E-MRS – IUMRS – ICEM 2000

SYMPOSIUM A

TPP 6 Thermal Plasma Processes

May 30 – June 2, 2000

Symposium Organizers:

J. Amouroux, ENSCP, Paris, France

P. Fauchais, LMCTS, Limoges, France

S. Dresvin, Technical University, St Petersburg, Russia

D. Neuschutz, RWTH, Aachen, Germany

E-MRS 2000 SPRING MEETING

Symposium A

Tuesday May 30, 2000 **Morning**
Mardi 30 mai 2000 Matin

	8:30		**Opening Ceremony**
A01	9:00		**Plenary Lecture** OXIDE FUEL CELLS BY PLASMAS PROCESS Chairman, R. Henne
A02	9:45	Invited	PLASMA METALLURGY - STATES OF THE ART, PROBLEMS AND FUTURE, **M.K.Mihovsky**, University of Chemical Technology and Metallurgy, PLASMALAB, 8 Kl.Ohridsky Blvd., 1156 Sofia, Bulgaria
	10:15		**BREAK**
A03	10:30	Invited	ANALYSIS OF POLLUTED SURFACES BY TIME RESOLVED LASER INDUCED BREAKDOWN SPECTROSCOPY, S. Morel, M. Durand, **P. Adam**, CEB, BP n°3, 91710 Vers-le-Petit, France and J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France
A04	11:00		PLASMA DIAGNOSTICS USING LINE SHAPES IN TOTAL EMISSION SPECTRUM, E. Ershov-Pavlov, Institute of Molecular and Atomic Physics, 70 F.Skaryna Ave., 220072 Minsk, Belarus and K. Stepanov, Heat & Mass Transfer Institute, 15 P.Brovka Str., 220072 Minsk, Belarus
A05	11:30		OPTICAL EMISSION STUDIES OF ARC PLASMA WITH C, C/Fe AND C/Co/Ni ELECTRODES, H. Lange, A. Huczko, Department of Chemistry, University of Warsaw, Pasteur 1, 02-092 Warsaw, Poland, M. Razafinimanana, A. Gleizes, CPAT ESA 5002 CNRS, University Paul Sabatier, Narbonne 118, 31062 Toulouse, France and T. Sogabe, Toyo Tanso Co. Ltd., Kagawa 769-1612, Japan
A06	11:50		MULTITEMPERATURE DIFFUSION COEFFICIENTS, V. Rat(1), J. Aubreton(1) M.F. Elchinger(1), P. Fauchais(1), P. André(2), A. Lefort(1), (2)SPCTS University of Limoges, 123 av. A. Thomas, 87060 Limoges cedex, France, (2)LAEPT Blaise Pascal University, 24 av. des Landais, 63177 Aubière cedex, France
A07	12:10		ON-LINE ANALYSIS OF PROCESS PARAMETERS IN A PILOT PLASMA REACTOR FOR HYDROCARBONS CRACKING, F. Fabry, G. Flamant, L. Fulcheri, B. Granier, J.Y. Peroy, E. Grivei, C. Chapman, F. Fischer
	12:30		**LUNCH**

Tuesday May 30, 2000 — Afternoon
Mardi 30 mai 2000 — Après-midi

A08 14:00 NITROGEN REMOVAL FROM LIQUID STEEL DURING PLASMA ARC HEATING BY lNIECTING ETHANE INTO THE ARGON ARC, D. Neuschuetz, D. Spirine, Lehrstuhl fuer Theoretische Huettenkunde, Kivoy Rog, Ukraine

A09 14:30 HIGH-CURRENT AC ARCS IN SUBMERGED ARC FURNACES, J.A. Bakken and G.A. Saevarsdottir, Norwegian University of Science and Technology, Department of Materials Technology and Electrochemistry, 7491 Trondheim, Norway

A10 15:00 STUDY OF FLOW FIELD TOPOLOGY IN AN ICP TORCH BY SURFACE PRESSURE MEASUREMENTS AND NUMERICAL CALCULATIONS, O. Chazot, T. Magin, Von Karman Institute, 72 Chaussée de Waterloo, 1640 Rhode-St-Genèse, Belgium

A11 15:20 PLASMA DEPOSITION OF YTTRIA-STABILISED ZIRCONIA USING LIQUID PRECURSORS, D.W. Branston, G. Lins, J. Verleger, Siemens Corporate Technology, Erlangen, Germany and E. Bouyer, R. Henne, M. Müller, German Aerospace Center, Stuttgart, Germany

A12 15:40 INVESTIGATION OF THE ENERGY BALANCE IN AN ARC AND THERMAL PROCESSES IN METAL FOR WELDING, S. Dresvin, V. Yakolev, E. Smirnov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia, J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France

16:00 **BREAK**

A13 16:15 Invited ORDERED STRUCTURES OF PARTICLES IN A PLASMA UNDER MICROGRAVITY, **A.P. Nefedov**, V.E. Fortov, O.F. Petrov, High Energy Density Research Center of the Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A14 16:45 EVAPORATION SYNERGIES IN THE TREATMENT OF A FLY ASH MODEL BY PTA, S. Bernard, M. El Ganaoui, P. Fauchais, J. Jarrige, J.P. Lecompte

