquijo</i>	
PRESSURE-DEPENDENT ELECTRON ATTACHMENT IN H2O-AIR MIXTURES	106
<i>G. Ruíz-Vargas, J. De Urquijo</i>	
ELECTRON SWARM COEFFICIENTS IN CO2-AIR MIXTURES	109
<i>J. De Urquijo, M. Yousfi, A. M. Juárez, A. Bekstein, E. Basurto, M. Benhenni, J. L. Hernández-ávila, O. Eichwald, N. Merbahi</i>	
INFLUENCE OF CATHODE MATERIAL AND BREAKDOWN CURRENT IN GLOW DISCHARGES	112
<i>L. Ledernez, F. Olcaytug, H. Yasuda, G. Urban</i>	
MODIFICATION OF PASCHEN'S LAW FOR ARGON	115
<i>L. Ledernez, F. Olcaytug, H. Yasuda, G. Urban</i>	

THERMODYNAMICS AND TRANSPORT PHENOMENA

REDUCED MODEL FOR ATOMIC THERMODYNAMIC PROPERTIES	118
<i>G. Colonna, P. M. Capitelli</i>	
EQUATION OF STATE OF WEAKLY NONIDEAL HYDROGEN PLASMAS WITH ACCOUNT OF CONVERGENT PARTITION FUNCTION FOR ATOMS AND MOLECULES	120
<i>A. N. Starostin, V. C. Roerich</i>	
BURNETT COEFFICIENTS IN DENSE CHARGED AND NEUTRAL SYSTEMS	124
<i>G. A. Pavlov</i>	

PLASMA WALL INTERACTIONS, ELECTRODE AND SURFACE EFFECTS

EROSION OF THE ELECTRODES IN HIGH-CURRENT PULSED DISCHARGE AND FORMATION OF MICRO- AND NANOSTRUCTURES	131
<i>V. S. Koidan, E. E. Barkalov, V. M. Gureev, M. N. Kazeev, V. F. Kozlov, Yu. S. Tolstov</i>	
INVESTIGATION OF PLASMA OF A MAGNETICALLY INSULATED ION DIODE IN BIPOLAR-PULSE MODE	135
<i>A. Pushkarev, M. Saltimakov, R. Sazonov, I. Isakov</i>	
FIELD-ENHANCED, AUGER EMISSION OF ELECTRONS FROM METALS	139
<i>B. Eismann, L. C. Pitchford</i>	
MEASUREMENTS OF IMPURITY GENERATION USING RESIDUAL GAS ANALYSIS AT THE MARYLAND CENTRIFUGAL EXPERIMENT	143
<i>C. A. Romero-Talamás, R. F. Ellis, A. B. Hassam, W. C. Young, C. Teodorescu, G. Taylor</i>	
SPATIAL STRUCTURE OF PLASMA AND NEUTRAL PARTICLES NEAR TUNGSTEN TARGET IN THE COMPACT PWI SIMULATOR APSEDAS	146
<i>Y. Higashizono, M. Sakamoto, K. Ogawa, K. Ozaki, T. Shoji, N. Ashikawa, M. Tokitani, K. Tokunaga, S. Masuzaki, K. Ohya, A. Sagara, K. N. Sato</i>	

PLASMA WALL INTERACTIONS, ELECTRODE AND SURFACE EFFECTS

ELECTRON COLLISIONS IN DISSIPATIVE DRIFT WAVE INSTABILITY	149
<i>J. Vranjes, S. Poedts</i>	
SHEATH THEORY IN HOT TWO-ION ELECTRON PLASMA	153
<i>J. Vranjes, S. Poedts</i>	
INSTABILITY-ENHANCED COLLISIONAL FRICTION DETERMINES THE BOHM CRITERION IN MULTIPLE-ION-SPECIES PLASMAS	157
<i>S. D. Baalrud, C. C. Hegna, J. D. Callen</i>	
MODELING OF AFTEREFFECT PHENOMENA IN MODIFIED IONOSPHERE PLASMA	161
<i>A. V. Kochetov</i>	
DYNAMICS OF CAVITATIONS INDUCED BY TANDEM SHOCK WAVES IN WATER	165
<i>P. Hoffer, P. Sunka, V. Stelmashuk</i>	

EXISTENCE AND STABILITY OF ONE-DIMENSIONAL BRIGHT SOLITONS IN WARM PLASMAS	169
<i>M. A. Maza-Palacios, J. J. E. Herrera</i>	
UNDERSTANDING BIFURCATIONS ENCOUNTERED IN NUMERICAL MODELLING OF CURRENT TRANSFER TO CATHODES OF DC GLOW AND ARC DISCHARGES	173
<i>P. G. C. Almeida, M. S. Benilov, M. D. Cunha, M. J. Faria</i>	
MODELLING SELF-ORGANIZATION ON DC GLOW CATHODES	177
<i>P. G. C. Almeida, M. S. Benilov, M. J. Faria</i>	
SELF ORGANIZATION PHENOMENON IN DBD GENERATED BY PIEZOELECTRIC TRANSFORMER AND ACCUMULATED CHARGES ON DIELECTRIC ELECTRODE	181
<i>H. Itoh, K. Teranishi, S. Suzuki, N. Shimomura</i>	
STRIATIONS IN CARBON DIOXIDE, ARGON AND KRYPTON RF PLASMAS	185
<i>N. Brémare, P. Boubert, C. Rond, V. Morel, B. G. Chéron</i>	
ON THE PROBLEM OF A CYLINDRICAL PROBE IN AN AXIAL MAGNETIC FIELD	189
<i>J. E. Allen</i>	
COAXIAL DISCHARGE UNDER THE INFLUENCE OF A MAGNETIC FIELD	193
<i>T. M. G. Zimmermann, M. Coppins, J. E. Allen</i>	

