



Strasbourg (France)

E-MRS Spring Meeting 2004
May 24-28, 2004

SYMPOSIUM S

TTP8 Thermal Plasma Processes

Symposium Organizers:

Jacques Amouroux, LGPPTS, ENSCP, Paris, France

Pierre Fauchais, LMCTS, University of Limoges, France

Joost Van der Mullen, University of Technology, Eindhoven, The Netherlands

Dieter Neuschütz, RWTH Aachen, Germany

Sergey Dresvin, Technical University, St Petersburg, Russia

E-MRS 2004 SPRING MEETING

SYMPOSIUM S

Tuesday, May 25, 2004

Morning

8:30		Introduction
-		Plenary TTP 8
9:00	Invited #2624	FUTURE POTENTIAL OF PLASMA SPRAY PROCESSING T. Yoshida , Department of Materials Engineering, The University of Tokyo, Tokyo 113-8656, Japan

Session Chair: P. Fauchais

G-I.01	09:45	-Invited- # 2626	POST-FLIGHT ANALYSES OF THE OREX CATALYCITY EXPERIMENT A. ENZIAN (a), T. Ito(b), M. Balat-Pichelin(c), A. Desportes(d), P. Vervisch(d), C. Guyon(e), J. Amouroux(e), Ph. Tran(f), N. Sauvage(f), F. Thivet(g), Ch. Pélissier(g), (a)CNES, Directorate of Launchers, Evry, France, (b)JAXA, Chofu, Tokyo, (c)IMP, CNRS, Odeillo, France, (d)CORIA, CNRS, Rouen, France, (e)ENSCP, University of Paris VI, Paris, France, (f)EADS-ST, Les Mureaux, France, (g)ONERA, Toulouse, France
	10:15		A. Gleizes : Short Talk (Head of the scientific network Electrical Arc and High Voltage)
	10:20		Break

Session Chair: S. Dresvin

	10:30	-Invited- # 2353	STUDY OF DROPLET BEHAVIOUR AT IMPACT IN PLASMA SPRAYING J. Cedelle , M. Vardelle, B. Pateyron, P. Fauchais, SPCTS, University of Limoges, France
G-I.02			
G-I.03	11:00	-Invited- #2526	PLASMA PROCESSING OF CARBON NANOMATERIALS Laurent Fulcheri (a), Gilles Flamant(b), Frédéric Fabry(c), Thomas M. Gruenberger(a), José Gonzalez-Aguilar(a), Eusebiu Grivei(c), Nicolas Probst(c), (a)Ecole des Mines de Paris, Centre for Energy Studies, Rue Claude Daunesse BP 207, 06904 Sophia Antipolis, France, (b)IMP-CNRS, BP 5 Odeillo, 66125 Font-Romeu, France, Timalc Belgium S.A., 534 Av. Louise, 1050 Brussels, Belgium
G-I.04	11:30	-Invited- # 1061	HIGH-RATE SILICON NITRIDE DEPOSITION FOR PHOTOVOLTAICS: FROM FUNDAMENTALS TO INDUSTRIAL APPLICATION W.M.M. Kessels , P.J. van den Oever, and M.C.M. van de Sanden, Dept. of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands
G-I.05	12:00	-Invited- # 0700	TRANSPORT OF DUST IN LOW-PRESSURE RF DISCHARGES W.J. Goedheer , M.R. Akdim and V. Land, FOM-Institute for Plasma Physics Rijnhuizen, The Netherlands, Association EURATOM-FOM, Trilateral Euregional Cluster
	12:30		LUNCH

Tuesday, May 25, 2004

Afternoon

Session Chair: J. Van Der Müllen

- G-II.01** 14:00 -Invited- DIAGNOSTICS AND CHARACTERIZATION OF ARC-LAMP PLASMAS USING SELF-REVERSED EMISSION LINES
1252 **Dimitrios Karabourniotis**, Institute of Plasma Physics, Department of Physics, University of Crete, 71003 Heraklion Crete, Greece
- G-II.02** 14:30 -Invited- SPECTROSCOPIC STUDY OF A MICROWAVE DISCHARGE PRODUCED BY THE AXIAL INJECTION TORCH
2388 A. Rodero, R. Álvarez, M.C. Quintero, A. Sola and **A. Gamero**, Departamento de Física, Universidad de Córdoba, Campus de Rabanales, C-2, 14071 Córdoba, Spain
- G-II.03** 15:00 -Invited- CALCULATION OF PLASMA PARAMETERS IN RF ICP TORCH AT LOW PRESSURES
2532 **S. Dresvin**(a), S. Putvinsky(b), J. Amouroux(c), D. Ivanov(a), S. Zverev(a), (a)SPbSPU, 29 Polytechnicheskaya Str., 195251 St. Petersburg, Russia, (b)Archimedes Technology Group, 5660 Eastgate Dr., San Diego CA 92121, USA, (c)LGPPS, ENSCP, 11 rue P. et M. Curie, 75231 Paris Cedex 05, France
- G-II.04** 15:20 ARC PLASMA SYNTHESIS OF CARBON ENCAPSULATES CONTAINING Fe-Nd-B
2411 **M. Bystrzejewski**, H. Lange, A. Huczko, University of Warsaw, Department of Chemistry, 02-093 Warsaw, Poland
- G-II.05** 15:40 COVALENT CROSS-LINKING OF PROTEINS BY A NON-THERMAL PLASMA PROCESS
2495 B. Dodet(a), D. Beggar(b), **E. Odic**(a), S. Salamitou(b), F. Le Hégarat(b), G. Leblon(b), A. Goldman(c), M. Goldman(c), (a)Service Electrotechnique et Electronique Industrielle, Supélec, 91192 Gif-sur-Yvette Cedex, France, (b)Institut de Génétique et Microbiologie, UMR C8621 CNRS-UPS, 91405 Orsay Cedex, France, (c)Equipe Décharges Electriques et Environnement, Laboratoire de Physique des Gaz et des Plasmas, UMR 8578 CNRS-UPS, Supélec, 91192 Gif-sur-Yvette Cedex, France
- 16:00 **BREAK**