A15 17:05 A DC PLASMA SPRAYING PROCESS TO ELABORATE FINE STRUCTURED COATINGS, K. Wittmann, J.-F. Coudert, P. Fauchais, F. Blein, Commissariat à l'Energie Atomique, Le Ripault, B.P. 16, 37260 Monts, France, Laboratoire Sciences des Procédés Céramiques et Traitements de Surface, UMR-CNRS 6638, Université de Limoges, 87060 Limoges Cedex, France

A16 17:25 HEAT TRANSFER IN TRIPLE TORCH PLASMA PROCESSING REACTORS WITH SOLUTION INJECTION, A.V. Gorbunov,A.L. Mosse, Heat & Mass Transfer Institute, Belarus Academy of Sciences, 220072Minsk, Belarus

A17 17:45 MAGNETIC FIELD AND ELECTRODE EROSION IN ELECTRIC ARC HEATERS, L.I. Sharakhovsky, The Luikov Heat & Mass Transfer Institute, P. Brovki Str. 15, 220072 Minsk, Belarus, A. Marotta and A.M. Essiptchouk, Inst. of Phys. of UNICAMP, 13083-970 Campinas, Sao Paulo, Brazil

A18 18:05 PLASMA FURNACE FOR TREATMENT OF SOLID TOXIC WASTES, Ph.G. Rutberg, A.A. Safronov, A.N. Bratsev, A.A. Ufimtsev, V.E. Popov, S. Popov, A. Surov

A19 14:00 Invited EFFECT OF THE INTERELECTRODE DISTANCE ON THE PROPERTIES OF SiH4/H2 DEPOSITION DISCHARGES OPERATING AT DIFFERENT RADIO FREQUENCIES, **D. Mataras**, E. Amanatides, D. Rapakoulias

A20 14:30 PLASMAS PROCESSING OF POLYMERS FOR ENHANCED ADHESION TO METALS AND OTHER MATERIALS, F. Arefi-Khonsari, M. Tatoulian and J. Amouroux, Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France

A21 15:00 TORING THE IMPACT OF LIQUID ALUMINA PARTICLES UNDER PLASMA CONDITIONS USING AN IMAGING TECHNIQUE, C. Escure, M. Vardelle, P. Fauchais, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas, 87060 Limoges, France

A22 15:20 WATER STEAM PLASMA GENERATOR USED THE MODIFIED PLASMA TORCH, A.N. Knak, I.V. Hvedchin, E.M. Ermolaeva, A.L. Mosse, Heat & Mass Transfer Institute, Belarus Academy of Sciences, 220072Minsk, Belarus

A23 15:40 THEORETICAL FUNDAMENTALS OF METAL OXIDE SPLATS FORMATION UNDER PLASMA SPRAYING, O.P. Solonenko, Inst. of Theor. And Appl. Mechanics, Sib. Div. Russian Ac. Sci., Institutskaya 4/1, 630090 Novosibirsk, Russia

16:00 **BREAK**

A24 16:15 RADIATIVE TRANSFER IN OXYGEN, NITROGEN AND AIR THERMAL PLASMAS BETWEEN 300 AND 30000K, Y. Naguizadeh-Kashani and A. Gleizes, Centre de Physique des Plasmas et de leurs Applications de Toulouse, E.S.A. n°5002, Université Paul Sabatier, 118 rte de Narbonne, 31062 Toulouse Cedex 4, France

A25 16:35 CLOTH TREATMENT IN HYBRID PLASMA FLOW, M.N. Vasiliev, Moscow Institute of Physics and Technology, Moscow, Russia

A26 16:55 VELOCITY OF PLASMA AND PARTICLES IN OXYGEN-HYDROGE THERMAL PLASMA JET, M. Hrabovsky, M. Konrad and V. Kopecky, Institute of Plasma Physics, Za Slovankou 3, 182 21 Praha 8, Czech Republic

A27 17:15 DEPOSITION OF SlLICON LAYER ON A SUBSTRATE BY RF PLASMA, D. Morvan, F. Krayem, F. Bourg, M. Benmansour, E. Francke, J.Amouroux, Lab. de Génie des Procédés PlasmasTraitement de Surfaces, 11 rue Pierre et Marie Curie, 75005 Paris Cedex, France

A28 17:35 MODELLING OF OXYGEN PLASMA POST)COMBUSTION REACTOR OF PYROLYSIS GASES, B. Barthelemy(1), C. Girold(2), C. Vandensteendam(1), J.M. Baronnet(1), (1)Laboratory of Plasma Chemistry, Limoges University, 123 ave Albert Thomas, 87060 Limoges Cedex, France, (2)CEA/ DCC/ DRRV/ SCD/ LDPI, BP 171, 30270 Bagnols sur Cèze, France

A29 17:55 MEASUREMENTS OF THE TEMPERATURE ON THE LIQUID METAL SURFACE IN THE PLASMA FURNACE BY MEANS OPTICAL PYROMETER, M. Rozpondek, J. Siwka, Faculty of Metallurgy and Materials Engineering, Technical University of Czestochowa, Poland

Thursday June 1, 2000 — Morning
Jeudi 1er juin 2000 — Matin

A30 8:30 PLASMA PROCESSES IN PV SOLAR CELLS (a Si H), R. Avni, Avni RT&D consultants, 8/39 Rimalt Str. Ramat-Gan 52281, Israel