MODELING AND SIMULATION TECHNIQUES

REACTIVE SPUTTER DEPOSITION OF TIOX FILMS IN A MAGNETRON DISCHARGE, DESCRIBED WITH A PARTICLE-IN-CELL/MONTE CARLO COLLISIONS MODEL	197
<i>E. Bultinck, A. Bogaerts</i>	
COMPUTER SIMULATIONS IN ELECTRONEGATIVE PLASMA	201
<i>P. Bartoš, R. Hrach, V. Hrachová, M. Švarc, J. Harvalík</i>	
NECESSITY TO WELL VALIDATING PLASMA AND MATERIAL CHARACTERISTICS IN A SIMPLE CONFIGURATION BEFORE INVESTIGATION IN COMPLEX GEOMETRIES	205
<i>J. J. Gonzalez, P. Freton, M. Masquère, R. Valdivia, M. Pacheco</i>	
MODELING OF THE EFFECT OF RADICALS ON PLASMAS USED FOR ETCHING IN MICROELECTRONICS	209
<i>Ž. Nikitovic, M. Radmilovic-Radenovic, V. Stojanovic, Z. Lj. Petrovic</i>	
MODELING OF SELF ORGANIZED FILAMENTS IN DIELECTRIC BARRIER DISCHARGE XE EXCIMER LAMP	212
<i>H. Akashi, A. Oda, Y. Sakai</i>	
MODELING OF MOTIONS OF FAST PROTONS IN FILAMENTARY PINCHES	216
<i>M. J. Sadowski, M. Scholz, W. Stepniewski, K. Malinowski</i>	
AN ALTERNATIVE DESCRIPTION OF ION MOTION IN A PLASMA SHEATH	220
<i>J. Blažek, P. Bartoš, J. Harvalík, P. Špatenka,</i>	
LARGE EDDY NUMERICAL SIMULATION OF MHD MIXING LAYERS	225
<i>L. Bilbao, F. T. Gratton, G. Gnani</i>	
MODELING OF IODINE ATOM PRODUCTION BY PULSED DISCHARGES	229
<i>A. Napartovich, I. Kochetov, N. P. Vagin, N. N. Yuryshev</i>	
COMPARISON OF ELECTRON BOLTZMANN CALCULATIONS AND MONTE CARLO SIMULATIONS FOR SPATIALLY INHOMOGENEOUS, BOUNDED PLASMAS	232
<i>G. K. Grubert, M. M. Becker, F. Sigeneger, D. Loffhagen</i>	
INFLUENCE OF REABSORPTION AND INHOMOGENEOUS ABSORPTION OF PLASMA RADIATION ON THE SPATIAL DISTRIBUTION OF EXCITED ATOMS	236
<i>D. Demchuk, Yu. Golubovskii, S. Gorchakov, D. Loffhagen, F. Sigeneger, A. Timofeev, D. Uhrlandt</i>	
THE EFFECT OF THE ENERGY DEPENDENCE OF THE CHARGE TRANSFER ON THE ENERGY OF PARTICLES BOMBARDING THE CATHODE OF GLOW DISCHARGE	240
<i>A. L. Lyapin</i>	
NEGATIVE ION CLUSTER FORMATION IN OXYGEN CLOSE TO ATMOSPHERIC PRESSURE: COMPARISON OF EXPERIMENTAL AND SIMULATED WAVEFORMS	242
<i>O. Ducasse, G. Ruíz-Vargas, J. De Urquijo</i>	
UNSTABLE OPERATION IN INDUCTIVELY COUPLED CHLORINE DISCHARGES	246
<i>E. Despiau-Pujo, P. Chabert</i>	
RF DISCHARGE CHARACTERISTICS FROM PARTICLE MODEL BASED ON TWO OPTIMIZED MONTE CARLO METHODS FOR COLLISION TREATMENT	250
<i>D. Benyoucef, M. Yousfi, B. Belmadani</i>	

PLASMA DIAGNOSTIC METHODS

GAS PHASE AND SURFACE KINETICS SUITABLE FOR 3D SIMULATIONS OF SIH₄-H₂ DISCHARGES USED IN PHOTOVOLTAIC APPLICATIONS	254
<i>Aurel Salabas</i>	
INNER SHELL PHOTOIONIZATION OF LASER-ABLATED SULPHUR CLUSTERS	256
<i>J. Alvarez Ruiz, A. Casu, M. Coreno, M. De Simone, L. M. Hoyos, A. M. Juarez, A. Kivimäki, S. Orlando, M. Sanz, C. Spezzani, M. Stankiewicz, D. M. Trucchi</i>	
ANALYSIS OF VUV EMISSION FROM A MONO-FILAMENTARY DIELECTRIC BARRIER DISCHARGE IN PURE NITROGEN.	260
<i>P. Rodriguez Akerreta, G. Ledru, F. Marchal, N. V. Sewraj, M. Yousofi</i>	
LASER INDUCED FLUORESCENCE OF XENON IONS IN A MAGNETIZED PLASMA	264
<i>I. A. Biloiu, E. E. Scime, C. Biloiu</i>	
OPTICAL SPECTROSCOPY OF PLASMA STREAMS AND PLASMA-TARGET INTERACTIONS	269
<i>E. Skladnik-Sadowska, M. J. Sadowski, K. Czaus, K. Malinowski, M. Scholz</i>	
OPTICAL EMISSION SPECTROSCOPY PARALLEL TO THE AXIS OF RF DISCHARGE: APPLICATION TO N₂*(C3PU) VIBRATIONAL TEMPERATURE ESTIMATION	273
<i>P. Svarnas, J. W. Bradley</i>	
SPECTROSCOPIC CHARACTERIZATION OF ELECTRICAL DISCHARGE PLASMA IN LIQUIDS USED FOR NANOPARTICLES FABRICATION	277
<i>V. Burakov, N. Tarasenko, A. A. Nevar, V. I. Nedelko</i>	
LANGMUIR PROBE AND OPTICAL EMISSION SPECTROSCOPY STUDIES OF LOW-PRESSURE GAS MIXTURE OF O₂ AND N₂	280
<i>L. Flores, A. Gomez, C. Torres, P. G. Reyes, M. Calixto, H. Martínez</i>	
DIAGNOSTIC STUDIES OF N₂-O₂-AR GLOW DISCHARGE MIXTURE	284
<i>A. Gomez, L. Flores, C. Torres, P. G. Reyes, F. Castillo, H. Martínez</i>	
LOW-PRESSURE PLASMA DISCHARGE OF AR/N₂/CO₂ TERNARY MIXTURE	288
<i>G. García-Cosío, M. Calixto-Rodriguez, H. Martinez</i>	
OES INVESTIGATION OF MICROHOLLOW CATHODE DISCHARGE IN ARGON	292
<i>G. Xia, N. Sadeghi</i>	
DETERMINATION OF PLASMA PARAMETERS IN NEON RF DISCHARGE BY OPTICAL EMISSION SPECTROSCOPY	295
<i>Z Navrátil, D Trunec</i>	
LIF AND ABSORPTION IN A HIGH ELECTRON DENSITY PLASMA	299
<i>A. E. Shumack, J. Biesheuvel, R. A. H. Engeln, W. J. Goedheer, N. J. Lopes Cardozo, H. J. Van Der Meiden, J. Rapp, D. C. Schram, W. A. J. Vijvers, J. Westerhout, G. M. Wright, G. J. Van Rooij</i>	
INVESTIGATION OF ATMOSPHERIC PRESSURE AIR PLASMA BY TWO-PHOTON LASER INDUCED FLUORESCENCE	303
<i>F. Kaddouri, G. D. Stancu, D. A. Lacoste, C. O. Laux</i>	
OPTICAL EMISSION SPECTROSCOPY STUDY OF DC DISCHARGES IN TERNARY MIXTURES OF N₂, O₂, CO₂ AND H₂O AT LOW PRESSURE	307
<i>M. Tapia-Gaspar, M. Hernández-Hernández, E. Basurto, C. Vargas, J. L. Hernández-ávila</i>	
COMPARISON OF LABORATORY AND INDUSTRIAL SCALE ATMOSPHERIC PRESSURE PLASMA PROCESSING SYSTEMS USING REAL-TIME NON-INVASIVE PERFORMANCE ANALYSIS TOOLS	311
<i>J. Tynan, V. J. Law, P. Ward, A. M. Hynes, J. Cullen, G. Byrne, D. P. Dowling</i>	
DEVELOPMENT OF REAL-TIME NON-INVASIVE PERFORMANCE ANALYSIS TOOLS FOR ATMOSPHERIC PRESSURE PLASMA SYSTEM MONITORING	315
<i>J. Tynan, V. J. Law, B. Twomey, A. M. Hynes, S. Daniels, G. Byrne, D. P. Dowling</i>	
ION-ACOUSTIC WAVE INTERACTION WITHIN A HELIUM PLASMA LINEAR JET: CALCULATION OF TE	319
<i>V. J. Law, Q. T. N. Al-Gwari, D. O'Connell, M. M. Iqbal, G. Cambell, S. Daniels</i>	
NEUTRAL GAS TEMPERATURE MEASUREMENTS IN INDUCTIVELY COUPLED ARGON PLASMAS	323
<i>J. S. Poirier, P. M. Bérubé, J. Margot, M. Chaker, L. Stafford</i>	
DIAGNOSTIC BASED MODELING FOR DETERMINING ABSOLUTE ATOMIC OXYGEN DENSITIES IN RADIO-FREQUENCY ATMOSPHERIC PRESSURE HELIUM-OXYGEN PLASMAS	327
<i>K. Niemi, S. Reuter, L. M. Graham, J. Waskoenig, T. Gans</i>	