Session Chair: G. Flamand

- G-III.01** 16:15 -Invited- THE SULFUR LAMP – LTE MODELLING AND EXPERIMENTS
#2437 **C.W. Johnston**, GE Lighting Operations Limited, Melton Road, Leicester LE4 7PD, U.K., J.J.A.M. van der Mullen, Department of Applied Physics, NLF 1.0.4, Technische Universiteit Eindhoven, 5600 MB Eindhoven, The Netherlands
- G-III.02** 16:45 MAPPING OF SPATIAL DISTRIBUTION OF OSCILLATIONS IN A THERMAL PLASMA JET
2448 **J. Hlina**, J. Šonkský, and V. Něnička, Institute of Electrical Engineering, Academy of Sciences of the Czech Republic, Dolejškova 5, 182 02 Praha 8, Czech Republic
- G-III.03** 17:05 PROPERTIES OF PLASMA JET GENERATED IN HYBRID GAS/WATER TORCH UNDER REDUCED PRESSURES
2464 **M. Hrabovský**, V. Kopecký, O. Chumak, T. Kavka, M. Konrád, Institute of Plasma Physics AS CR, Praha, Czech Republic
- G-III.04** 17:25 ENTHALPY PROBE STUDY OF THE EXPANDING THERMAL PLASMA JET
2462 **T. Kavka**, J. Gregor, O. Chumak, V. Kopecký, M. Hrabovský, Inst. of Plasma Physics, Academy of Sciences, Za Slovankou 3, Praha, Czech Republic
- G-III.05** 17:45 PRODUCTION OF NANOSIZED PARTICLES IN THERMAL REDUCTIVE PLASMA
2433 A.V. Samokhin, N.V. Alexeev, **Y.V. Tsvetkov**, Y.V. Blagoveshensky, Baikov Institute of Metallurgy and Material Science RAS, 49 Leninsky pr., Moscow, Russia
- 18:05-19:30 POSTER SESSION 1

- G/PL.01** PRINCIPLE OF THE MINIMUM OF DISSIPATION OF ENERGY
0020 **Anatoliy Parfyonov**, Ulyanovsk State Technical University, Ulyanovsk, Russia
- G/PL.02** BOUNDARY SURFACE OF DIRECT AND RETURNABLE CURRENTS INSIDE THE HIGH-FREQUENCY INDUCTION DISCHARGE
0120 **A.V. Gerasimov**, A.P. Kirpichnikov, Kazan State Technology University, Kazan, Russia
- G/PL.03** THERMAL AND MECHANICAL PROPERTIES OF PARTIALLY STABILIZED ZIRCONIA MANUFACTURED VIA HYBRID PLASMA SPRAY PROCESS
0161 **Guy Antou**(a), Ghislain Montavon(b), Françoise Hlawka(a), Alain Cornet(a), Christian Coddet(b), Frédérique Machi(c), (a)LISS, Institut National des Sciences Appliquées de Strasbourg, 24 Bd de la Victoire, 67000 Strasbourg, France, (b)LERMPS, Université de Technologie de Belfort-Montbéliard, site de Sévenans, 90010 Belfort Cedex, France, (c)IREPA-Laser, Pôle API, Parc Technologique, 67400 Illkirch, France

- G/PI.05** COMPRESSION PLASMA FLOW INTERACTION WITH TITANIUM-ON-STEEL SYSTEM: STRUCTURE AND MECHANICAL PROPERTIES
0219 V.V. Uglov, V.M. Anishchik, N.N. Cherenda, A.K. Stalmashonak, Belarusian State University, 4 F. Skorina ave., 220080 Minsk, Belarus, V.M. Astashinski, A.M. Kuzmickii, Institute of Molecular and Atomic Physics, National Academy of Sciences of Belarus, 70 F. Skorina ave., 220072 Minsk, Belarus
- G/PI.06** WASTE AND BIOMASS TREATMENT EMPLOYING PLASMA TECHNOLOGY
0467 R. Kezelis, V. Valinciute, V. Valincius, Lithuanian Energy Institute, Kaunas, Lithuania
- G/PI.07** MEASUREMENT OF THE EROSION OF THE PLASMATRON CATHODE
0518 E.I. Asinovsky, E.Kh. Isakaev, A.L. Ochkan', I.S. Samoylov, Associated Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russia
- G/PI.08** STUDY OF THE PROPERTIES OF YSZ FILMS DEPOSITED BY PLASMA SPRAYING TECHNIQUE
0660 Kristina Brinkiene, Romualdas Kezelis, Lithuanian Energy Institute, Kaunas, Lithuania
- G/PI.09** EFFECT OF MAGNETIC FIELD STRENGTH ON PILOT-PSI PLASMA BEAM FLUXES PROBED BY THOMSON SCATTERING
0699 G.J. van Rooij, W.J. Goedheer, V. Veremiyenko, C.J. Barth, M.G. von Hellerman, B. de Groot, J.C. Wolff, N.J. Lopes Cardozo, A.W. Kleyn, FOM-Institute for Plasma Physics Rijnhuizen, The Netherlands, Association EURATOM-FOM, Trilateral Euregional Cluster and R.A.H. Engeln, Eindhoven University of Technology, The Netherlands
- G/PI.10** ON THE KINETICS OF A RELAXING HIGH TEMPERATURE ATMOSPHERIC PRESSURE NITROGEN PLASMA
0738 A.A. Belevtsev, V.F. Chinnov, A.V. Fyodorov, E.H. Isakaev, A.V. Kukushkin, Associated Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russia
- G/PI.11** RESULTS OF PRODUCTION TESTS AND ANALYSIS OF DESTRUCTION MECHANISMS OF HOT FORGING DIES COVERED BY THE COMPOSITE „NITRIDING LAYER/CrN COATING”
0790 Jerzy Smolik, Jan Walkowicz, Institute for Terotechnology, ul.Pu&laskiego 6/10, 26-600 Radom, Poland
- G/PI.12** INFLUENCE OF THE SUBSTRATE SHAPE AND INTENSITY OF THE ION ETCHING PROCESS ON DESTRUCTION OF THE COMPOUND LAYER IN THE NITRIDED LAYER
0791 Jerzy Smolik, Jan Walkowicz, Institute for Terotechnology, ul.Pulaskiego 6/10, 26-600 Radom, Poland
- G/PI.13** THE GENERALIZED POISEUILLE VELOCITY PROFILE IN A STABILIZED LAMINAR FLOW OF ARGON PLASMAS
0812 S.E. Chikunov, E.Kh. Isakaev, O.A.Sinkevich, Associated Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russia
- G/PI.14** ELECTROMAGNETIC AND GAS DYNAMIC CONTROL OF TRANSFERRED PLASMA ARC IN METALLURGICAL PLASMA REACTORS AND FURNACES
0824 M. Mihovskiy, L. Todorov, V. Hadzhiyski, “PLASMALAB”, Plasma Metallurgy Research Laboratory, University of Chemical Technology and Metallurgy, 8 Kliment Ohridsky” Blvd., 1156 Sofia, Bulgaria
- G/PI.15** ON-LINE CONTROL OF ATMOSPHERIC PLASMA SPRAYING PROCESS USING HYBRID METHODOLOGY
0842 S. Guessasma(a), M. Arrouf(b), G. Montavon(a), C. Coddet(a), W. Charon(b) and F. Peyraut(b), (a)LERMPS-UTBM, 90010 Belfort, France, (b)M3M laboratory-UTBM, 90010 Belfort, France
- G/PI.16** PLASMA SPRAYED FIELD ELECTRON EMITTERS
0876 Z. Znamirovski, J. Drzazga, WEMIF, Wroclaw University of Technology, 50370 Wroclaw, Poland, L. Pawlowski, LCPS, UMR CNRS 8012, ENSCL, USTL, BP 108, 59652 Villeneuve d’Ascq, France
- G/PI.17** SIMULATION OF HYDROXYAPATITE COATING GROWTH BY PLASMA SPRAYING
0893 J.H. Harding, Materials Research Centre, Dept. Phys. Astronomy, University College London, London, U.K., S. Dyshlovenko, L. Pawlowski, LCPS, UMR CNRS 8012, ENSCL, USTL, BP 108, 59652 Villeneuve d’Ascq, France, I. Smurov, ENISE, 42023 Saint Etienne, France, D. Murano, TLS, Villeneuve le Roi, 94290 Villeneuve le Roi, France
- G/PI.18** OXIDATION RESISTANCE OF CHROME CARBIDE COMPOSITES OBTAINED AIR PLASMA AND HVOF SPRAYING
0901 Z. Nykiel, L. Pawlowski, LCPS, UMR CNRS 8012, ENSCL, USTL, BP 108, 59652 Villeneuve d’Ascq, France, Z. Znamirovski, WEMIF, Wroclaw University of Technology, 50370 Wroclaw, Poland, J.-P. Janssen, F. Campana, Advanced Coating, 4000 Liège, Belgium
- G/PI.19** ARC DYNAMIC IN A LOW VOLTAGE CIRCUIT BREAKER
0919 B. Swierczynski, J.J. Gonzalez, P. Freton, A. Gleizes and P. Teulet, CPAT, UMR5002 du CNRS, Université Paul Sabatier, 118 rte de Narbonne, bat 3R2, 31062 Toulouse cedex, France
- G/PI.20** PLASMA HEAT TRANSFER: PRELIMINARY STUDY OF A FREE BURNING ARC DEVICE
0925 M. Masquère, X. Franceries, F. Lago, J.J. Gonzalez and P. Freton, CPAT, UMR5002 du CNRS, Université Paul Sabatier, 118 rte de Narbonne, bat 3R2, 31062 Toulouse cedex, France
- G/PI.21** PLASMA HEAT TRANSFER: INVERSE METHODS FOR OPTIMIZATION OF THE MEASUREMENTS
0929 X. Franceries, M. Masquère, P. Freton and J.J. Gonzalez, CPAT, UMR5002 du CNRS, Université Paul Sabatier, 118 rte de Narbonne, bat 3R2, 31062 Toulouse cedex, France