A31 9:00 LIQUID- AND CRYSTALLIKE STRUCTURES IN DUSTY PLASMAS, V.E. Fortov, A.P. Nefedov, V.I. Molotkov and O.F. Petrov, High Energy Density Research Center of the Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A32 9:30 TRANSPORT OF ATOMIC RADICALS IN EXPANDING PLASMAS: A LASER SPECTROSCOPY STUDY. S. Mazouffre, R. Engeln, M.G.H. Boogaarts, J.A.M. van der Mullen and D.C. Schram. Department of Applied Physics, Eindhoven University of Technology P.O. Box 513, 5600 MB Eindhoven, The Netherlands

10:15 **BREAK**

A33 10:30 INVESTIGATIONS OF PHASE COMPOSITION IN PLASMA IRON COATINGS, S.A. Revun, P.V. Lerch, V.F. Balakirev, Institute of Metallurgy, Russian Academy of Sciences, Ural Division, Ekaterinburg, Russia

A34 10:50 2.5-TONS PLASMA-INDUCTION FURNACE EQUIPPED WITH HOLLOW GRAPHITE ELECTRODE, Tz.P. Tzonev, M.K. Mihovsky, B.Il.Lucheva, University of Chemical Technology and Metallurgy, PLASMALAB, 8 Kl.Ohridsky Blvd., 1156 Sofia, Bulgaria and Kr.P. Blagoeva, Kremikovtzi Ltd, 1870 Sofia, Bulgaria

A35 11:10 A NEW LOW PRESSURE PLASMA NITRIDING AND PVD COATING DUPLEX TREATMENT OF HSS SUBSTRATES, G. Nayal(1), A. Ehiasarian(1), W.-D. Münz(1,2),

I.J. Smith(2)' (1)Sheffield Hallam University, Materials Research Institute, Howard Street, Sheffield S1 1WB, UK, (2)Bodycote SHU Coatings Ltd, Matilda Street, Sheffield S1 4QF, UK

11:30 **POSTER SESSION**

12:30 **LUNCH**

A36 14:00 INDUSTRIAL APPLICATIONS WITH THE A.T.C PLASMA SPRAYING PROCESS, Erick Meillot, Alain Freslon, Commissariat à l'Energie Atomique, Le Ripault, B.P. 16, 37260 MONTS, France

A37 14:30 VALIDATION OF THE EXPERIMENTAL INVESTIGATION OF METAL PARTICLE VAPORIZATION IN PLASMA SPRAYING BY ATOMIC SPECTROSCOPY, K.-I Li(1), C. Trassy(2), and M. Vardelle(3), (1)EPM-Madylam, ENSHMG, BP 95, 38402 Saint Martin d'Heres, France, (2)LPCI, bat 401, INSA, 69621 Villeurbanne, France, (3)SPCTS, université de Limoges, 123 avenue Albert Thomas, 87060 Limoges, France

A38 15:00 PLASMA REDUCTION FURNACE AS A STRUCTURE UNIT OF THE ENERGY METALLURGICAL COMPLEX, A.V. Nikolaev, Yu.V. Tsvetkov, A.A. Nikolaev, Baikov Institute of Metallurgy and Materials Science, RAS, Russia

A39 15:20 A THERMAL ANALYSIS OF SURFACE STATE OBTAINED BY PLASMA ARC CUTTING, H. Valetoux, M. El Ganaoui, J.F. Coudert and P. Fauchais, Sciences des Procédés Céramiques et des Traitements de Surface (SPCTS), CNRS UMR 6638, Faculté des Sciences de Limoges, 123 av. A. Thomas, 87060 Limoges, France

A40 15:40 SET-UP OF A CHEMICAL BALANCE FOR A GLY ASH TREATMENT PLASMA PROCESSES, F. Genet(1), M.F. Gonnord(2), S. Cavadias(1), J. Amouroux(1), (1)Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France, (2)Laboratoire des Méchanismes Réactionnels, CNRS UMR 7651, Ecole Polytechnique, 91128 Palaiseau Cedex, France

16:00 **BREAK**

A41 16:15 INVESTIGATION AND APPLICATION OF ARC PLASMA INSTALLATIONS FOR WASTE TREATMENT, S. Dresvin, V. Frolov, E. Smirnov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia, J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France

A42 16:35 IN FLIGHT MEASUREMENT OF SILICON PARTICLES DIAMETER BY LASER-DOPPLER DIAGNOSTICS, IN A R.F. THERMAL PLASMA TORCH APPLIED TO CONTROL EVAPORATION PHENOMENA, F. Bourg, F. Krayem, E. Francke, S. Dresvin, D. Morvan, J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France

A43 16:55 APPLICATIONS OF HIGH VOLTAGE TRIGGERED DIELECTRIC BARRIER DISCHARGES TO PROCESS CHEMICALS, M. Nikravech, I. Gaurand, O. Motret, J.M. Povvesle, Université d'Orléans, Laboratoire ESPEO-GREMI, 14 rue d'Issoudun, BP 6744, 45067 Orléans Cedex 2, France