STUDY OF THE CF RADICAL LOSS PROCESSES IN THE AFTERGLOW PHASE OF PULSED CF4 + H2 RF PLASMAS BY MEANS OF THE IR-TDLAS	331
<i>S. Stepanov, J. Meichsner</i>	
EXPERIMENTAL QUANTIFICATION OF TRANSIENT HEAT FLUX DEPOSITED BY AN ELECTRIC ARC TO A CARBON ANODE	335
<i>M. Masquère, R. Ramanantsoa, J. J Gonzalez, P. Fretton, J. Pacheco</i>	
INTENSITY ENHANCEMENT IN DOUBLE-PULSE LASER-INDUCED BREAKDOWN SPECTROSCOPY IN VACUUM	338
<i>C. Sánchez-Aké, Marduk Bolaños, M. Villagrán-Muñiz</i>	
LASER CREATION OF ALUMINIUM PLASMA FROM A SOLID TARGET: A MODEL	342
<i>V. Morel, A. Bultel, D. Benredjem, B. G. Chéron</i>	
TOMOGRAPHIC RECONSTRUCTION ON 3D OBJECTS	346
<i>P. Fretton, J. J. Gonzalez, M. Masquère, J. Benech</i>	
MEASUREMENT OF ELECTRONIC TEMPERATURE AND RESISTIVITY IN A PULSED CO2 DISCHARGE	349
<i>A. Robledo-Martinez, H. Sobral, A. Ruiz-Meza, H. Granados</i>	

ASTROPHYSICAL, GEOPHYSICAL AND OTHER NATURAL PLASMAS

EXCITATION OF ROSSBY WAVES BY HF ELECTROMAGNETIC SEISMIC EMISSIONS IN THE EARTH'S MESOSPHERE	352
<i>N. L. Tsintsadze, T. D. Kaladze, L. V. Tsamalashvili</i>	
EXCITATION OF DUST-LOWER-HYBRID WAVE AND CUSP SOLITON	356
<i>Z. Ehsan, N. L. Tsintsadze</i>	
NONLINEAR LANDAU DAMPING OF CIRCULARLY POLARIZED EMW PROPAGATING IN DUSTY PLASMAS	360
<i>Z. Ehsan, N. L. Tsintsadze, J. Vranjes, S. Poedts</i>	
THE POLARIZATION JET INFLUENCE ON THE SUBAURORAL IONOSPHERIC STRUCTURE	365
<i>Ye. Bondar, I. Golikov, V. Khalipov, A. Koryakin, V. Popov, T. Solovyev, A. Stepanov</i>	
AN INVESTIGATION OF THE MECHANISMS OF AURORAL KILOMETRIC RADIATION THROUGH COMPARATIVE 3D PIC MODELLING AND LABORATORY EXPERIMENTS	368
<i>K. M. Gillespie, K. Ronald, D. C. Speirs, S. L. McConville, A. D. R. Phelps, A. W. Cross, C. W. Robertson, C. G. Whyte, R. Bingham, B. J. Kellett, I. Vorgul, R. A. Cairns</i>	
VIBRATIONAL KINETICS OF AIR PLASMAS INDUCED BY SPRITES IN THE MESOSPHERE OF THE EARTH	372
<i>F. J. Gordillo-Vázquez</i>	
PROPAGATION OF FAST CORONAL MASS EJECTIONS AND INTERPLANETARY SHOCKS	374
<i>J. A. González-Esparza, P. Corona-Romero, E. Aguilar-Rodríguez</i>	

