

TABLE OF CONTENTS

PREFACE HAKONE XV	3
PREFACE COST TD1208	5
MEMOIRS	6
SYMPOSIUM SPONSORS	8
TABLE OF CONTENTS	12
INVITED LECTURES	24
PLASMA BASED CO ₂ CONVERSION: A COMBINED MODELING AND EXPERIMENTAL STUDY <u>A. Bogaerts</u> , R. Snoeckx, A. Berthelot, S. Heijkers, W. Wang, S. Sun, K. Van Laer, M. Ramakers, I. Michielsen, Y. Uytendhouwen, V. Meynen and P. Cool	25
CONFINED ATMOSPHERIC PLASMA SOURCES FOR ACTIVATING GASES, LIQUIDS AND TISSUE A. M. Lietz, J. Kruszelnicki and <u>M. J. Kushner</u>	29
NON-THERMAL PLASMA COMBINED WITH CATALYSTS FOR ENVIRONMENTAL TECHNOLOGY <u>A. Mizuno</u> , K. Takashima	34
MEASUREMENT OF ELECTRIC FIELD IN ATMOSPHERIC PRESSURE DISCHARGES USING STARK POLARIZATION SPECTROSCOPY <u>B. M. Obradović</u> , N. Cvetanović, S. S. Ivković, G. B. Sretenović, V. V. Kovačević, I. B. Krstić and M. M. Kuraica	38
OPTICAL EMISSION DIAGNOSTICS FOR NANOSECOND MICRODISCHARGES AT ATMOSPHERIC PRESSURE B. D. Huang, X. M. Zhu, K. Takashima and <u>Y. K. Pu</u>	43
LATERAL PATTERNS IN GLOW-LIKE BARRIER DISCHARGES <u>L. Stollenwerk</u> and R. Wild	46
TOPIC 1: FUNDAMENTAL PROBLEMS OF HIGH PRESSURE DISCHARGES	49
ORAL PRESENTATIONS	
ROLE OF THE He METASTABLE IN SELF ORGANIZED DBD AT ATMOSPHERIC PRESSURE <u>A. Belinger</u> , N. Naudé and N. Gherardi	50

EFFECT OF THE MODULATION ON A HELIUM DBD IN THE MEDIUM-FREQUENCY RANGE AT ATMOSPHERIC PRESSURE <u>J. S. Boisvert</u> , J. Margot and F. Massines	54
INFLUENCE OF THE CONCENTRATION OF H ₂ ON THE STRUCTURE OF A NANOSECOND DISCHARGE IN DIFFERENT H ₂ /AIR MIXTURES AT ATMOSPHERIC PRESSURE FOR PLASMA ASSISTED COMBUSTION APPLICATIONS <u>S. Kobayashi</u> , Z. Bonaventura, F. Tholin , N. Popov and A. Bourdon	58
PRE-TOWNSEND PHASE OF COPLANAR BARRIER DISCHARGE <u>T. Morávek</u> , Z. Navrátil, J. Čech and J. Ráhel'	63
ELECTRICAL AND OPTICAL DIAGNOSTICS OF NANOSECOND REPETITIVELY PULSED MICRODISCHARGES IN AIR AT ATMOSPHERIC PRESSURE <u>T. Orrierre</u> , N. Benard, E. Moreau and D. Pai	66
PARALLEL OPERATION OF PULSED PINHOLE DISCHARGES FOR HYDROGEN PEROXIDE GENERATION <u>K. Yasuoka</u> , R. Saeki, and K. Ikeda	70
POSTER PRESENTATIONS	
STUDY OF DYNAMIC BEHAVIOR OF PATHS OF DISCHARGE ON SERPENTINE PLASMA WITH VARIOUS GASES <u>S. I. Aouqi</u> , R. Takanami, F. Mitsugi and H. Kawasaki	74
DYNAMICS OF ACCELERATING STREAMER IN BARRIER DISCHARGE IN AIR <u>T. Hoder</u> , Z. Bonaventura, V. Prukner and M. Šimek	78
OPTICAL WAVE MICROPHONE MEASUREMENTS ON ATMOSPHERIC PRESSURE PLASMAS <u>F. Mitsugi</u> , S. Kusumegi, T. Kawasaki, T. Nakamiya and Y. Sonoda	81
ACOUSTIC SPECTRA CHARACTERISTICS OF HIGH PRESSURE PLASMA USING OPTICAL WAVE MICROPHONE <u>T. Nakamiya</u> , F. Mitsugi, Y. Iwasaki, T. Ikegami, R. Tsuda and Y. Sonoda	85
GLIDING ARC PLASMA CHANNEL EVOLUTION PECULIARITIES <u>L. Potočnáková</u> , J. Šperka, J. Gregor and V. Kudrle	89
A TREATISE ON THE DIFFUSIVENESS OF DIFFUSE COPLANAR SURFACE BARRIER DISCHARGE <u>J. Ráhel'</u> , J. Čech and T. Morávek	92