- G/PL22**
1023
STUDY OF THE PHASES FORMED DURING THE GROWTH OF THICK COATINGS WITH COARSE GRAINED TIN
G. Vourlias, N. Pistofidis, E. Paulidou, G. Stergioudis, K. Polychroniadis, Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
- G/PL23**
1161
HIGH-TEMPERATURE ARC IN DENSE GAS
A.F. Savvateev, A.A. Bogomaz, A.V. Budin, M.E. Pinchuk, Ph.G. Rutberg, Institute of Problems of Electrophysics of Russian Academy of Sciences (IPE RAS), Dvortsovaya nab. 18, St.-Petersburg 191186, Russia
- G/PL24**
1245
STRUCTURE OF SURFACE LAYERS OF IRON AND CARBON STEELS TREATED BY COMPRESSION PLASMA FLOWS
V.V. Uglov, V.M. Anishchik, V.V. Astashynski, Belarusian State University, Minsk, Belarus
- G/PL25**
425
IN SITU INFRARED OPTICAL MEASUREMENTS OF GAS PROPERTIES IN A CAPACITIVELY COUPLED RF ARSIF4PLASMA
J. Remy, G. Dingemans, G.M.W. Kroesen, W.W. Stoffels, TU Eindhoven, Den Dolech 2, P.O. Box 513, 5600 MB Eindhoven, The Netherlands
- G/PL26**
1393
INFLUENCE OF HYDROGEN PLASMA TREATMENT ON THE STRUCTURE AND OPTICAL PROPERTIES OF TIN OXIDE THIN FILM PRODUCED BY MAGNETRON SPUTTERING
D.M. Mukhamedshina, N.B., Beisenkhanov, K.A. Mitk, I.V. Ovcharenko and E.A. Dmitrieva, Institute of Physics and Technology of MES, Almaty, Kazakhstan
- G/PL27**
1404
MONITORING WATER VAPOUR PLASMA JETS ADMIXED WITH ARGON USING CHROMATIC OPTICAL SENSING TECHNIQUES
B.E. Djakov, Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria, M. Hrabovsky, V. Kopecky, Institute of Plasma Physics, Czech Academy of Sciences, Prague, Czech Republic, G.R. Jones, Department of Electrical Engineering and Electronics, University of Liverpool, U.K.
- G/PL28**
1546
CARBON-BASED NANOCOMPOSITE FILMS DEPOSITED IN RF PLASMA
V.V. Azharonok, I.I. Filatova and V.D. Shimanovich, Institute of Molecular and Atomic Physics of the National Academy of Sciences of Belarus, 70 Skaryna Av., 220072 Minsk, Belarus
- G/PL29**
1738
IN SITU LASER ASSISTED DIAGNOSTICS ON GROWTH RATE OF THICK PACVD ORGANOSILICON FILMS
M. Aimard, R. Sumera, C. Vivien, P. Supiot, Laboratory GEPIFREM UPRES EA 2698, University of Science and Technology of Lille, 59655 Villeneuve d'Ascq-Cedex, France
- G/PL30**
1814
PLASMA TECHNOLOGIES FOR THE RESOURCE ENHANCEMENT OF METAL PRODUCTS
G.A. Filippov, Bardin Institute for Ferrous Metals, M.V. Illichev, E.Kh. Isakaev, Associated Institute for High Temperatures, Russian Academy of Sciences, Moscow, Russia
- G/PL31**
1952
STUDY OF SPECTRAL RESPONSE OF LARGE AREA AMORPHOUS SILICON SOLAR CELLS
L. Raniero(a), N. Martins(b), P. Canhola(b), S. Pereira(a), I. Ferreira(a), E. Fortunato1 and R. Martins(a), (a)Departamento de Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa and CEMOP, Campus da Caparica, 2829-516 Caparica, Portugal, (b)PORTSOL-Sociedade Portuguesa de Sistemas Fotovoltaicos Lda, Capa Rota, Manique de Cima, 2714-513 Sintra, Portugal
- G/PL32**
1961
RADIATION IN WATER-VORTEX STABILIZED ELECTRIC ARC – COMPARISON AMONG DIFFERENT MODELS
J. Jeništa, Institute of Plasma Physics ASCR, Za Slovankou 3, 18221 Prague, Czech Republic, M. Bartlová, V. Aubrecht, Brno University of Technology, Technická 8, 616 00 Brno, Czech Republic
- G/PL33**
2046
INFLUENCE OF THE TYPE OF BOMBARDING IONS ON DESTRUCTION OF THE MULTI-PHASE NITRIDED LAYER IN THE ION ETCHING PROCESS
J. Walkowicz, J. Smolik, Institute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland, M. Grushin, P. Supiot, University of Science and Technology of Lille, 59655 Villeneuve d'Ascq-Cedex, France, et al.
- G/PL34**
2178
IMPORTANCE OF THE CATALYCITY DURING AN ATMOSPHERIC RE-ENTRY PHASE OF AEROSPACE VEHICLES
M. Balat-Pichelin, L. Bedra, IMP-CNRS, Rue du Four Solaire, BP 5, 66125 Font-Romeu Odeillo, France
- G/PL35**
2191
STUDY OF HE I 447.15 nm LINE PROFILE AT HIGH ELECTRON CONCENTRATIONS
V.D. Shimanovich, L.E. Krat'ko, N.I. Chubrik, S.V. Goncharik, Institute of Molecular and Atomic Physics of NAS of Belarus, 70 Skaryna Av., 220072 Minsk, Belarus
- G/PL36**
2278
COMPOSITION OF THE PLASMA DURING THE ARC EXTINCTION AND STUDY OF SOOT DEPOSITION IN A LOW VOLTAGE CIRCUIT-BREAKER WITH VAPORS COMING FROM THE EROSION OF WALLS AND CONTACTS
Ph. Teulet, A. Mercado-Cabrera, J.J. Gonzalez and A. Gleizes, CPAT, Université Paul Sabatier, 118 Rte de Narbonne, 31062 Toulouse Cedex 4, France, J.L. Ponthenier, F. Laverty and Ch. Fiévet, Schneider Electric, Centre de Recherche A2, 38050 Grenoble Cedex 9, France