A44 17:15 MODELLING OF AN ARGON-HYDROGEN PLASMA EXPANSION, K.T.A.L. Burn, Plasma Technology Research Center (CRTP), Department of Chemical Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada J1K 2R1 and Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands, M.I. Boulos, P. Proulx, Plasma Technology Research Center (CRTP), Department of Chemical Engineering, University of Sherbrooke, Sherbrooke, Quebec, Canada J1K 2R1, B. Jodoin, Department of Mechanical Engineering, University of Ottawa, Ontario, Canada K1N 6N5, W.J. Goedheer, F.O.M. Institute for Plasma Physics "Rijnhuizen", P.O. Box 1207, 3430 BE Nieuwegein, The Netherlands, D.C. Schram, Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands

A45 17:35 VACUUM ARC DEPOSITED NANOSTRUCTURED Ti COATINGS, B.B. Straumal (1, 2), N. Vershinin (2), E. Rabkin (3), R. Kroeger (3), R. Dimitriou (4), W. Gust (1), (1) Institut fuer Metallkunde, Seestr. 92, 70174 Stuttgart, Germany, (2) I.V.T. Ltd. (Institute for Vacuum Technology), P.O. Box 47, 109180 Moscow, Russia, (3) Department of

Materials Engineering, Technion-Israel Institute of Technology, 32000 Haifa, Israel, (4) Pechiney CRV, BP 27, 38340 Voreppe, France

A46 17:55 MATHEMATICAL MODELS AND PROGRAM FACILITIES FOR INTEGRATED SIMULATION OF COATING PLASMA SPRAYING, S.P. Kundas(1), V.A. Gerevich(1), I.Yu. Smurov(2), M.B. Ignatiev(3), (1)Belarusian State University of Informatics and Radioelectronics, 6, P.Brovka Str. 220027, Minsk, Belarus, (2)Ecole Nationale d'Ingenieurs de Saint-Etienne, 58 rue Jean Parot, 42023 Saint -Etienne Cedex 2, France, (3)Institut des Sciences et Genie des Materiaux et Procedes, CNRS, BP5 Odeillo, 66125 Font-Romeu, France

A47 18:15 SPREADING OF A PLASMA JET ON THE ENTRY OF THE MIXING CHAMBER OF A CHEMICAL REACTOR, D. Bendix, D. Hebecker, Martin-Luther University, Halle-Wittenberg, Germany

Friday June 2, 2000 — Morning
Vendredi 2 juin 2000 — Matin

A48 8:30 RECENT PROGRESS IN HARD NANOCOMPOSITE COATINGS, J. Musil and J. Vleek, University of West Bohemia, P.O. Box 314, 306 14 Plen, Czech Republic

A49 9:00 R. Hernberg

A50 9:30 ON-LINE ANALYSIS OF PROCESS PARAMETERS IN A PILOT PLASMA REACTOR FOR HYDROCARBONS CRACKING, F.Fabry, G. Flamant, Fulchri B. Granier, J.Y. Peroy, E. Grivei, C. Chapman, F. Fischer

10:15 **BREAK**

A47 10:30 MECHANISMS OF MASS TRANSFERT DURING ATOMIC OXYGEN RECOMBINATION ON METALLIC SEMICONDUCTORS, C. Guyon, P. Cauquot, S. Cavadias, J. Amouroux, Laboratoire de Génie des Procédés Plasmas, 11 rue Pierre et Marie Curie, 75005 Paris Cedex, France

10:50 DEPOLLUTION EFFICIENCY IN CORRELATION WITH THE ELECTRICAL AND PHYSICAL DISCHARGES PARAMETERS IN MEDIUM TEMPERATURE PLASMA. APPLICATION TO THE REMOVAL OF VOLATILE ORGANIC COMPOUNDS, A. Goldman, M. Goldman, S. Dupré, CNRS LPGP/ EDEE, Supélec-Plateau de Moulon, 91112 Gif-sur-Yvette Cedex, France

A48 11:10 CONTROL OF IN INDUCTIVELY COUPLED PLASMA PROCESSES BY MODELLING OFTHE OPTICAL SPECTROSCOPIC EMISSION, P. Proulx(1) and C. Trassy(2), (1)CRTP, Faculté de génie, Sherbrooke (Québec) J1K 2R1, Canada; (2)LPCI, bat 401, INSA, 69621 Villeurbanne, France

A49 11:30 THE INFLUENCE OF THE NON-LOCAL THERMAL EQUILIBRIUM PARAMETERS ON THE ISENTROPIC EXPONENT IN PLASMAS, K.T.A.L. Burn, Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands, D.C. Schram, Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands, W.J. Goedheer, F.O.M. Institute for Plasma Physics "Rijnhuizen", P.O. Box 1207, 3430 BE Nieuwegein, The Netherlands

11:50 **POSTER SESSION**

12:30 **LUNCH**

Friday June 2, 2000 **Afternoon**
Vendredi 2 juin 2000 Après-midi

A51 15:00 HYDRODYNAMIC MODELLING OF A NITROGEN / METHANE MIXTURE. APLICATION TO THE DESIGN OF A 3-PHASE AC PLASMA REACTOR FOR THE PRODUCTION OF CARBON NANOSTRUCTURES, I. Dème(1), L. Fulcheri(1), G. Flamant(2), F. Fabry(1,2), (1)CENERG, Ecole des Mines de Paris, Rue Claude Daunesse, BP 207, 06904 Sophia-Antipolis Cedex, France, (2)IMP-CNRS, Avenue du Professeur Trombe, BP 5, 66120 Font-Romeu, France