DIELECTRIC BARRIER DISCHARGE IN AIR ON SURFACE AND IN THE GAS GAP UNDER SINGLE NANOSECOND VOLTAGE IMPULSES <u>M. Sokolova</u> , V. Voevodin, M. Malashin and I. Rebrov	97
GLIDING ARC BEHAVIOUR UNDER VARYING GAS FLOW FIELD <u>J. Šperka</u> , J. Sluše, L. Potočňáková and V. Kudrle	102
TOPIC 2: MODELLING AND DIAGNOSTICS	105
ORAL PRESENTATIONS	
NUMERICAL INVESTIGATION ON ATMOSPHERIC PRESSURE RADIO FREQUENCY NON THERMAL PLASMA TORCH <u>B. Bora</u>	106
INVESTIGATION OF SINGLE FILAMENTS IN A DIELECTRIC BARRIER DISCHARGE WITH ROTATING ELECTRODE V. V. Andreev, <u>R. Brandenburg</u> , A. Sarani and M. Kettlitz	110
HELIUM RYDBERG MOLECULES KINETICS IN ATMOSPHERIC PRESSURE DISCHARGES <u>E. Carbone</u> , C. G. Schregel, D. Luggenhölscher and U. Czarnetzki	114
COMPARISON OF EXPERIMENTAL AND THEORETICAL SPECTRA OF NON-SELF-SUSTAINED DISCHARGE IN N ₂ AND AIR IN WIDE RANGE OF FIELD STRENGTH AND PRESSURE <u>I. Jögi</u> , E. Levoll, P. Paris and M. Aints	118
EFFECTS OF PULSE VOLTAGE WAVEFORMS ON FAST GAS HEATING IN AN ATMOSPHERIC PRESSURE STREAMER DISCHARGE: COMPARISON BETWEEN EXPERIMENTS AND NUMERICAL SIMULATION <u>A. Komuro</u> , K. Takahashi, and A. Ando	122
ABSOLUTE OH DENSITY MEASUREMENTS IN SURFACE MICRO-DISCHARGE IN HE+H ₂ O AND AR+H ₂ O MIXTURES <u>D. Li</u> , A. Nikiforov, N. Britun, R. Snyders, M. G. Kong and C. Leys	126
TALIF MEASUREMENT OF ATOMIC HYDROGEN DENSITIES IN A COPLANAR SURFACE DIELECTRIC BARRIER DISCHARGE <u>M. Mrkvičková</u> , J. Ráhel', P. Dvořák, D. Trunec and T. Morávek	130
ELECTRIC FIELD DEVELOPMENT IN γ -MODE RF APGD IN HELIUM <u>Z. Navrátil</u> , R. Josepson, N. Cvetanović, B. Obradović and P. Dvořák	134
FLUID DYNAMICS IN ATMOSPHERIC-PRESSURE PLASMA JETS AND ITS IMPLICATIONS ON PLASMA CHEMISTRY <u>A. Obrusník</u> , M. Gherardi, A. Stancampiano, E. Simoncelli, V. Colombo and L. Zajíčková	137