Wednesday, May 26, 2004

Afternoon

Session Chair: J. Amouroux

- G-IV.01** 14:00 -Invited-# 2447 MEASUREMENTS OF PLASMA BREAKDOWN
M.D. Bowden, E. Wagenaars, Tao Jiang, W.J.M. Brok, M.F. Gendre, Dept of Applied Physics, Eindhoven University of Technology, PO Box 513, 5600 MB Eindhoven, Netherlands
- G-IV.02** 14:30 -Invited-# 2190 OXIDATION AND CATALYCITY OF THERMAL PROTECTION MATERIALS AT HIGH TEMPERATURE
M. Balat-Pichelin, IMP-CNRS, rue du Four Solaire, BP 5, 66125 Font-Romeu Odeillo, France
- G-IV.03** 15:00 # 1817 DETECTION OF BACTERIAL DEPOSITS AND BIOAEROSOLS BY LASER-INDUCED BREAKDOWN SPECTROSCOPY
N. Leone, P. Adam, CEB, BP n°3, 91710 Vert le Petit, France and J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France
- G-IV.04** 15:20 -Invited-# 2525 ANALYSE AND MODELLING OF HIGH-VOLTAGE CIRCUIT-BEAKERS ARCS
A. Gleizes, J.J. Gonzalez, Centre de Physique des Plasmas et de leurs Applications de Toulouse, UMR 5002, Université Paul Sabatier, 118 route de Narbonne, 31062 Toulouse Cedex 4, France
- G-IV.05** 15:40 # 2528 MODELLING OF THE HEAT TRANSFERT OF ATOMIC OXYGEN RECOMBINATION ON CERAMICS AND SEMICONDUCTORS TARGETS
C. Guyon, S. Cavadias, M. Moscova, J. Amouroux, Laboratoire de Génie des Procédés Plasmas et Traitements de Surface, 11 rue P. et M. Curie, 75231 Paris Cedex 05, France
- 16:00 **BREAK**

Session Chair: D. Morvan

- G-V.01** 16:15 -Invited-# 2523 NEAR ELECTRODE PHENOMENA IN STRONG CURRENT DISCHARGES IN DENSE GAS MEDIA
P. Rutberg, Institute of Problems of Electrophysics of Russian Academy of Sciences, Dvortsovaya nab 18, 191186 St. Petersburg, Russia
- G-V.02** 16:45 -Invited-# 2496 ACTIVE AND PASSIVE SPECTROSCOPY ON EUV-PRODUCING DISCHARGE PLASMAS
E.R. Kieft, J.J.A.M. van der Mullen and G.M.W. Kroesen, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands, V. Banine, ASML Netherlands B.V., De Run 6501, 5504 DR Veldhoven, The Netherlands, and K.N. Koshelev, ISAN, Troitsk, Moscow Region, Russia
- G-V.03** 17:05 -Invited-# 0026 NUMERICAL MODELING FOR A BETTER UNDERSTANDING OF GAS DISCHARGE PLASMAS
A. Bogaerts, University of Antwerp, Dept. of Chemistry, Universiteitsplein 1, 2610 Antwerp, Belgium
- G-V.05** 17:25 # 2410 THERMAL PLASMA DEGRADATION OF PHENOL IN AQUEOUS SOLUTION
M. Violier, N. Cerqueira, C. Vandensteendam and J.M. Baronnet, Laboratoire de Chimie des Plasmas, University of Limoges, France
- G-V.05** 17:45 # 2354 EXPERIMENTAL SIMULATION OF THERMO-MECHANICAL ABLATION OF CARBON/PHENOLIC COMPOSITE UNDER THE IMPACT OF LIQUID ALUMINA PARTICLES
S. Bansard, M. Vardelle and P. Fauchais, SPTS, University of Limoges, Limoges, France, J.M. Deoclezian, SNECMA Propulsion, Le Haillan, France
- G-V.06** 18:05 # 2455 TIME DEPENDENT 3-D MODELLING OF INDUCTIVELY COUPLED PLASMA TORCHES
D. Bernardi, V. Colombo, E. Ghedini, A. Mentrelli, Department of Mechanical Engineering (D.I.E.M.) and Research Center for Applied Mathematics (C.I.R.A.M.), Università di Bologna, Via Saragozza 8, 40123 Bologna, Italy

Thursday, May 27, 2004

Morning

Session Chair: A. Gleizes

- G-VI.01** 08:30 -Invited-
2339 FROM TRANSFERRED ARCS TO PLASMA TORCHES
J.F. Coudert, SPCTS Laboratory UMR CNRS 6638, 123 avenue Albert Thomas, 87060 Limoges cedex, France
- G-VI.02** 09:00 -Invited-
0530 DIAGNOSTICS OF ABSORBING INHOMOGENEOUS PLASMAS BY THEIR EMISSION SPECTRA
E. Ershov-Pavlov, K. Catsalap, K. Stepanov, Institute of Molecular and Atomic Physics, National Academy of Sciences, Minsk, Belarus
- G-VI.03** 09:30 -Invited-
2515 RECENT DEVELOPMENTS IN THERMAL SPRAYING FOR IMPROVED COATING CHARACTERISTICS AND NEW APPLICATIONS: SPRAY PROCESSES AND PROCESS CONTROLS
Ghislain Montavon, Laboratoire d'Etudes et de Recherches sur les Matériaux, les Procédés et les Surfaces (LERMPS), Université de Technologie de Belfort-Montbéliard (UTBM), Site de Sévenans, 90010 Belfort Cedex, France
- 10:00 **BREAK**