A52 15:20 HIGH CURRENT DIVERGENT CHANNEL PLASMATRONS: SIMULATION, EXPERIMENTAL STUDIES AND TECHNOLOGICAL APPLICATIONS, V.M. Batenin, A.A. Belevtsev, V.F. Chinnov, R.R. Grigor'yants, E.Kh. Isakaev, P.P. Ivanov, O.A. Sinkevich, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A53 15:40 INVESTIGATION ON OPERATING CONDITIONS AND EFFICIENCY OPTIMIZATION OF RF-RF HYBRID PLASMA TORCHES, D. Bernardi(1), V. Colombo(2), G.G.M. Coppa(1), E. Ghedini(2), A. Mentrelli(2), (1)Istituto Nazionale per la Fisica della Materia and Dipartimento di Energetica, Politecnico di Torino, Corso Duca degli Abruzzi, 10129 Torino, Italy, (2)Dipartimento di Matematica and C.I.R.A.M., Universita degli Studi di Bologna, Via Saragozza 8, 40123 Bologna, Italy

A54 16:00 STUDY OF FLOW FIELD TOPOLOGY IN AN ICP TORCH BY SURFACE PRESSURE MEASUREMENTS AND NUMERICAL CALCULATIONS, O. Chazot, T. Magin, Von Karman Institute, 72 Chaussée de Waterloo, 1640 Rhode-St-Genèse, Belgium

CONCLUSIONS

Saturday June 3, 2000 Morning

Journée Franco – Russe

More information after poster session

POSTER SESSIONS

A/P01 SPECTRAL INVESTIGATION AND DETERMINATION OF THE PHYSICAL PARAMETERS OF ELECTROLYTIC PLASMA, M.D. Klapkiv, H.M. Nykyforchyn, V.M. Posuvailo, Karpenko Physico-Mechanical Institute of NAS of Ukraine, 5 Naukova St. 79601 Lviv, Ukraine

A/P02 OPTICAL BREAKDOWN BY HOLLOW BESSEL BEAMS, S.S. Bychkov, S.V. Gorlov, L.Ya.Margolin, L.N.Pyatnitsky, A.D.Talvirsky, G.V.Shpatakovskaya, Institute for High Temperatures of RAS, Izhorskaya 13/19, Moscow,127412, Russia

A/P03 LOCAL OES DIAGNOSTICS OF ELECTRIC DISCHARGE PLASMAS, E. Ershov-Pavlov, Institute of Molecular and Atomic Physics, 70 F.Skaryna Ave., 220072 Minsk, Belarus

A/P04 INVESTIGATION OF RADIATVIE AND SPECTRAL CHARACTERISTIC OF HYDRARGYRUM LOW FREQUENCY DISCHARGE OF TRANSFORMER TYPE, I.M. Ulanov, K.N. Kolmakov, M.R. Predtechensky, A.N. Didenko, Instittue of Thermophysics, Novosibirsk, Russia

A/P05 OPTICAL DIAGNOSTIC TECHNIQUES FOR A THERMAL RF PLASMA USED FOR PLASMA FLASH EVAPORATION, P. Buchner, H. Schubert, J. Uhlenbusch, M. Weifl, Heinrich-Heine-Universität Duesseldorf, Universitätsstr. 1, 40225 Duesseldorf, Germany

A/P06 MOLECULAR EMISSION FROM ANDEXCITED MOLECULAR SPECIES IN HIGH ENTHALPY NITROGEN JETS, A.A. Belevtsev, V.F. Chinnov, A.V. Fyodorov, E.Kh. Isakaev, A.V. Markin, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P07 FOURIER TRANSFORM EMISSION SPECTROSCOPY OF SILANE AND ORGANOSILANE PLASMAS FOR THIN FILM DEPOSITION, R. Cireasa, National Institute for Lasers, Plasma and Radiation Physics Laser Department, P.O. Box MG-36, Bucharest, Romania

A/P08 INTERACTION BETWEEN DC PLASMA ARC AND AC MAGNETIC FIELD IN PLASMA-INDUCTION FURNACE, M.K. Mihovsky, N.N. Shoilev, Tz.P. Tzonev, B.Il. Lucheva, University of Chemical Technology and Metallurgy, PLASMALAB, 8 Kl.Ohridsky Blvd., 1156 Sofia, Bulgaria

A/P09 A DISPERSED THERMAL PLASMA GENERATOR, Z. Kolacinski, M. Mikos, L. Szymanski, Technical University of Lodz, 18/22 Stefanowskiego Street, 90-924 Lodz, Poland

A/P10 KINETICS OF NONEQUILIBRIUM PLASMA IN A STREAM OF AIR, N. Kashapov, Russian Scientific and ResearchInstitute of Pumping Engineering Technology, apart. 20, house 42, Gavrilovastr., Kazan, 420137, Russia

A/P11 ON FORMATION I-V CHARACTERISTICS OF DC ARC BLOWN BY AIR IN A TORCH WITH TUBE ELECTRODES. A.F. Bublievsky, E.I. Yurinok, O.I. Yas'ko, Heat & Mass Transfer Institute, P. Browky St., 15, 220072 Minsk, Belarus

A/P12 CHARACTERISTICS OF A.C. ARC IN A HEATER WITH DISCHARGE STABILIZATION BY SYNCHRONIZED PULSES, D.A. Bublievsky, A.F. Bublievsky, O.I. Yas'ko, Heat & Mass Transfer Institute, P. Browky St., 15 220072 Minsk, Belarus