SURFACE CHARGE MEASUREMENTS ON TRANSPARENT DIELECTRICS IN DIFFUSE AND FILAMENTARY BARRIER DISCHARGES <u>R. Tschiersch</u> , S. Nemschokmichal, M. Bogaczyk, J. Meischner	140
--	-----

POSTER PRESENTATIONS

WIDE-PRESSURE-RANGE COPLANAR BARRIER DISCHARGE <u>J. Čech</u> , P. Sřahel, M. Zemánek and Z. Bonaventura	144
---	-----

CONCENTRATION OF ATOMIC HYDROGEN MEASURED IN A HEATED ATOMIZER BY TWO-PHOTON ABSORPTION LASER-INDUCED FLUORESCENCE <u>P. Dvořák</u> , M. Talába, J. Dědina, J. Kratzer and A. Obrusník	148
---	-----

MICROWAVE INTERFEROMETRY OF ATMOSPHERIC PRESSURE PLASMA JET J. Faltýnek, J. Hnilica and <u>V. Kudrle</u>	152
--	-----

MULTIRESOLUTION ON ARBITRARY DOMAINS FOR TIME-DEPENDENT PDE'S. APPLICATION TO STREAMER SIMULATIONS <u>P. L. Lee</u> , Z. Bonaventura, M. Duarte, A. Bourdon and M. Massot	155
---	-----

INVESTIGATION OF THE LOCAL CURRENT IN HOMOGENEOUS DIELECTRIC BARRIER DISCHARGE <u>N. Naudé</u> , M. C. Bouzidi, V. Roustit, C. Tyl, S. Dap, A. Belinger and N. Gherardi	157
---	-----

SIMULATION OF LASER PHOTODETACHMENT OF NEGATIVE IONS IN HELIUM-OXYGEN BARRIER DISCHARGES AND COMPARISON WITH THE EXPERIMENT <u>S. Nemschokmichal</u> , R. Tschiersch and J. Meichsner	161
--	-----

INSTANTANEOUS AND INTEGRATED ELECTRICAL PARAMETERS OF ATMOSPHERIC PRESSURE AC ROTATING GLIDING DISCHARGE D. Hamazin, I. Veremii, <u>O. Solomenko</u> , V. Chernyak and K. Iukhymenko	164
--	-----

ELECTRICAL AND SPECTROSCOPIG INVESTIGATIONS OF BARRIER DISCHARGE AT TRIPLE JUNCTION <u>P. Synek</u> , J. Voráč and T. Hoder	168
---	-----

ADVANCED SPECTRA FITTING <u>J. Voráč</u> , P. Synek and V. Procházka	172
---	-----

TOPIC 3: MOLECULAR SYNTHESIS AND DECOMPOSITION	176
---	-----

ORAL PRESENTATIONS

PLASMA-CATALYTIC REFORMING OF OXYGEN-CONTAINING HYDROCARBONS <u>I. Fedirchuk</u> , O. Nedybaliuk, V. Chernyak and V. Demchina	177
---	-----