Session Chair: D. Neuschütz

- G-VII.01** 10:30 -Invited-
2517 CONDUCTIVITY OF NONIDEAL PLASMAS
V.E. Fortov, V.B. Mintsev, V.Ya. Ternovoi, V.K. Gryaznov, I.L. Iosilevskii, M.V. Zhernokletov, M.A. Mochalov
- G-VII.02** 11:00 -Invited-
2244 UNDERSTANDING SUSPENSION D.C. PLASMA SPRAYING OF FINELY STRUCTURED CERAMIC COATINGS FOR SOFCS
Cedric Delbos(a), **Vincent Rat**(a), Jean-François Coudert(a), Pierre Fauchais(a), Luc Bianchi(b), (a)Laboratoire Sciences des Procédés Céramiques et de Traitements de Surface (SPCTS), UMR-CNRS 6638, 123 Avenue Albert Thomas, 87060 Limoges cedex, France, (b) Commissariat à l'Energie, le Ripault, DMAT/SDI/LPTH BP 16, 37260 Monts, France
- G-VII.03** 11:20
1955 CHARACTERISATION OF PLASMA SPRAYED BORON CARBIDE AND TUNGSTEN LAYERS FOR FUSION APPLICATIONS
S. Lindig, H. Bolt, H. Greuner, Max-Planck-Institut für Plasmaphysik, Euratom Association, Boltzmannstr. 2, 85748 Garching, Germany
- 11:40-12:30 POSTER SESSION 2
- 12:30 **LUNCH**

- G/PII.01**
2282 TRANSPORT COEFFICIENTS IN THERMAL PLASMAS
V. Rat, J. Aubreton, M.F. Elchinger and P. Fauchais, SPCTS –CNRS UMR 6638, University of Limoges, 123 av. A. Thomas, 87060 Limoges cedex, France
- G/PII.02**
#2338 LOW CURRENT TRANSFERRED ARC AND ANODE ATTACHMENT: EFFECT OF GAS COMPOSITION AND TILTING ANGLE
C. Chazelas, J.F. Coudert, P. Fauchais, A. Grimaud, SPCTS Laboratory UMR CNRS 6638, 123 avenue Albert Thomas, 87060 Limoges cedex, France
- G/PII.03**
2355 DIAGNOSTICS OF TWO PLASMA JET FLOWS CLOSE TO A CARBON PHENOLIC COMPOSITE TARGET USING MOLECULAR EMISSION SPECTROSCOPY
S. Bansard, M. Vardelle and P.Fauchais, SPCTS, University of Limoges, Limoges, France H. Rabat, C. de Izarra, LASEP, University of Orléans, Bourges, France
- G/PII.04**
2377 MODELLING OF PLASMA JET AND PARTICLE BEHAVIOUR IN SPRAYING CONDITIONS
G. Renouard-Vallé, G. Delluc, P. Fauchais, B. Pateyron, Sciences des Procédés Céramiques et Traitements de Surface (SPCTS), CNRS UMR 6638 Faculté des Sciences, 123 avenue Albert Thomas, 87060 Limoges Cedex, France
- G/PII.05**
2378 NUMERICAL FORECAST OF THE TARGET IMPINGE DISTRIBUTION OF A PLASMA JET POWDER FEED
Hélène Ageorges, Guy Delluc, Bernard Pateyron, Pierre Fauchais, SPCTS UMR6638 Université de Limoges, CNRS123, avenue Albert Thomas, 87060 Limoges Cedex, France
- G/PII.06**
2385 SYNTHESIS OF ACETYLENE FROM PROPANE-BUTANE IN THE PLASMA REACTOR WITH PLASMATRONS OF DIRECT AND ALTERNATING CURRENT, AND HARDENING THE GASES OF PYROLYSIS BY THE DROWNED STREAM
V.E. Vogulkin, A.V. Gorbunov, A.L. Mosse, A.A. Galinovsky, Institute of Heat and Mass Transfer of National Academy of Sciences of Belarus, PLASMACTOR Co. Ltd, Minsk, Belarus
- G/PII.07**
2387 INVESTIGATION OF PLASMA CVD PROCESS FOR NANOCARBONS SYNTHESIS USING DC REACTOR
A.V. Gorbunov, A.L. Mosse, V.A. Koval, A.F. Bubljevsky, Institute of Heat and Mass Transfer of National Academy of Sciences of Belarus, PLASMACTOR Co. Ltd, Minsk, Belarus
- G/PII.08**
2409 ELABORATION OF COMPOSITE COATINGS BY PLASMA SPRAYING FOR TRIBOLOGY
H. Ageorges(a), A. Grimaud(a), P. Fauchais(a), F. Platon(b), (a)SPCTS UMR-CNRS 6638 Université de Limoges, 123 av. A. Thomas, 87060 Limoges Cedex, France, (b)GEMH – ENSCI 47 av. A. Thomas 87065 Limoges France
- G/PII.09**
2412 MACROCRACK FORMATION IN PLASMA-SPRAYED YSZ TBCS WITH THICK PASSES
A. Tricoire, M. Vardelle, P. Fauchais, SPCTS, Limoges, France, F. Brailard, A. Malié, SNECMA Services, Châtellerault, France, P.Bengtsson, SNECMA Moteurs, Corbeil-Essone, France
- G/PII.10**
2413 COMPUTATIONAL MODEL FOR PHASE CHANE OCCURING IN IN COMPOSITE IRON ALUMINA PARTICLE SPRAYED UNDER PLASMA CONDITIONS
M. Bouneder(a,b), M. El Ganaoui(a), B. Pateyron(a), P. Fauchais(a), (a)SPCTS, Université de Limoges, 123 ave. A. Thomas, 87060 Limoges, France, (b)Institut d'Aéronautique, Université Saad Dahleb. Route de Soumaa B. P. 270, Blida, Algérie
- G/PII.11**
2414 LARGE AREA MASS PRODUCTION OF AMORPHOUS PIN STRUCTURE SOLAR CELLS
N. Martins(a), L. Raniero(b), P. Canhola(a), S. Pereira(b), Shibin Zhang(b), R. Teixeira(a), H. Mourão(a), E. Fortunato(c), R. Martins(b), (a)PORTSOL-Sociedade Portuguesa de Sistemas Fotovoltaicos, Lda, Capa Rota, Manique de Cima, 2714-513 Sintra, Portugal, (b)CEMOP and (c)CENIMAT- Departamento de Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus da Caparica, 2829-516 Caparica, Portugal
- G/PII.12**
2435 ALUMINA-COATED STEEL: ROLE OF A MAGNETITE INTERPHASE ON THE ADHESION OF THE COATING
S. Valette(a), A. Denoirjean(a), R. Danoix(b), B. Lefez(b), B. Hannover(b), P. Lefort(a), P. Fauchais(a), (a)Science des Procédés Céramique et de Traitement de Surface, University of Limoges, UMR CNRS 6638; France, (b)Laboratoire d'Analyse Spectroscopique et de Traitement de Surface des Matériaux, University of Rouen, Institut des Matériaux de Rouen, France
- G/PII.13**
2436 MODELING OF THE TIME-DEPENDENT PHENOMENA IN A DC PLASMA SPRAY PROCESS
E. Legros, G. Mariaux, A. Vardelle, SPCTS, ENSIL, 16 rue d'Atlantis, 87068 Limoges, France
- G/PII.14**
2452 THE CATHODE SPOT PROCESSES SELF ORGANIZATION MECHANISM
Yuriy L. Vasenin, Paton Welding Institute, 11 Bozhenko St, Kiev 03680, Ukraine
- G/PII.15**
2454 3-D NUMERICAL ANALYSIS OF POWDER INJECTION IN VARIOUS ICPT CONFIGURATIONS
D. Bernardi, V. Colombo, E. Ghedini, A. Mentrelli, T. Trombetti*, *Department of Mechanical Engineering (D.I.E.M.) and Research Center for Applied Mathematics (C.I.R.A.M.), Università di Bologna, Via Saragozza 8, 40123 Bologna, Italy
- # S 5 POROSITY AND CORROSION RESISTANCE OF PLASMA CONVERSION COATINGS ON MAGNESIUM ALLOYS
W. Dietzel, H.M. Nykyforchyn, M.D. Klapvik, V.M. Posuvaylo, C. Blawert, GKSS-Forschungszentrum Geesthacht GmbH, Geesthacht, Germany. Karpenko Physico-Mechanical Institute of the National Academy of of Sciences of Ukraine, Lviv, Ukraine.
- # S3 EXPERIMENTAL INVESTIGATION OF THE ARC SECTION NEAR ANODE IN TRANSVERSE ALTERNATING MAGNETIC FIELD
A. BULAT, P. BULANY, V. OSENNY Institute of geotechnical mechanics of national science academy of ukraine