LOW PRESSURE DISCHARGES

EXPERIMENTAL INVESTIGATIONS AND MODELING OF LOW-TEMPERATURE PLASMA RECTOR FOR SIMULATING DISCHARGES SUCH AS THOSE EXPECTED UNDER TOKAMAK DIVERTOR DOME	378
<i>L. Colina Delacqua, M. Redolfi, G. Lombardi, A. Michau, X. Bonnin, K. Hassouni</i>	
THE TEMPORAL EVOLUTION OF THE ION BOMBARDING ENERGY AT THE SUBSTRATE IN A HIPIMS DISCHARGE	382
<i>Anurag Mishra, P. J. Kelly, J. W. Bradley</i>	
ISOTOPE MIXING IN PLASMAS OF H2 AND D2 BY ION PROCESSES AND WALL REACTIONS	386
<i>I. Tanarro, V. J. Herrero</i>	
STUDY OF AN AFTERGLOW OF A LOW-PRESSURE DC DISCHARGE IN AIR	390
<i>C. D. Pintassilgo, V. Guerra, O. Guaitella, A. Rousseau</i>	
LOW PRESSURE BREAKDOWN IN WATER VAPOUR	394
<i>D. Maric, N. Škoro, G. Malovic, W. G. Graham, Z. Lj. Petrovic</i>	
FLUORESCENCE AND PLASMA CREATED BY A RELATIVISTIC ELECTRON BEAM IN AIR	398
<i>A. Gleizes, P. Teulet, R. Worbel, S. Darbon, A. Piquemal, A. Binet, V. Le Flanchec</i>	
ROTATION OF PLASMA IN MAGNETIC FIELD	402
<i>B. M. Annaratone, A. Escarguel, C. Rebont, N. Claire</i>	

HIGH CURRENT PLASMA ELECTRON SOURCES	406
<i>Ya. E. Krasik, J. Z. Gleizer, D. Yarmolich, V. Vekselman, Y. Hadas, J. Felsteiner</i>	
PSEUDOSPARK-SOURCED ELECTRON BEAM FOR TERAHERTZ RADIATION GENERATION	410
<i>A. W. Cross, H. Yin, W. He, D. Bowes, K. Ronald, A. D. R. Phelps, D. Li, J. Zhou, X. Chen, J. Protz, M. Verdiel, M. Reynolds, T. Schuhmann</i>	
CURRENT-VOLTAGE CHARACTERISTICS AND PASCHEN'S-LIKE LAW FOR DC DISCHARGES IN TERNARY MIXTURES OF N₂, O₂, CO₂ AND H₂O AT LOW PRESSURES	413
<i>M. Hernández-Hernández, M. Tapia-Gaspar, E. Basurto, C. Vargas, J. L. Hernández-ávila</i>	

Volume 2

HIGH FREQUENCY DISCHARGES

INFLUENCE OF THE MAGNETIC FILTER FIELD ON THE PLASMA HOMOGENEITY OF LARGE RF-DRIVEN NEGATIVE HYDROGEN ION SOURCES	416
<i>U. Fantz, P. Franzen, W. Kraus, R. Gutser, P. McNeely, D. Wunderlich</i>	
STUDY ON THE LENGTH OF A RESONANCE CAVITY, OF WHICH THE END PLATE IS REPLACED WITH HIGH DENSITY PLASMA	420
<i>S. Kogoshi, S. Morioka, N. Katayama, Y. Kudo</i>	
MEASUREMENT OF PLASMA POTENTIAL WAVEFORM IN CAPACITIVE DISCHARGE	424
<i>P. Dvorák</i>	
LANGMUIR PROBE MEASUREMENTS OF A LARGE SCALE RF ASYMMETRIC CAPACITIVE COUPLED PLASMA	427
<i>S. Lazovic, N. Puac, G. Malovic, Z. Lj. Petrovic</i>	
MODELLING OF CAPACITIVELY COUPLED RADIO-FREQUENCY DISCHARGES IN NITROGEN	431
<i>L. Marques, C. D. Pintassilgo, G. Alcouffe, G. Cernogora, L. L. Alves</i>	
HEATING OF METAL PRODUCTS IN A LOW PRESSURE AIR CAPACITIVE DISCHARGE	434
<i>A. G. Shishkin, G. G. Shishkin, A. P. Plokhii, G. V. Soganova</i>	
CHARACTERIZATION OF A PLASMOID IN THE AFTERGLOW OF A SUPERSONIC FLOWING MICROWAVE DISCHARGE	438
<i>D. J. Drake, M. Nikolic, S. Miller, S. Popovic, L. Vuškovic</i>	
WAVE CHARACTERISTICS OF A LARGE DIAMETER, HIGH-DENSITY HELICON PLASMA: EFFECTS OF AXIAL BOUNDARY CONDITIONS	442
<i>T. Motomura, S. Shinohara, T. Tanikawa, K. P. Shamrai</i>	
FORMATION OF ION-ION PLASMAS AND ION BEAMS IN CONTINUOUSLY RF GENERATED PLASMAS	446
<i>A. Aanesland, L. Popelier, P. Chabert</i>	

THERMAL PLASMAS

INTERACTIONS BETWEEN ATMOSPHERIC PRESSURE PLASMA JETS	448
<i>Q. Th. Algwari, C. O'Neill, D. O'Connell</i>	
FLUID MODELLING OF THE CONSTRICTION OF THE DC COLUMNS PLASMA IN RARE GASES	451
<i>M. Gnybida, D. Loffhagen, D. Uhrlandt, F. Sigeneger</i>	
MODELLING OF A PULSED ARGON DISCHARGE NEAR A FLAT DIELECTRIC SURFACE	455
<i>A. Sobota, J. Van Dijk, E. M. Van Veldhuizen, W. W. Stoffels, J Hendriks, F. Manders, M. Haverlag</i>	
COUPLED PLASMA AND GAS DYNAMICS IN DC MICROPLASMAS	459
<i>M. Jugroot</i>	
NUMERICAL SIMULATIONS OF ATMOSPHERIC PRESSURE DISCHARGE USING A THREE-DIMENSIONAL FLUID MODEL	462
<i>M. M. Iqbal, M. M. Turner</i>	
CHARACTERISTICS OF ATMOSPHERIC PRESSURE DISCHARGE USING A TWO-DIMENSIONAL FLUID MODEL	466
<i>M. M. Iqbal, M. M. Turner</i>	
ENERGY COUPLING TO THE PLASMA IN A SPATIALLY UNIFORM NANOSECOND PULSE DISCHARGE	470
<i>Igor V. Adamovich, Munetake Nishihara</i>	