MICROWAVE PLASMA SYNTHESIS OF IRON OXIDE NANOPARTICLES AND THEIR APPLICATIONS <u>O. Jašek</u> , P. Synek and V. Kudrle	180
PLASMA DIAGNOSTICS OF THE BARRIER DISCHARGES IN THE BINARY GAS MIXTURES OF ARGON AND ACETONE <u>K. V. Kozlov</u> and E. A. Abramovskaia	184
HYDROGEN PRODUCTION FROM ETHANOL USING DIELECTRIC BARRIER DISCHARGE <u>B. Ulejczyk</u> , M. Zbrowska, D. Bala, Ł. Nogal, M. Młotek and K. Krawczyk	188
INVESTIGATION OF THE EFFECT OF ON- AND OFF-TIME ON THE DISSOCIATION OF CO ₂ IN A PULSED MICROWAVE DISCHARGE <u>T. Verreycken</u> , P. M. J. Koelman, D. C. M. van den Bekerom, J. M. Palomares-Linares, S. Ponduri, J. van Dijk, G. J. van Rooij, M. C. M. van de Sanden and W. A. Bongers	192
POSTER PRESENTATIONS	
ANALYSIS AND COMPARISON OF THE CO ₂ AND CO DIELECTRIC BARRIER DISCHARGE SOLID PRODUCTS <u>I. Belov</u> , S. Paulussen and A. Bogaerts	196
PREPARATION OF THE CARBIDES OF BORON AND SILICON FROM THEIR FLUORIDES AND METHANE IN RF-ARC HYDROGEN PLASMA <u>R. A. Korney</u> , P. G. Sennikov and A. D. Bulanov	200
SYNTHESIS OF GRAPHENE SHEETS USING MICROWAVE PLASMA TORCH DISCHARGE <u>J. Toman</u> , O. Jašek and J. Jurmanová	204
TOPIC 4: OZONE GENERATION AND APPLICATIONS	208
ORAL PRESENTATIONS	
EFFECT OF NITROGEN SPECIES ON OZONE GENERATION BY ATMOSPHERIC PRESSURE HOMOGENEOUS DIELECTRIC BARRIER DISCHARGE <u>N. Osawa</u> , T. Tsuji and Y. Yoshioka	209
STUDY OF O ₂ AND O ₃ REACTIONS WITH ELECTRODE SURFACE IN OZONIZER <u>D. Trunec</u> , V. Mazánková, J. Mierna, I. Manduchová and F. Krčma	213

POSTER PRESENTATIONS

PLASMA CHEMISTRY OF OZONE IN DBD DISCHARGES

E. A. Abramovskaia, K. V. Kozlov, Yu. A. Mankelevich, A. Yu. Poroykov,
T. V. Rakhimova and D. G. Voloshin 217

NON-CHEMICAL OZONE STERILIZATION SYSTEM AND ITS APPLICATION TO GREENHOUSE AGRICULTURE

K. Ebihara, S. Baba, F. Mitsugi, T. Ikegami, S. I. Aoqui, Y. Yamashita, T. Yamashita,
H. D. Stryczewska and J. Pawlat 221