Thursday, May 27, 2004

Afternoon

Session Chair: D. Rapakoulas

- G-VIII.01** 14:00 -Invited- CAPACITIVELY COUPLED HYDROGEN DISCHARGES: MODELING VS. EXPERIMENT
1529 **L.L. Alves**, Centro de Física de Plasmas, Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal
- G-VIII.02** 14:30 -Invited- NUMERICAL MODELING OF A DC NON-TRANSFERRED PLASMA TORCH: MOVEMENT OF THE ARC
2438 ANODE ATTACHMENT AND RESULTING ANODE EROSION
C. Baudry, **A. Vardelle**, G. Mariaux, SPCTS, ENSIL, 16 rue d'Atlantis, 87068 Limoges, France and M. Abbaoui, A. Lefort, LAEPT, Université Blaise Pascal, 63177 Aubière, France and E. Meillot, CEA-DAM, BP 16, 37260 Monts, France
- G-VIII.03** 15:00 STUDY OF THE ARC BEHAVIOR UNDER THE INFLUENCE OF EXTERNAL FORCES
923 **F. Lago**, J.J. Gonzalez, P. Freton, CPAT, UMR5002 du CNRS, Université Paul Sabatier, 118 rte de Narbonne, bat 3R2, 31062 Toulouse cedex, France
- G-VIII.04** 15:20 INFLUENCE OF PLASMA SPRAY PARAMETERS ON CRYSTAL PHASE COMPOSITION OF
879 HYDROXYAPATITE COATINGS
S. Dyshlovenko, P. Rosiak, **L. Pawlowski**, LCPS, UMR CNRS 8012, ENSCL, USTL, BP 108, 59652 Villeneuve d'Ascq, France, B. Pateyron, LSPCTS, Université de Limoges, 123, av. A. Thomas, 87060 Limoges, France, Z. Znamirowski, WEMIF, Wroclaw University of Technology, Wroclaw, Poland, D. Murano, TLS, Villeneuve le Roi, 94290 Villeneuve le Roi, France
- G-VIII.05** 15:40 DEVELOPMENT OF A NEW NOZZLE WITH EXTREMELY MINOR ARC ROOT FLUCTUATIONS
1440 AND NOISES FOR ATMOSPHERIC PLASMA SPRAYING
G. Nutsch(a), H. Gruner(b), A. Schwenk(a), (a)TU Ilmenau, FG Plasma- und Oberflächentechnik, 98684 Ilmenau, Germany, (b)Medicoat AG, 5506 Mägenwil, Switzerland
- 16:00 **BREAK**

Session Chair: R. Avni

- G-IX.01** 16:15 -Invited- SILICON PURIFICATION STUDY BY MEANS OF A RF THERMAL PLASMA AND A DC CURRENT
2529 APPLIED ON THE MOLTEN BATH
A. Soric, M. Benmansour, M. Nikravec, D. Morvan, J. Amouroux, Laboratoire de Génie des Procédés Plasmas et Traitements de Surface, 11 rue P. et M. Curie, 75231 Paris Cedex 05, France
- G-IX.02** 16:45 -Invited- THE PLASMA-FUEL SHAFT FURNACE FOR MIXED BIOMEDICAL WASTE INCINERATION
2386 **A.L. Mosse**, V.A. Kalitko, A.V. Gorbunov, I.V. Hvedchin, Institute of Heat and Mass Transfer of National Academy of Sciences of Belarus, PLASMACTOR Co. Ltd, Minsk, Belarus
- G-IX.03** 17:05 OPTICAL DIAGNOSTICS AND MODELLING APPROACH TO CONTROL ON LINE EVAPORATION
2527 OF SILICON MATERIAL, TREATED BY THERMAL PLASMA PROCESS
S. Darwiche, M. Benmansour, **E. Francke**, D. Morvan, J. Amouroux, S. Dresvin, Laboratoire de Génie des Procédés Plasmas et Traitements de Surface, 11 rue P. et M. Curie, 75231 Paris Cedex 05, France
- G-IX.04** 17:25 SUBLIMATION AND COMBUSTION OF COAL PARTICLES IN EROSION PLASMA TORCH
2512 **A. Bulat**, V. Shumrivko, V.Ya. Osenniy, Institute of Geotechnical Mechanics NAS of Ukraine, Simferopolskaya st. 2a, 49005 Dnepropetrovsk, Ukraine
- G-IX.05** 17:45 PLASMA-INDUCTION TECHNOLOGY FOR REDUCTION PROCESSING OF COPPER
825 CONCENTRATE PELLETS
M. Mihovsky, V. Hadzhiyski, L. Todorov, "PLASMALAB" - Plasma Metallurgy Research Laboratory, University of Chemical Technology and Metallurgy - Sofia, 8 "Kliment Ohridskyi" Blvd., 1156 Sofia, Bulgaria
- G-IX.06** 18:05 CHARACTERIZATIONS OF THE CARBON ARC AT FULLERENE SYNTHESIS
1239 **I.P. Smyaglikov**, V.D. Shimanovich and A.I. Zolotovskiy, Institute of Molecular and Atomic Physics of NAS of Belarus, 70 Skaryna Av., 220072 Minsk, Belarus
- G-IX.07** 18:25 SPECTROSCOPIC MEASUREMENT IN AN EXPANDING H₂O-AR DC ARCJET
2459 **V. Sember**, A. Mašláni, V. Kopecký, Institute of Plasma Physics, ASCR, Za Slovankou 3, P.O. Box 17, 182 21 Prague, Czech Republic