VIBRATIONAL TEMPERATURE AND VIBRATIONAL RELAXATION OF MOLECULAR OXYGEN IN THE AFTERGLOW OF PULSED CORONA DISCHARGE	474
<i>R. Ono, Y. Teramoto, T. Oda</i>	
MEASUREMENT OF N₂(A₃S+ U) METASTABLE IN N₂ PULSED POSITIVE CORONA DISCHARGE WITH TRACE AMOUNTS OF ADDITIVES	476
<i>Y. Teramoto, R. Ono, T. Oda</i>	
A HIGH EFFICIENCY BIPOLAR PULSED POWER SOURCE FOR DBD DISCHARGES	479
<i>R. Valdivia-Barrientos, M. Pacheco-Pacheco, J. Pacheco-Sotelo, N. Estrada-Martínez, F. Ramos-Flores, J. García-García, Pierre Freton</i>	
EFFECT OF APPLIED VOLTAGE PARAMETERS ON THE ELECTRIC CHARACTERISTICS OF A DBD IN COAXIAL ELECTRODE CONFIGURATION	483
<i>D. Petrovic, T. Martens, C. De Bie, J. Van Dijk, W. Brok, A. Bogaerts</i>	
DIELECTRIC BARRIER-FREE ATMOSPHERIC PRESSURE RADIO-FREQUENCY GLOW DISCHARGES IN NARROW GAPS	487
<i>J. Laimer, H. Reicher, Qurat-Ul-Ain</i>	
DIAMETERS OF POSITIVE STREAMERS IN PURE N₂/O₂ MIXTURES	490
<i>S. Nijdam, F. M. J. H. Van De Wetering, E. M. Van Veldhuizen, U. Ebert</i>	
DEVELOPMENT OF A TRIELECTRODE PLASMA CURTAIN AT ATMOSPHERIC PRESSURE WITH DIFFERENT DIELECTRIC CONFIGURATION	494
<i>D. Grondona, R. Sosa, A. Márquez, G. Artana, H. Kelly</i>	
ELECTRICAL MODELING OF A TRIELECTRODE SLIDING DISCHARGE	498
<i>F. O. Minotti, D. Grondona, P. Allen, H. Kelly</i>	
ATMOSPHERIC PRESSURE MOLECULAR GAS GLOW DISCHARGES IN A THREE-ELECTRODE CONFIGURATION	502
<i>V. I. Arkhipenko, A. A. Kirillov, Ya. A. Safronau, L. V. Simonchik</i>	
SELF-SUSTAINED NORMAL DC ATMOSPHERIC PRESSURE GLOW DISCHARGES IN NOBLE AND MOLECULAR GASES: FROM MICROAMPERE DISCHARGE UP TO HIGH CURRENT ONE	506
<i>V. I. Arkhipenko, A. A. Kirillov, Ya. A. Safronau, L. V. Simonchik, S. F. Zgirouski</i>	
PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE PLASMA BULLETS	510
<i>M. Laroussi, A. Begum, E. Karakas, J. Jarrige, N. Mericam-Bourdet, S. Dahli</i>	
SIMULATION OF THE OPTICAL EMISSION OF A DISCHARGE IN AIR AT ATMOSPHERIC PRESSURE BETWEEN TWO POINT ELECTRODES	515
<i>Z. Bonaventura, S. Celestin, A. Bourdon</i>	
O₄⁺ IONS IN DRY AIR: SWARM DATA AND CORONA DISCHARGE SIMULATIONS	519
<i>A. Bekstein, O. Ducasse, M. Benhenni, M. Yousfi, O. Eichwald</i>	
COMPARATIVE ANALYSES OF ELECTRICAL CHARACTERISTICS OF SURFACE AND VOLUME CORONA DISCHARGES IN AMBIENT AIR AT ATMOSPHERIC PRESSURE	523
<i>J. P. Gardou, N. Merbahi, M. Yousfi</i>	
SPECTROSCOPIC INVESTIGATIONS OF CORONA DISCHARGE IN HIGH PRESSURE HELIUM AT 300K	527
<i>N. Bonifaci, Z.-L. Li, A. Denat, V. M. Atrazhev, V. A. Shakhmatov, K. Van Haeften</i>	
CORONA DISCHARGE IN FLUID HELIUM: DRASTIC GROWTH OF ELECTRON MOBILITY	532
<i>N. Bonifaci, Z.-L. Li, A. Denat, V. M. Atrazhev, A. G. Khrapak</i>	
TWO-DIMENSIONAL POTENTIAL AND CHARGE DISTRIBUTIONS ON INSULATOR WITH PROPAGATING POSITIVE SURFACE STREAMER	535
<i>D. Tanaka, S. Matsuoka, A. Kumada, K. Hidaka</i>	
CHARGE AND ELECTRIC FIELD DISTRIBUTIONS OF SURFACE LEADER	539
<i>A. Kumada, K. Hidaka</i>	
SPARK CHANNEL DYNAMICS OF NANOSECOND REPETITIVELY PULSED DISCHARGES IN AIR AT ATMOSPHERIC PRESSURE	543
<i>D. Z. Pai, M. A. Cappelli, C. O. Laux, D. A. Lacoste</i>	
CYLINDRICAL RF DISCHARGE WITH A FREE BOUNDARY AT ATMOSPHERIC PRESSURE	547
<i>Y. C. Sutton, G. V. Naidis, P. C. Johnson, J. Moore, D. Sharp, N. St. J. Braithwaite</i>	
STRUCTURE OF A MICRO HOLLOW CATHODE DISCHARGE IN THE CONTINUOUS REGIME IN PURE ARGON	551
<i>C. Lazzaroni, P. Chabert, A. Rousseau, N. Sadeghi</i>	
MOLECULAR-BEAM MASS SPECTROMETRY OF ATMOSPHERIC PRESSURE MICRO PLASMAS	554
<i>D. Ellerweg, J. Benedikt, A. Von Keudell</i>	
FORMATION OF LOW VOLTAGE MICRO-PLASMAS IN A LIQUID ENVIRONMENT	557
<i>L. Schaper, W. G. Graham</i>	