EXPERIMENTAL STUDY OF DIELECTRIC BARRIER DISCHARGE IN MIXTURES OF CARBON DIOXIDE AND OXYGEN

F. Pontiga, K. Hadji, M. Guemou and H. Moreno 225

SURFACE LOSS RATE OF OZONE FOR VARIOUS MATERIALS IN A PHOTO-ABSORPTION CELL

S. Suzuki, K. Teranishi, A. Oda, I. M. Rusinov and H. Itoh 227

TOPIC 5: GENERATION OF RADIATION IN HIGH PRESSURE DISCHARGES

231

POSTER PRESENTATION

ATMOSPHERIC PRESSURE MICROPLASMA SYSTEM WITH VORTEX GAS FLOW

O. Solomenko, O. Solomenko, V. Chernyak, V. Lendiel, D. Hamazin
and D. Kalustova 232

TOPIC 6: DEPOLLUTION AND ENVIRONMENTAL APPLICATIONS

236

ORAL PRESENTATION

NOX REMOVAL WITH DIELECTRIC BARRIER DISCHARGE AND WET ABSORPTION

M. S. Kang and J. Hwang 237

POSTER PRESENTATIONS

CO₂-CONVERSION IN DIELECTRIC BARRIER DISCHARGES: INFLUENCE OF NITROGEN ADMIXTURE ON CHEMISTRY AND DISCHARGE PHYSICS

M. Schiorlin, A. Sarani, R. Klink and R. Brandenburg 241

CONVERSION OF TAR IN COUPLED PLASMA-CATALYTIC SYSTEM

M. Młotek, B. Ulejczyk, J. Woroszył, I. Walerczak and K. Krawczyk 245

GLIDING DISCHARGE REACTOR FOR CONVERSION OF STABLE CHEMICAL COMPOUNDS <u>M. Młotek</u> , J. Woroszył, I. Walerczak, B. Ulejczyk and K. Krawczyk	249
TOPIC 7: SURFACE PROCESSING AND TECHNOLOGY	253
ORAL PRESENTATIONS	
Ar-H ₂ PLASMA SURFACE TREATMENTS OF SILICON WAFERS AT ATMOSPHERIC PRESSURE <u>B. Hergelová</u> , M. Eichler, K. Nagel and C. P Klages	254
A COMPARATIVE STUDY OF PTFE SURFACE TREATMENT USING LOW PRESSURE DISCHARGE (LPD) AND ATMOSPHERIC PRESSURE GLOW DISCHARGE (APGD) <u>M. Kogoma</u> , K. Furuse, K. Takahashi and K. Tanaka	258
MODIFICATION OF POLYMER SURFACES BY ATMOSPHERIC PRESSURE PLASMAS <u>D. Kováčik</u> , D. Skácelová, J. Kršková and M. Černák	262
EFFECT OF METASTABLE-DRIVEN FILM DEPOSITION ON GROWTH-RATE PROFILES <u>J. Philipp</u> and C. P. Klages	266
FILM FORMATION FROM HMDSO: COMPARISON OF DIRECT PLASMA INJECTION WITH AFTERGLOW INJECTION USING AN ATMOSPHERIC PRESSURE DIELECTRIC BARRIER DISCHARGE <u>R. Wallimann</u> , G. Oberbossel, D. Butscher and P. R. von Rohr	270
POSTER PRESENTATIONS	
PLASMA MODIFICATION OF POLYESTER FABRICS WITH ULTRA HYDROPHOBIC AND OLEOPHOBIC PROPERTIES FOR IMPROVED LAMINATION <u>O. Beier</u> , M. Ramm, B. Blechschmidt, J. Kelar and A. Pfuch	274
DEPOSITION OF THIN ZINC FILMS BY ATMOSPHERIC PRESSURE PLASMA JET IN AQUEOUS MEDIA O. Galmiz, <u>A. Brablec</u> and V. Kudrle	279
IN SITU ATR-FTIR STUDY OF THE FORMATION OF HYDROPEROXIDES THROUGH POSTDISCHARGE TREATMENT OF THIN POLYMER FILMS <u>R. Duckstein</u> , K. Lachmann, M. Thomas and C. P. Klages	283
WIDE-PRESSURE-RANGE COPLANAR DIELECTRIC BARRIER DISCHARGE FOR HYDROCARBON CONTAMINATION REMOVAL IN SCANNING ELECTRON MICROSCOPY <u>J. Dugáček</u> , P. Sřahel, J. Čech and J. Jurmanová	287