Friday, May 28, 2004

Morning

Session Chair: J. Amouroux

- G-X.01** 08:30 -Invited- THERMALLY INDUCED PLASMA MATERIAL INTERACTIONS IN NEXT STEP
2522 THERMONUCLEAR FUSION DEVICES
J. Linke, Forschungszentrum Jülich GmbH, EURATOM Association, 52425 Jülich, Germany
- G-X.02** 09:00 INFLUENCE OF SPRAY TECHNOLOGY ON IONIC CONDUCTIVITY OF YTTRIA STABILIZED
2318 ZIRCONIA
G. Renouard-Vallet(a), L. Bianchi(a), P. Fauchais(b), M. Vardelle(b), M. Boulos(c), F. Gitzhofer(c), (a)CEA le Ripault, Monts, France, (b)SPCTS, Limoges, France, (c)RTP-GRAPES, Sherbrooke, Canada
- G-X.03** 09:30 THEORETICAL ANALYSIS OF THE OXIDE CERAMICS SPLAT FORMATION
2468 O.P. Solonenko, Institute of Theoretical and Applied Mechanics, Siberian Branch, Russian Academy of Sciences, 4/1 Institutskaya str., Novosibirsk, 630090, Russia
- 10:00 **BREAK**

Session Chair: E. Ershov-Pavlov

- G-XI.01** 10:30 TEOS/O₂ GAS PRESSURE AS A CHEMICAL COMPOSITION ADJUSTER OF PLASMA DEPOSITED -
SIO₂ THIN FILMS
Invited # 1456 A. Panou, Ch. Voulgaris, E. Amanatides, D. Mataras and D.E. Rapakoulias, Plasma Technology Lab, Dept.Chem. Engineering, University of Patras, P.O. Box 1407, 26504 Patra, Greece
- G-XI.02** 11:00 A PARAMETER STUDY OF DIELECTRIC BARRIER DISCHARGES
1209 Karel Burn, Plasma Team, VITO, Boeretang 200, 2400 Mol, Belgium, Myriam Madani, University of Antwerp, Dep. of Chemistry, Universiteitsplein 1, 2610 Wilrijk, Belgium
- G-XI.03** 11:20 INVESTIGATION OF PHENOMENA INFLUENCING PROPERTIES OF PLASMA SPRAYED
2510 CERAMIC-METAL COMPOSITE DEPOSITS
A.A. Syed, A. Denoirjean, P. Denoirjean, J.C. Labbe, P. Fauchais, SPCTS, Université de Limoges, 123 av. Thomas, 87060 Limoges, France
- G-XI.04** 11h40 FLOW AND TEMPERATURE DEPENDENCE OF PARTICLE FORMATION IN AR-SILANE RF
1312 CAPACITIVELY COUPLED PLASMAS
M. Sorokin, G.M.W. Kroesen, W.W. Stoffels Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands
- 11:50-12:30 POSTER SESSION 3
- 12:30 **LUNCH**