A/P13 CALCULATIONS OF A FREE-BURNING ELECTRIC ARC BY NON-EQUILIBRIUM MODEL, J. Amouroux, LGPPTS, EMSCP, 11 rue P. & M. Curie, 75005 Paris, France and S.V. Dresvin, A.V. Krylov, St. Petersburg State Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia and Nguyen Quoc Shi

A/P14 PLASMA TORCH ARC VOLTAGE ANALYSIS: THE WAVELET TRANSFORM APPROACH, B. Pateyron, J.F. Coudert, G. Deluc, P. Fauchais, Laboratoire Sciences des Procédés Céramiques et Traitements de Surface, UMR-CNRS 6638, Université de Limoges, 87060 Limoges Cedex, France

A/P15 EFFECT OF AN ISERTED PLATE ON OSCILLATIONS GENERATED IN A PLASMA JET, J. Hlina, V. Nenicka, Institute of Electrical Engineering, Academy of Sciences of the Czech Republic, L. Krejci, V. Dolinek, P.Sopuch, Institute of Thermomechanics, Academy of Sciences of the Czech Republic

A/P16 AN INVESTIGATION OF PLASMA EXPANSION JET BOUNDARY GEOMETRIES, K.T.A.L. Burm, Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands, W.J. Goedheer, F.O.M. Institute for Plasma Physics "Rijnhuizen", P.O. Box 1207, 3430 BE Nieuwegein, The Netherlands, D.C. Schram, Department of Applied Physics, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands

A/P17 GAS TEMPERATURE IN CONTRACTED ATMOSPHERIC PRESSURE DISCHARGES SUSTAINED IN CYLINDRICAL TUBES BY MICROWAVES (2450 MHz), Y. Kabouzi, M.D. Calzada*, M. Moisan, C. Trassy**, Groupe de physique des plasmas, Université de Montréal, MontréalH3C 3J7, Québec, *Departemento de Fisica, Universidad de Cordoba, 14071-Cordoba, Spain; **EPM-Madylam, ENSHMG, 38402 St-Martin d'Hères, France

A/P18 TEMPERATURE FIELDS OF THE RADIATIVE HFI-PLASMA, A.V. Gerasimov, A.P. Kirpichnikov, Kazan State Technology University, Kazan, Russia

A/P19 THE FORECAST OF THE CHEMICAL AND TRANSPORT PROPERTIES OF A CARBON-OXYGEN PLASMA IN ISOCHORIC CONDITIONS, B. Pateyron, G. Delluc and P. Fauchais, SPCTS UMR CNRS, 123 avenue Albert Thomas87060 Limoges Cedex, France

A/P20 MULTITEMPERATURE DIFFUSION COEFFICIENTS, V.Rat 1, J.Aubreton 1, M.F.Elchinger 1, P.Fauchais 1, P. André 2, A. Lefort 2, SPCTS University of Limoges, 123 av. A.Thomas 87060 Limoges cedex, France, LAEPT Blaise Pascal University, 24 av. des Landais, 63177 Aubière cedex, France

A/P21 RADIATIVE TRANSFER AND TRANSPORT PROPERTIES IN Ar-H2-Cu MIXTURES AT ATMOSPHERIC PRESSURE, Y. Cressault and A. Gleizes, Centre de Physique des Plasmas et de leurs Applications de Toulouse, E.S.A. n°5002, Université Paul Sabatier, 118 rte de Narbonne, 31062 Toulouse Cedex 4, France

A/P22 HEAT TRANSFER PHENOMENA BETWEEN PLASMA AND PARTICLES. APPLICATIONS TO MORPHOLOGY OF CERAMIC OXIDES: MgO, SiO2 PARTICLES, S. Dresvin,E. Francke, D. Morvan, J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France

A/P23 RADIATIVE TRANSFER IN LTE N2-O2 PLASMA FROM 300K TO 20000 K, S. Chauveau, Ph. Rivière, C. Deron, A. Soufiani and M.Y. Perrin, Laboratoire EM2C, UPR 288 du CNRS, Ecole Centrale Paris, 92295 Châtenay-Malabry Cedex, France

A/P24 TERMODYNAMIC CONSIDERATION OF THERMAL PLASMA PROCESS FOR ZIRCONIUM CARBIDE PRODUCTION FROM ZIRCON CONCENTRATES, Z.G. Kostic, P.Lj. Stefanovic, P.B. Pavlovic, Z. Pavlovic, N. Zivkovic, The Vinca Institute of Nuclear Sciences, Laboratory for Thermal Engineering and Energy, P.O.B. 522, 11001 Belgrade, Yugoslavia

A/P25 CRITERION FOR TRANSITIONS FROM LAMINAR TO TURBULENT FLOWS OF ARGON IN PLASMATRONS, O.A. Sinkevich, S.E. Chikunov and V.V. Glazkov, Moscow Power Engineering Institute (Technical University), Krasnokazarmennaya 14, 103835 Moscow, Russia and E.Kh. Isakaev, Associated Institute for HighTemperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P26 PARAMETERS OF ELECTRON GAS IN HIGH ENTHALPY ARGON AND NITROGEN PLASMAS, V.M. Batenin, A.A. Belevtsev, V.F. Chinnov, E.Kh. Isakaev, A.V. Markin, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P27 INVESTIGATION OF PROPAGATION OF PERTURBATION IN THERMAL DC ARC PLASMA JET, M.Hrabovsky, V. Kopecky and P. Macura, Institute of Plasma Physics, Za Slovankou 3, 18221 Praha 8, Czech Republic