STUDY OF SURFACE PROPERTIES OF THE PLASMA-TREATED HIGH DENSITY POLYETHYLENE <u>H. Dvořáková</u> , M. Stupavská, V. Buršíková and P. Sťahel	291
FAST LOW-COST HYDROPHILIZATION OF SURFACES USING PLASMA POLYMERISATION <u>H. Dvořáková</u> , M. Štipl, J. Čech, J. Jurmanová and P. Sťahel	294
ELIMINATION OF DIAZINON INSECTICIDE FROM CUCUMBER SURFACE WITH LOW TEMPERATURE PLASMA TREATMENT <u>H. Ghomi</u> , N. Dorraki, N. Navab Safa, V. Mahdavi and A. Ghasempour	297
PLASMA MODIFICATION OF POLYCARBONATE SURFACE BY ATMOSPHERIC PLASMA SOURCES <u>J. Kelar</u> , T. Homola, R. Krumpolec, P. Slavíček and M. Černák	301
PLASMA ASSISTED CALCINATION OF POLYMER/PRECURSOR FIBERS <u>V. Medvecká</u> , D. Kováčik, A. Zahoranová, E. Múdra, M. Strečková, P. Ďurina and M. Černák	305
MODIFICATION OF POLYETHYLENE TUBES SURFACE IN DIELECTRIC BARRIER DISCHARGE REACTOR <u>M. Młotek</u> , A. Błaszczuk, B. Ulejczyk and K. Krawczyk	309
DBD TREATMENT OF PVC TUBES TO REDUCE PLASTICIZER MIGRATION <u>T. Neubert</u> , K. Lachmann, C. P. Klages and M. Thomas	313
EFFECT OF AIR IONS ON PRODUCTION OF METAL NANOPARTICLES VIA SPARK DISCHARGE GENERATOR <u>D. H. Park</u> , Y. H. Joe and J. Hwang	317
APPLICATION OF PLASMA TREATMENT IN THE NANOFIBERS PROCESSING <u>D. Pavliňák</u> , J. Kelar, O. Galmiz, M. Zemánek, J. Hnilica, V. Kudrle and M. Alberti	320
CHANGE OF SURFACE CONTACT ANGLE OF POLYMERIC MATERIALS EXPOSED ON PLASMA GENERATED IN DBD PLASMA JET REACTOR M. Kwiatkowski, P. Terebun, J. Diatczyk and <u>J. Pawlat</u>	324
BORON-BASED THIN LAYERS DEPOSITED BY RF PLASMA JET WITH SLIT NOZZLE <u>B. Pijáková</u> , M. Alberti and M. Klíma	326
PLASMA TREATMENT OF NATURAL LEATHER WITH DIFFUSE COPLANAR SURFACE BARRIER DISCHARGE IN AMBIENT AIR <u>V. Štěpánová</u> , J. Kelar, P. Slavíček, S. Chlupová, J. Jurmanová, M. Stupavská, M. Zvonař and M. Černák	330

CARBON FIBER SURFACE TREATMENT WITH ATMOSPHERIC PRESSURE GLOW PLASMA FOR NEW CFRP FABRICATION <u>K. Tanaka</u> , M. Ohkoshi, H. Hamada and M. Kogoma	334
TOPIC 8: BIOLOGICAL APPLICATIONS	338
ORAL PRESENTATIONS	
POWER MEASUREMENT FOR AN ATMOSPHERIC PRESSURE PLASMA JET AT DIFFERENT FREQUENCIES – DISTRIBUTION IN THE CORE PLASMA AND THE EFFLUENT <u>T. Gerling</u> , R. Brandenburg, C. Meyer, C. Wilke and K. D. Weltmann	339
PROPAGATION OF ARGON SURFACE DISCHARGE IN LONG TUBES AT ATMOSPHERIC PRESSURE, ITS BACTERICIDAL EFFECT AND THE EFFECT OF UV EMISSION <u>Z. Kovalova</u> , M. Leroy, C. Jacobs, M. J. Kirkpatrick, Z. Machala, F. Lopes, C. O. Laux, M. S. DuBow and E. Odic	343
CORONA SOFT PLASMA POLYMERISATION OF LACCASE ENZYME FOR BIO-ACTIVE COATINGS <u>Sz. Malinowski</u> , P. A. F. Herbert, J. Rogalski and J. Jaroszyńska-Wolińska	347
EFFECT OF VUV RADIATION ON MICROORGANISMS <u>G. Zvereva</u> , I. Kirtsideli and A. Vangonen	352
POSTER PRESENTATIONS	
PLASMA DEPOSITION OF DRUG CONTAINING COMPOSITE COATINGS <u>P. Jelinek</u> , F. Palumbo, C. Lo Porto, L. Zajickova, G. Camporeale and P. Favia	356
THE INFLUENCE OF PLASMA PARAMETERS ON THE INACTIVATION OF DIFFERENT BACTERIAL SPECIES <u>M. Modic</u> , N. Hojnik, M. Djurović, V. Vuksanović, D. Vujošević and U. Cvelbar	360
INTERACTION OF LOW-TEMPERATURE PLASMA WITH GRAINS OF MAIZE (<i>ZEA MAYS</i> L.) M. Henselová, L. Slováková, M. Martinka, <u>A. Zahoranová</u> and M. Černák	364
TOPIC 9: MISCELLANEOUS	368
POSTER PRESENTATION	
ATMOSPHERIC JET BASED ON SURFACE STREAMER DIELECTRIC BARRIER DISCHARGE <u>M. Šimek</u> and V. Prukner	369