MEASUREMENT OF SURFACE POTENTIAL AND DISCHARGE POWER FOR PIEZOELECTRIC TRANSFORMER-BASED PLASMA REACTORS: IMPROVEMENT OF POTENTIAL DIVIDER.....	559
<i>K. Teranishi, S. Saitoh, N. Shimomura, S. Suzuki, H. Itoh</i>	
COUPLING A GLIDING ELECTRIC ARC WITH ALTERNATING CURRENT GENERATOR.....	563
<i>M. Garduño, J. Pacheco, R. Valdivia, J. Portillo, C. Torres</i>	
CONTOURING FLEXIBLE PLASMA STAMPS.....	567
<i>A. Marchesseault, N. Lucas, S. Büttgenbach</i>	
SIMULATION OF CATHODE BOUNDARY LAYER DISCHARGES.....	571
<i>E. Muñoz-Serrano, J.P. Boeuf, L.C. Pitchford</i>	
HIGH-VOLTAGE TANGENT DELTA DETERMINATION FOR DIELECTRIC BARRIER DISCHARGE INTENDED MATERIALS.....	574
<i>J. Rahel, D. Galusek, K. Ghillanyova</i>	
SILVER COATING OF PP TEXTILE BY UNDERWATER DIAPHRAGM DISCHARGE.....	N/A
<i>G. Neagoe, A. A. Brablec, J. Rahel, P. Slavicek, M. Zahoran</i>	
RADIATION PROPERTIES OF ARGON THERMAL PLASMA IN VARIOUS SPECTRAL REGIONS.....	577
<i>V. Aubrecht, M. Bartlova, N. Bogatyreva</i>	
PATTERNS OF CURRENT TRANSFER TO THERMIONIC CATHODES IN A WIDE RANGE OF CONDITIONS.....	581
<i>M.S. Benilov, M.D. Cunha, M.J. Faria</i>	
COMPARATIVE ANALYSIS OF THE NEAR-ANODE AND NEAR-CATHODE BOUNDARY LAYERS IN HIGH-PRESSURE ARC DISCHARGES.....	585
<i>N.A. Almeida, M.S. Benilov</i>	
INTERACTION OF THERMAL PLASMA JET GENERATED BY HYBRID GAS-WATER TORCH WITH THE SURROUNDING.....	589
<i>T. Kavka, A. Maslani, V. Kopecky, M. Hrabovsky, O. Chumak</i>	
MAGNETIC EFFECT IN TWO DIFFERENT CONFIGURATIONS OF PLASMA REACTORS.....	593
<i>C. Torres, J. Pacheco, F. Ramos, M. Garduño, J.J. Gonzalez, M. Masquère</i>	

COMPLEX AND DUSTY PLASMAS

ELECTRON BEAM DRIVEN SURFACE PLASMA WAVES IN A MAGNETIZED DUSTY PLASMA CYLINDER.....	597
<i>S.C. Sharma, V. Prakash</i>	
ION FOCUSING BEHIND FINITE SIZE OBJECTS IN FLOWING PLASMAS; NUMERICAL STUDIES IN TWO AND THREE DIMENSIONS.....	602
<i>W.J. Miloch, H.L. Pécseli, J. Trulsen</i>	
PROPERTIES OF DUST FORMATIONS IN STRATIFIED HELIUM-ARGON DC DISCHARGE.....	605
<i>T.T. Daniyarov, T.S. Ramazanov, S.K. Kodanova, M.K. Dosbolayev, E.B. Zhankarashev</i>	
FLUID COMPUTER SIMULATIONS IN PLASMA PHYSICS: ELECTRICAL CHARGING OF MICRON-SIZED PARTICULATES IN PLASMA SHEATH.....	607
<i>P. Bartoš, M. Švarc, J. Harvalík, J. Blažek, P. Špatenka</i>	
PIC-MC CODE FOR THE TRANSPORT OF PLASMA PARTICLES AND SURFACE PRODUCED NEGATIVE IONS ACROSS A MAGNETIC FIELD.....	610
<i>D. Wunderlich, R. Gutser, U. Fantz</i>	
FLUID MODEL OF ION-ION PLASMA FORMATION AND MAGNETIC ELECTRON FILTERING.....	614
<i>G. Leray, P. Chabert, A. J. Lichtenberg, M. A. Lieberman</i>	
POSSIBLE ACCELERATION OF DUST PARTICLES IN FUSION DEVICES.....	617
<i>Z. Ehsan, M. Coppins, J. E. Allen</i>	

PLASMA PROCESSING OF SURFACES AND PARTICLES

TWO-STEP IN-SITU RF PLASMA PROCESS FOR SURFACE CONDITIONING OF ORGANIC ELECTRONIC PATTERNED SUBSTRATES.....	623
<i>P. Svarnas, J.W. Bradley, A.G. Shard</i>	