A/P28 LASER STIMULATED PROCESSES IN LASER ABLATION PLASMA, V.S. Burakov, A.F. Bokhonov, M.L. Nedel'ko, and N.V. Tarasenko, Institute of Molecular and Atomic Physics National Academy of Sciences, 70 Scaryna Ave., 220072 Minsk, Belarus

A/P29 PLASMA CHANNELS BY LASER BESSEL BEAM, S.S. Bychkov, L.Ya. Margolin, L.N. Pyatnitsky, Institute for High Temperatures ofRussian Academy of Sciences, 13/19 Izhorskaya Str., 127412 Moscow, Russia

A/P30 COMPARATIVE STUDY OF RF ICP GENERATOR WITH FORWARD-VORTEX AND REVERSE-VORTEX STABILISATION, A. Gutsol, Institute of Chemistry and Technology, Kola Science Center RAS, J. Larjo and R. Hernberg, Tampere University of Technology, Plasma Technology Laboratory

A/P31 INVESTIGATION OF SPATIAL CHARGE SHELLOF SPECIMEN IN INDUCTIVE COUPLED RF DISCHARGEAT LOW PRESSURE, I. Abdullin, M. Shaekhov, Kazan State Technological University, Light Industry Department, 68 K.Marx str., Kazan, 420015, Russia

A/P32 EXPERIMENTAL AND THEORETICAL STUDY OF A CUTTING PLASMA TORCH, P. Freton, P. Teulet, J.J. Gonzalez and R. Razafinimanana, Centre de Physique des Plasmas et de leurs Applications de Toulouse, E.S.A. n°5002, Université Paul Sabatier, 118 rte de Narbonne, 31062 Toulouse Cedex 4, France

A/P33 ELECTROARC DISCHARGE IN CONDITIONS BOW-CONTACT CUTTING OF METAL, V. Frolov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia

A/P34 SIMULATION OF LASER-PRODUCED PLASMA FOR XUVGENERATION, K. Garloff (1,2), J.Jonkers (1), J.V.D Mullen (2) ,(1) Philips Nat.Lab.Eindoven, (2) Eindhoven University of Technology, ETP

A/P35 CONTINUOUS EMISSION MONITORING OF METALS IN FLUE GASES BY ICP-OES: EFFECT OF GASEOUS MATRIX AND OPERATING CONDITIONS ON THE SPECTRAL INTERFERENCES, S. Hassaine, and C. Trassy, LPCI, Bat 401, INSA, 69621 Villeurbanne, France

A/P36 ON-LINE CONTINUOUS MONITORING OF A PURIFICATION PROCESS BY PLASMA USING DIRECT ANALYSIS OF METALS IN THE FLUE GASES BY ICP-OES, C. Alemany, C. Trassy*, EPM Laboratory, ENSHMG, BP 95, 38402 Saint Martin d'Hères, France; * LPCI, bat 401, INSA, 69621 Villeurbanne Cedex, France

A/P37 PLASMA JETS HIGH SPEED VISUALISATION PROBLEMS, V.F. Chinnov, E.Kh. Isakaev, V.A. Khaimin, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P38 STRUCTURE IN PLASMA CHANNEL CREATED BY POWERFUL BESSEL BEAM, S.S. Bychkov, S.V. Gorlov, A.V. Makarov, L.Ya. Margolin, L.N. Pyatnitsky, A.D. Talvirsky, Institute for High Temperatures of RAS, Izhorskaya 13/19, Moscow,127412, Russia

A/P39 EVALUATION OF THE ADHERENCE OF PROTAL COATINGS BY ROCKWELL INDENTATION, F. Folio, J. Michler, G. Barbezat*, E. Blank, Laboratoire de Métallurgie Physique, Ecole Polytechnique Fédérale de Lausanne, Case Postale 110, 1015 Lausanne EPFL, Switzerland, *Sulzer-Metco AG, Rigackerstrasse 16, 5610 Wohlen, Switzerland

A/P40 INVESTIGATION OF PROCESSES OF HEAT AND MOVEMENT OF PARTICLES UNDER PLASMA SPRAYING OF COATINGS, S.A. Revun, M.M. Mit`ko, V.F. Balakirev, Institute of Metallurgy, Russian Academy of Sciences, Ural Division, Ekaterinburg, Russia

A/P41 SECONDARY ATOMIZATION OF SPRAY DROPLETS INSIDE HIGH TEMPERATURE APPARATUSES, A. Gutsol, Institute of Chemistry and Technology, Kola Science Center RAS

A/P42 MODIFICATION OF FUR USINGLOW-PRESSURE RF PLASMA, H. Abdullina-Meckeshkina, R. Kaidrikov, V. Kudinov, N. Kashapov, Kazan State Technological University, Kazan, Russia, 68 K.Marx str., Kazan, 420015, Russia

A/P43 USING OF LOW-PRESSURE RF PLASMAS FOR MODIFICATION OFMATERIALS, I.Sh. Abdullin, Kazan State Technological University, Kazan, 68 K.Marx str., Kazan, 420015, Russia