COST TD1208: NON-EQUILIBRIUM PLASMAS WITH LIQUIDS FOR WATER AND SURFACE TREATMENT 372**ORAL PRESENTATIONS**

- STREAMERS SLIDING ON A WATER SURFACE
Yu. Akishev, V. Karalnik, A. Petryakov and N. Trushkin 373
- DEGRADATION OF PARACETAMOL IN AQUEOUS SOLUTION BY NON THERMAL PLASMA
Y. Baloul, O. Aubry, H. Rabat, C. Colas, B. Maunit and D. Hong 376
- PULSED ATMOSPHERIC PRESSURE PLASMA REFORMING OF ETHANOL
H. Baránková and L. Bardos 380
- APPLICATION OF SURFACE DIELECTRIC BARRIER DISCHARGE GENERATED FROM LIQUID ELECTRODE FOR SURFACE TREATMENT OF TUBES
O. Galmiz, D. Pavlinak, M. Zemanek, A. Brablec and M. Cernak 382
- CROSS-CORRELATION SPECTROSCOPY STUDY OF THE BREAKDOWN MECHANISM IN ATMOSPHERIC PRESSURE AIR TRANSIENT SPARK DISCHARGE
M. Janda, T. Hoder, A. Sarani, R. Brandenburg and Z. Machala 386
- GAS DISCHARGE EXCITED BY STRONG SUBTHRESHOLD MICROWAVE BEAM IN A HIGH PRESSURE LARGE VOLUME GAS. PHYSICAL BASIS AND TOPICAL PLASMACHEMICAL APPLICATIONS
I. A. Kossyi, G. M. Batanov, N. K. Berezhetskaya, A. M. Davydov, K. A. Sarksyian and N. K. Kharchev 390
- TREATMENT OF THE GLASS ARCHAEOLOGICAL ARTEFACTS BY UNDERWATER DISCHARGE
L. Hlochova, W. G. Graham, D. Janova and F. Krčma 392
- IDENTIFICATION OF THE REACTIVE SPECIES PRODUCED BY TRANSIENT SPARK DISCHARGE IN GAS AND LIQUID PHASE AND ITS EFFECT ON ESCHERICHIA COLI
K. Kučerová, M. Janda and K. Hensel 396
- NEGATIVE CORONA DISCHARGE IN A TWO-PHASE FLUID
J. Mizeraczyk, A. Berendt, J. Podliński and M. Domaszka 399
- EVOLUTION OF POINT-TO-PLANE NANOSECOND DISCHARGE IN DEIONIZED WATER
M. Šimek, B. Pongrác, M. Člupek, V. Babický and P. Lukeš 405
- ATMOSPHERIC PRESSURE PLASMA IN CONTACT WITH LIQUID AND ITS APPLICATION FOR NANOPARTICLES FABRICATION
V. Burakov, M. Nedelko, V. Kiris, N. Tarasenko, A. Nevar and N. Tarasenko 408