THIN FILM DEPOSITION WITH A COLD ATMOSPHERIC PRESSURE PLASMA JET FOR CORROSION PROTECTION OF ALUMINUM AND FOR TAILORING ADHESION PROPERTIES	627
<i>U. Lommatzsch, J. Ihde</i>	
PLASMA TREATMENT OF POLYDIMETHYLSILOXANE THIN FILMS STUDIED BY INFRARED REFLECTION ABSORPTION SPECTROSCOPY	631
<i>V. Danilov, C. Dölle, M. Ott, H.E. Wagner, J. Meichsner</i>	
PLASMA GENERATION INDUCED BY TRIBOELECTRIFICATION	635
<i>Y. Kusano, S.V. Singh, P.K. Michelsen</i>	
HIGH-SPEED CLEANING/TREATMENT OF METAL SURFACE USING AN ATMOSPHERIC DAMAGE-FREE PLASMA SOURCE	639
<i>S.Yamasaki, H.Miyahara, R.Sasaki, R.Shimada, E.Hotta, A.Okino</i>	
PLASMA DEPOSITION AND DIAGNOSTICS OF PHOTO-CATALYTIC EFFECTS OF TIOX-BASED THIN SOLID FILMS	641
<i>J. Harvalík, Z. Michalek, P. Bartoš, P. Špatenka, M. Švarc</i>	
MORPHOLOGY OF PARTICLES OF NANODISPERSED TITANIUM DIOXIDE AND COMPOSITIONAL POWDER (SiO₂)_x(TiO₂)_{1-x}	644
<i>G.E.Remnev, A.I.Pushkarev, D.V.Ponomarev, R.V.Sazonov, Yu. S. Martinez</i>	
PLASMA DAMAGE MECHANISM OF POROUS SiO₂ FILMS EVALUATED BY IN-SITU MEASUREMENT SYSTEM FOR FILM PROPERTIES AND ABSOLUTE RADICAL-DENSITY	648
<i>H.Yamamoto, K. Takeda, M. Sekine, M. Hori</i>	
PLASMA POWER DEPENDENCE OF PROPERTIES OF AMORPHOUS FLUOROCARBON FILMS COMPOSED BY PECVD USING PERFLUOROCTANE	652
<i>K. Mizuno, H. Sugawara, Y. Sakai, A. Murayama</i>	
NITROGEN PLASMA TREATMENTS ON CHEMICALLY DEPOSITED CDS THIN FILMS	656
<i>M. Calixto-Rodriguez, H. Martínez, C. Cortés, M.E. Calixto, H.E. Esparza-Ponce, B.D. Castrejón</i>	
INFLUENCE OF DIFFERENT LAYER MICROSTRUCTURES INDUCED BY DIFFERENT TEMPERATURES ON CORROSION BEHAVIOUR OF PLASMA NITRIDED IRON	660
<i>M. Moradshahi, M.B. Mahmoudi, S.Amiri, A.A.Dabirzadeh, S.Vatankhah</i>	
INFLUENCE OF HUMIDITY ON THE IMPACT RESISTANCE AND TRIBOLOGICAL BEHAVIOUR OF CARBON-BASED COMPOSITE COATINGS PREPARED BY A COMBINED PVD/PACVD PROCESS	664
<i>J. Grossman, J. Vyskocil, R. Novak, T. Fort, T. Vitu, L. Dupak, J. Sobota</i>	
CARBON NANOFIBERS SYNTHESIS BY HIGH FREQUENCY GLOW-ARC DISCHARGE	667
<i>M. Pacheco, J. Pacheco, R. Valdivia, S. Velazquez, N. Estrada</i>	
NANOPARTICLE SYNTHESIS IN HYDROCARBON AND SILANE PLASMAS	671
<i>G. Wattiaux, I. Chiboub, E. Kovaeve, J. Berndt, A. Mezeghrane, L. Boufendi</i>	
INFLUENCE OF N₂/HE GAS MIXTURES ON THE SYNTHESIS OF CARBON ENCAPSULATED NI AND Y BY ARC DISCHARGE METHOD	675
<i>M. Razafinimanana, V. Ramarozatovo, M. Monthioux, P. Roge, M. Rakotomalala, J.J. Gonzalez</i>	
ARC DISCHARGE IN WATER FOR DIELECTRIC NANOPARTICLE PRODUCTION	679
<i>D. Delaportas, P. Svarnas, I. Alexandrou</i>	
EFFECTS OF ION IRRADIATION ENERGY ON NANOPARTICLE SYNTHESIS IN PLASMA-IONIC LIQUID INTERFACIAL REGIONS	683
<i>T. Kaneko, T. Harada, Q. Chen, R. Hatakeyama</i>	
PLASMA TECHNIQUES FOR NANOTECHNOLOGY	687
<i>M. Mozetic, U. Cvelbar</i>	
DUAL PLASMA SYNTHESIS OF SINGLE-CRYSTAL CUBIC TITANIUM NITRIDE NANOPARTICLES	691
<i>J. Tavares, S. Coulombe, J. -L Meunier</i>	
NANOSCALE MORPHOLOGY OF MAGNESIUM DOPED HYDROXYAPATITE	695
<i>W. Mróz, A. Bombalska, S. Burdypska, M. Jedyński, A. Prokopiuk, A. Uósarczyk, A. Zima, E.Menaszek, A. Ucisłowska-Czarnecka, P. Niedzielski</i>	
MICROPLASMA ACTIVATION OF CATALYST FOR CARBON NANOFIBERS INCORPORATION IN A MICROREACTOR	699
<i>A. Ai kral, L. Lefferts, J.G.E. Gardeniers</i>	
GENERATION OF SILICON NANOPARTICLES IN PLASMA	703
<i>A. Consoli, M. Zimmermann, J. Benedikt, A. von Keudell</i>	
IMPACT WEAR RESISTANCE OF SILICON, OXYGEN AND NITROGEN CONTAINING AMORPHOUS CARBON FILMS DEPOSITED ON STEEL SUBSTRATES USING PECVD	705
<i>T. Fort, J. Sobota, J. Grossman, V. Bursikova, L. Dupak, V. Perina, P. Klapetek, Jiri Bursik</i>	

OPTIMIZATION OF DISCHARGE CONDITIONS FOR DEPOSITION OF PROTECTIVE COATINGS ON POLYMER SUBSTRATES	709
<i>V. Bursikova, T. Fort, L. Dupak, A. Stoica, T. Gardelka, P. Klapetek, M. Valtr, V. Perina</i>	

HIGH PRESSURE AND THERMAL PLASMA PROCESSING

NO PRODUCTION ON PYREX UNDER, AND AFTER PLASMA EXPOSURE	713
<i>D. Marinov, O. Guaitella, A. Rousseau</i>	

PLASMA LAMPS AND RADIATION SOURCES

DECOLOURATION OF ORGANIC DYE IN AQUEOUS SOLUTION USING A PULSED-DISCHARGE PLASMA	717
<i>K. Satoh, S. Ikoma, H. Itoh</i>	
BASIC STUDY ON MERCURY-FREE ULTRAVIOLET EMITTING METAL HALIDE LAMP	720
<i>A. Tauchi, T. Sakurai, H. Hori</i>	
COMPARISON OF SURFACE AND VOLUME BREAKDOWN IN HIGH PRESSURE XENON MODEL LAMPS	723
<i>M. Kettlitz, S. Peters, M. Wendt, A. Kloss</i>	
INFLUENCE OF METAL HALIDES ON THE BEHAVIOUR OF ELECTRODES IN HIGH INTENSITY DISCHARGE LAMPS	726
<i>M. Schmidt, M. Kettlitz, H. Schneidenbach</i>	
CHARACTERIZATION OF A MINIATURIZED DIELECTRIC BARRIER DISCHARGE AS SOURCE OF PULSED XECL EXCIMER RADIATION AT 308 NM	729
<i>R. Bussiahn, E. Kindel, A. Pipa</i>	
SOFT X-RAY RADIATION GENERATED BY FAST CAPILLARY DISCHARGE	733
<i>O. Frolov, K. Kolacek, J. Schmidt, J. Straus, V. Prukner</i>	
EXPLODING WIRE IN WATER – A SOURCE OF LONG, DENSE, HOT, AND QUASI-STABLE PLASMA SUITABLE FOR AMPLIFICATION OF EUV/SOFT X-RAY EMISSION	736
<i>K. Kolacek, V. Prukner, J. Schmidt, O. Frolov, J. Straus</i>	
CAPILLARY PINCHING DISCHARGE AS WATER WINDOW RADIATION SOURCE	740
<i>P. Vrba, M. Vrbova, A. Jan?árek, M. Nevrkla, M. Tamáš, M. Stefanovic</i>	
EFFECT OF BEAM PRE-BUNCHING AND GUIDE MAGNETIC FIELDS ON GAIN AND EFFICIENCY IN SLOW WAVE FREE ELECTRON LASER	746
<i>S.C. Sharma, A. Bhasin, R. Walia</i>	
CHARACTERISTICS OF THE MOVING STRIATIONS IN A FLUORESCENT LAMP UNDER THE VARIOUS KINDS OF OPERATING CONDITIONS	750
<i>Y. Watanabe</i>	