- G/PIII.01** MULTIPASS SURFACE HARDENING OF STEEL SAMPLES WITH INCLINED SURFACES BY CONCENTRATED ELECTRON BEAM IN THE AIR OF ATMOSPHERIC PRESSURE
2456 V.V. Abashkin, O.A. Gorshkov, A.A. Ilyin, A.S. Lovtsov, R.N. Rizakhanov Keldysh Research Center, Onezhskaya 8, 125438 Moscow, Russia
- G/PIII.02** THE INVESTIGATION OF POSSIBILITIES OF CONCENTRATED ELECTRON BEAM CONTROL IN THE GASES OF ATMOSPHERIC PRESSURE
2457 V.V. Abashkin, A.A. Ilyin Keldysh Research Center, Onezhskaya 8, 125438 Moscow, Russia
- G/PIII.03** EFFECT OF THE IN-FLIGHT BEHAVIOR OF PARTICLES ON THE AMORPHOUS CONTENT OF METALLIC COATINGS UNDER THERMAL SPRAY CONDITIONS
2458 P. Ctibor, S. Nourouzi, C. Le Niniven, A. Vardelle, Laboratoire Sciences des Procédés Céramiques et Traitements de Surface, ENSIL, 16 rue d'Atlantis, 87068 Limoges, France and P. Rohan, S. Bouaricha, J.-G. Legoux, C. Moreau, National Research Council Canada, Industrial Materials Institute, 75 Boulevard de Mortagne, Boucherville, Québec J4B 6Y4, Canada
- G/PIII.04** DISTRIBUTION OF MASS FRACTIONS IN THE FREE JET OF HOT GAS MIXTURE
2460 J. Gregor, I. Jakubová, J. Šenk, Dept. of Power El. Eng. FECC TU Brno, Purkyňova 118, 612 00 Brno, and M. Hrabovský, Inst. of Plasma Physics, Academy of Sciences, Za Slovankou 3, Praha, Czech Republic
- G/PIII.05** INFLUENCE OF EXTERNAL PRESSURE ON TURBULENT PHENOMENA IN A THERMAL PLASMA JET
2461 J. Hlína, J. Šonkský, V. Něnička, Institute of Electrical Engineering, Academy of Sciences of the Czech Republic, Dolejškova 5, 182 02 Praha 8, Czech Republic and M. Konrád, V. Kopecký, O. Chumak, M. Hrabovský, Institute of Plasma Physics, AS CR, Za Slovankou 3, Praha 8, Czech Republic
- G/PIII.06** NUMERICAL TECHNIQUE AND SOFTWARE FOR COMPUTER MODELING HEAT TRANSFER AND PHASE STATE UNDER HIGH-ENERGY FLUX IMPACT ON SOLID BODY SURFACE
2465 O.P. Solonenko and A.A. Golovin, Institute of Theoretical and Applied Mechanics, Siberian Branch, Russian Academy of Sciences, 4/1 Institutskaya str., Novosibirsk 630090, Russia
- G/PIII.07** COMPUTATIONAL EVALUATION OF THERMAL BARRIER COATING CHARACTERISTICS UNDER PLASMA SPRAYING
2466 O.P.Solonenko, Institute of Theoretical and Applied Mechanics, Siberian Branch of the Russian Academy of Sciences, 4/1 Institutskaya str., 630090, Novosibirsk, Russia, T.Sato, and H.Nishiyama, Institute of Fluid Science, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan
- G/PIII.08** PECULIARITIES OF SPLAT FORMATION UNDER YSZ HOLLOW DROPLET IMPACT ONTO SUBSTRATE
2467 O.P.Solonenko, A.A.Mikhailchenko, and E.V.Kartaev, Institute of Theoretical and Applied Mechanics, Siberian Branch, Russian Academy of Sciences, 4/1 Institutskaya str., Novosibirsk, 630090, RUSSIA, V.E.Belashchenko, TSD, LLC, 9 Irving Drive, Concord NH 03301, USA
- G/PIII.09** SOME TECHNOLOGICAL NICHES OF DC TORCHES WITH PLASMA JET OUTFLOW AT LOW REYNOLDS NUMBER
2469 O.P. Solonenko, V.I. Kuz'min, A.A. Mikhailchenko, and A.V. Smirnov, Institute of Theoretical and Applied Mechanics, Siberian Branch, Russian Academy of Sciences, 4/1 Institutskaya str., Novosibirsk 630090, Russia
- G/PIII.10** DYNAMICS OF CARBON CLUSTERS GROWS IN DISCHARGE PLASMA WITH GRAPHITE ELECTRODES. THE PHYSICAL MODEL AND NUMERICAL SIMULATION
2494 K.L. Stepanov, Yu.A. Stankevich, L.K. Stanchits, Heat & Mass Transfer Institute, The Academy of Sciences of Belarus, Minsk, Belarus
- G/PIII.11** THERMOPHYSICAL MODEL FOR DETERMINATION OF EFFECTIVE ELECTRICAL CONTACT ARC TECHNOLOGY OF METALS PROCESSING
2509 E. Smirnov, V. Frolov, Polytechnical University, Polytechnic Str. 29, 195251 St.Petersburg, Russia
- G/PIII.12** THE TODAY STATUS OF THE SOLAR PV INDUSTRY
2513 R. Avni, AVNI RTD CONSULTING, 8 Rimalt, Ramat-Gan 55281, Israel
- G/PIII.13** TOLUENE DESTRUCTION BY DBD AT ATMOSPHERIC PRESSURE IN A MULTI-POINT-TO-PLANE REACTOR. REACTION PATHWAY BY ISOTOPIC LABELLING AND BY-PRODUCT DETERMINATION
2519 L. Martin, J. Amouroux, Laboratoire de Génie des Procédés Plasmas et Traitement de Surfaces, 11 rue Pierre et Marie Curie, 75231 Paris Cedex, France
- G/PIII.14** EQUILIBRIUM EVALUATIONS IN ATMOSPHERIC PRESSURE ARC PLASMAS
2530 C. Fanara, SIMS-WERC, Cranfield University, MK43 0AL Cranfield, U.K.
- G/PIII.15** TO CALCULATION OF PARTICLE HEAT TRANSFER IN THERMAL PLASMAS
2531 S. Dresvin(a), J. Amouroux(b), S. Zverev(a), D. Ivanov(a), (a)SPbSPU, 29 Polytechnicheskaya Str., 195251 St. Petersburg, Russia, (b)LGPPTS, ENSCP, 11 rue P. et M. Curie, 75231 Paris Cedex 05, France
- G-XII.01** INVESTIGATION ON SUPERSONIC GAS FLOW COUPLED WITH AN INDUCTIVE LOW-PRESSURE PLASMA USED FOR THE SYNTHESIS OF CATHODE MATERIAL
2524 F. Rousseau, M. Nikravec, E. Francke, J. Milpied, D. Morvan, J. Amouroux, Laboratoire de Génie des Procédés Plasmas et Traitements de Surface, 11 rue Pierre et Marie Curie, 75231 Paris Cedex 05, France
- # S4 PASSIVATION OF POLYCRYSTALLINE SILICON BY HYDROGEN PLASMA : CHARACTERIZATION BY IMPEDANCE SPECTROSCOPY

S. Darwiche, M. Nikravech, D. Morvan, J. Amouroux, D. Ballutaud* ENSCP-Laboratoire de Génie des Procédés Plasmas et Traitement de Surfaces
11, rue Pierre et Marie Curie 75231 PARIS Cedex 05
mehrada-nikravech@enscp.jussieu.fr
*LPSC- 1, place Aristide Briand-92195 MEUDON CEDEX

S2 PLASMOCHEMICAL TECHNOLOGIES FOR PROCESSING OF HYDROCARBONIC RAW MATERIAL WITH SYNGAS PRODUCTION
A.N. Bratsev, Ph.G. Rutberg, A.A. Ufimtsev Institute of Electrophysics of the russian Academy of Sciences, St-Petersburg

S 1 INFLUENCE OF POWDER SIZE DISTRIBUTIONS ON MICROSTRUCTURAL FEATURES OF FINELY STRUCTURED PLASMA SPRAYED COATINGS
C. Delbos, V. Rat, C. Bonhomme, J. Fazilleau, J.F. Coudert, P. FauchaisLaboratoire Sciences des Procédés Céramiques et de Traitements de Surface, UMR 6638, CNRS Université de Limoges, conventionné avec le CEA n] M08

Friday, May 28, 2004

Afternoon

Session Chair: J.A. Bakken

	14:00	FINAL SESSION PLASMA J. Amouroux
	14:30	QUALIFICATION OF ADSORBED SPECIES ON ASHES. APPLICATION ON GAS PHASE ANALYSIS FROM FLY ASHES. P. Rousseau, S. Cavvadias, J. Amouroux, Laboratoire de Génie des Procédés Plasmas et Traitement de Surfaces, 11 rue Pierre et Marie Curie, 75231 Paris Cedex , France
G-XII.02	15:00 # 2463	EFFECT OF PRESSURE ON BEHAVIOR OF ANODE ATTACHMENT OF DC ARC PLASMA TORCH O. Chumak, V. Kopecky, M. Konrad, T. Kavka, M. Hrabovsky, Institute of Plasma Physics, AS CR, Za Slovankou 3, Praha 8, Czech Republic and J. Hlina, J. Sonsky, Institute of Electrical Engineering, AS CR, Dolejskova 5, Praha 8, Czech Republic
	15:30	French-Russian Seminary
	15:40	European Network
	16:00	CONCLUSIONS