POSTER PRESENTATIONS

- HYDROGEN PEROXIDE GENERATION IN CORONA DISCHARGE ABOVE LIQUID IN THE PRESENCE OF ORGANIC COMPOUNDS
D. Dobrin, M. Magureanu, C. Bradu, N. B. Mandache and V. I. Parvulescu 412
- COLD ATMOSPHERIC PLASMA TREATMENT OF CANCER CELLS *IN VITRO* AND THE MECHANISMS OF ITS CYTOTOXICITY
N. Hojnik, S. Kos, M. Modic, A. Kaucic, L. Prosen, G. Sersa and U. Cvelbar 416
- APPLICATION OF WATER FALLING FILM DBD FOR DEGRADATION OF NICOTINE IN WATER SOLUTIONS
V. V. Kovačević, B. Dojčinović, J. Krupež, M. Jović, M. Natić, G. B. Sretenović, D. Manojlović, B. M. Obradović and M. M. Kuraica 420
- DC CORONA DISCHARGE FOR BACTERIAL BIOFILM DECONTAMINATION
Z. Kovalova, M. Leroy, Z. Machala and E. Odic 424
- ELECTRIC FIELD MEASUREMENT IN HELIUM PLASMA JET CONTACTING THE WATER SURFACE
V. V. Kovačević, G. B. Sretenović, A. Sobota, O. Guaitella, I. B. Krstić, B. M. Obradović and M. M. Kuraica 428
- DETECTION OF PLASMA-JET-GENERATED PRESSURE WAVES IN GAS AND LIQUID PHASES USING FIBERED OPTICAL WAVE MICROPHONE MEASUREMENT
S. Kusumegi, F. Mitsugi, T. Kawasaki, T. Nakamiya and Y. Sonoda 430
- OPTIMIZATION OF KINETIC SCHEMES FOR HELIUM APPJs WITH HUMID AIR IMPURITY FOR TWO-DIMENSIONAL FLUID MODELS USING THE ELEMENTARY EFFECTS METHOD
A. Obrušník and Z. Bonaventura 433
- CHARACTERIZATION OF ATMOSPHERIC NANOSECOND DISCHARGE UNDER HIGHLY INHOMOGENEOUS AND TRANSIENT ELECTRIC FIELD IN AIR/WATER MIXTURE BY OES AND PLIF
K. Ouaras, P. Tardiveau, L. Magne, P. Jeanney and B. Bournonville 436
- A COMPARATIVE STUDY OF AIR PLASMA INDUCED DEGRADATION OF PERFLUOROOCANOIC ACID (PFOA) IN WATER UNDER DIFFERENT DISCHARGE REGIMES
E. Marotta, L. Nani, A. Giardina, F. Tampieri, R. Gobbo and C. Paradisi 440
- PLASMA PROCESSING OF DRY AND WET CELLULOSE-BASED MATERIALS
J. Pawlat, P. Terebun and M. Kwiatkowski 443
- SPECTROSCOPIC STUDY OF UNDERWATER ELECTRICAL DISCHARGE GENERATED BY NANOSECOND PULSES
B. Pongráč, M. Šimek, M. Člupek, V. Babický and P. Lukeš 446

INFLUENCE OF THE GAS FLOW RATE ON THE ELECTRIC FIELD STRENGTH IN HELIUM PLASMA JET <u>G. B. Sretenović</u> , A. Sobota, O. Guaitella, I. B. Krstić, V. V. Kovačević, B. M. Obradović and M. M. Kuraica	449
COLD AIR PLASMA PASTEURISATION OF FRESH APPLE JUICE <u>B. Tarabová</u> , A. Žilková and Z. Machala	453
FORMATION OF RONS IN COLD AIR PLASMA ACTIVATED WATER AND THEIR EFFECTS ON CELL MEMBRANES OF <i>ESCHERICHIA COLI</i> <u>B. Tarabová</u> , E. Doležalová, P. Lukeš and Z. Machala	457
CARBON NANODOTS SURFACE TREATMENT BY NON-EQUILIBRIUM PLASMA CONTACTING WITH SOLUTION V. Kiris, <u>N. Tarasenka</u> , A. Nevar, N. Tarasenko and F. Krčma	460
THE PARAMETERS OF DIFFUSE COPLANAR SURFACE BARRIER DISCHARGE GENERATED IN PURE WATER VAPOUR AT ATMOSPHERIC PRESSURE <u>Z. Tučeková</u> , J. Antalík, V. Procházka, P. Slavíček, P. Dvořák, D. Kováčik, A. Zahoranová and M. Černák	464
AUTHOR INDEX	468