MEDICAL BIOLOGICAL AND ENVIRONMENTAL APPLICATIONS

UV RADIATION IN AR-O2, N2-O2 AND AR-O2-N2 MICROWAVE DISCHARGES AND POST-DISCHARGES	754
<i>K. Kutasi, V. Guerra, P. Sá, J. Loureiro</i>	
EMISSION SPECTRA OF PLASMAS GENERATED BY ELECTROSTATIC DISCHARGES ON SOLAR ARRAY SURFACES	758
<i>Boris Vayner</i>	
DEVELOPMENT OF BIOFUNCTIONAL COATINGS ON TITANIUM IMPLANTS TO IMPROVE BIOCOMPATIBILITY AND OSTEOINDUCTIVITY	762
<i>C. Schrader, J. Bossert, U. Finger, A. Henning, A. Hüppner, K.-D. Jandt, M. Pfister, J. Schmidt, S. Zankovych</i>	
MAGNETRON SPUTTERING DEPOSITION OF BIOCOMPATIBLE COATINGS	768
<i>S. E. Rodil, G. Ramirez, H. Arzate, S. Muhl, E. Camps, L. Escobar-Alarcón</i>	
STERILIZATION OF POLYMERIC MATERIAL BY PLASMA-BASED ION IMPLANTATION	772
<i>N. Sakudo, N. Ikenaga, F. Ikeda, Y. Nakayama, Y. Kishi, Z. Yajima</i>	
DEVELOPMENT OF MULTI-GAS INDUCTIVELY COUPLED PLASMA SOURCE AND ITS APPLICATION FOR ANESTHETIC GAS DECOMPOSITION	776
<i>H. Miyahara, Y. Goto, R. Sasaki, E. Hotta, A. Okino</i>	
DECONTAMINATION OF A ROTATING CUTTING TOOL DURING OPERATION BY MEANS OF ATMOSPHERIC PRESSURE PLASMAS	779
<i>F. Leipold, Y. Kusano, F. Hansen, T. Jacobsen</i>	

SUSTAINABLE WASTE MANAGEMENT USING PLASMA GASIFICATION AT THE CAMPUS OF THE UNIVERSITY OF CALIFORNIA - MERCED	783
<i>G. Diaz, E. Leal-Quiros</i>	
DOUBLE AND SINGLE DIELECTRIC BARRIER DISCHARGE FOR TOXIC GAS REMOVAL	786
<i>N. Estrada, M. Pacheco, J.Pacheco, R.Valdivia</i>	
PARTIAL OXIDATION OF METHANE TO LIQUID OXYGENATES USING ATMOSPHERIC PRESSURE NON-EQUILIBRIUM PLASMA MICROREACTOR	790
<i>M. Nakase, A. Aikawa, T. Nozaki, J.G.E. Gardeniers, K. Okazaki</i>	
ELECTRIC WIND PRODUCED BY A SURFACE PLASMA DISCHARGE ENERGIZED BY A BURST MODULATED HIGH VOLTAGE	794
<i>N. Benard, E. Moreau</i>	
CHEMICAL ACTIVITY OF COPLANAR DBD WITH ALUMINA AND ALUMINA+TiO₂ ELECTRODES TESTED ON VOC DECOMPOSITION	798
<i>Z. Machala, K. Hensel, J. Sic, J. Rahel</i>	
PLASMA COAL IGNITION FOR UTILITY POWER PLANTS	802
<i>Edbertho Leal-Quirós, Igor Matveed</i>	

PLASMA POWER AND PULSED POWER TECHNOLOGY, PARTICLE SOURCE

THE PLASMA FOCUS PACO AS X-RAY SOURCE FOR HIGH DEFINITION RADIOGRAPHIES	805
<i>M. Milanese, J. Niedbalski, F. Castillo-Mejía, R. Moroso, L. Supan, S. Guichón, H. Acuña, F. Malamud, M. Barbaglia, S. Marcazzó</i>	
LOWER CURRENT PULSE XUV CAPILLARY DISCHARGE SOURCE	809
<i>A. Jancarek, M.Nevrkla, P.Vrba, M.Vrbova, M.Tamas, L.Pina</i>	
DIFFERENTIAL PUMPING IN THE LINEAR PLASMA GENERATOR MAGNUM-PSI	811
<i>H.J.N. van Eck, W.R. Koppers, G.J. van Rooij, W.J. Goedheer, B. de Groot, P.H.M. Smeets, N.J. Lopes Cardozo, A.W. Kleyn</i>	
TEMPORAL CORRELATIONS BETWEEN HARD X-RAY AND NEUTRON PULSES IN THE PACO PLASMA FOCUS DEVICE	814
<i>H. Acuña, H. Bruzzone, S. Guichón, F. Malamud, M. Milanese, R. Moroso, J. Niedbalski, L. Supán</i>	
UNDERWATER ELECTRICAL WIRE EXPLOSION	818
<i>Ya. Krasik, S. Efimov, A. Fedotov, D. Sheftman, A. Sayapin, V. Tz. Gurovich, A. Grinenko</i>	
HIGH CONTRAST RADIOGRAPHY USING A SMALL DENSE PLASMA FOCUS	822
<i>F. Castillo, I. Gamboa-de Buen, J.J.E. Herrera, J. Rangel</i>	
PORTABLE NEUTRON GENERATOR FOR FIELD APPLICATIONS BASED ON PLASMA FOCUS TECHNOLOGY	826
<i>Leopoldo Soto, Cristian Pavez, José Pedreros, Luis Altamirano, Felipe Veloso</i>	
SCALING LAWS FOR PLASMA FOCUS DEVICES. STUDIES USING PLASMA FOCUS DEVICES FROM 70 KJ TO TENTHS OF JOULES	827
<i>Leopoldo Soto, Cristian Pavez, José Moreno, Ariel Tarifeño, Roberto Mayer, Felipe Veloso</i>	
Author Index	