A/P43 TITANIUM POWDER NITRIDATION BY REACTIVE PLASMA SPRAYING, C. Ponticaud, A. Grimaud, A. Denoirjean and P. Fauchais, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas, 87060 Limoges, France

A/P45 INFLUENCE OF I.R. RADIATION ON TARGET PYROMETRIC MEASUREMENTS UNDER THERMAL SPRAYING CONDITIONS, Th. Renault, C. Bossoutrot, M.Vardelle, P.Fauchais, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas, 87060 Limoges, France

A/P46 INFLUENCE OF SPATIAL DISTRIBUTION OF REACTIVE PLASMA GENERATED BY COAXIAL VACUUM-ARC SOURCE ON THE STOICHIOMETRY OF DEPOSITED COATINGS, J. Walkowicz, K. Miernik, Insitute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland

A/P47 INVESTIGATION OF SPATIAL DISTRIBUTION OF REACTIVE PLASMA GENERATED BY COAXIAL DC MAGNETRON AND THE STOICHIOMETRY OF DEPOSITED COATINGS, J. Walkowicz, K. Miernik, Insitute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland

A/P48 THE INFLUENCE OF PLASMA COMPOSITION ON THE AMORPHOUS PHASE FORMATION IN THE SPRAYING PROCESS OF GAS-THERMAL COATING, S.A. Il'ynych, V.A. Polukhin, E.L. Murav'iova, Russian Academy of Science, Ural Division, Institute of Metallurgy, Amundsena St. 101, 620016 Ekaterinburg, Russia

A/P49 SOME TECHNOLOGICAL NICHES OF CD TORCH WITH QUASI-LAMINAR PLASMA JET OUTFLOW, O.P. Solonenko, V.I. Kuzmin, Inst. of Theor. And Appl. Mechanics, Sib. Div. Russian Ac. Sci., Institutskaya 4/1, 630090 Novosibirsk, Russia and Z.R. Ismagilov, O.Yu. Podyacheva, Boreskov Inst. of Catalysis, Sib. Div. Russian Ac. Sci., Lavrentiyeva 5, 630090 Novosibirsk, Russia

A/P50 NEW PHYSICAL APPROACH TO ATTCK THE PROBLEM OF DESIGNING AND OPTIMIZING THERMAL SPRAY TECHNOLOGY, O.P. Solonenko, Inst. of Theor. And Appl. Mechanics, Sib. Div. Russian Ac. Sci., Institutskaya 4/1, 630090 Novosibirsk, Russia

A/P51 STUDY OF THE ABLATION BEHAVIOUR OF TWO GRAPHITIC MATERIALS: C + NBC, C + TAC, J. Lussien, D. Rousselle, F. Blein, CEA-DAM Le Ripault, BP 16, 37260 Monts, France and D. Morvan, J. Amouroux, Laboratoire de Génie des Procédés Plasma et Traitement de Surface, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75231 Paris Cedex 05, France

A/P52 OXIDATION AND SPLATS OF STAINLESS STEEL PARTICLES COATED WITH AN ALUMINA SHELL, H. Ageorges*, P. Fauchais**, *Universityof Angers, LETP, 2 Bld Lavoisier, 49095 Angers Cedex, France, **Universtyof Limoges, SPCTS, 123 Av. Albert Thomas, 87060 Limoges Cedex, France

A/P53 DIGITAL SYSTEM BASED ON CCD CAMERA FOR PARTICLES SPEED AND TEMPERATURE MONITORING IN THERMAL SPRAYING, M. Ignatiev, Institut des Sciences et Génie des Matériaux et Procédés, CNRS, BP 5 Odeillo, 66125 Font-Romeu Cedex, France, I. Smurov, Ecole Nationale d'Ingénieurs de Saint-Etienne, 58 rue Jean Parot, 42023 Saint-Etienne Cedex 2, France, V. Senchenko, Pyrolab Ltd., Izhorskaya str., 13/19, 127412 Moscow, Russia

A/P54 MATHEMATICAL MODELS AND PROGRAM FACILITIES FOR INTEGRATED SIMULATION OF COATING PLASMA SPRAYING, S.P. Kundas*, V.A. Gerevich*, I. Smurov**, A.B. Ignatiev***, *Belarusian State University of Informatics and Radioelectronics, 6, P.Brovka Str. 220027, Minsk, Belarus, **Ecole Nationale d'Ingénieurs de Saint-Etienne, 58 rue Jean Parot, 42023 Saint-Etienne Cedex 2, France, ***Institut des Sciences et Genie des Materiaux et Procedes, CNRS, BP5 Odeillo, 66125 Font-Romeu, France

A/P55 IONIC CLEANING AND NITRIDING USING HIGH APERTURE HALL CURRENT ACCELERATOR, B.B. Straumal (1, 2), N.F. Vershinin (2), S.A. Poliakov (2), P.V. Orlova (2, 3), M. Friesel (3), W. Gust (1); (1) Institut fuer Metallkunde, Seestr. 92, 70174 Stuttgart, Germany; (2) I.V.T. Ltd. (Institute for Vacuum Technology), P.O. Box 47, 109180 Moscow, Russia; (3) SIMS Laboratory, Chalmers University of Tecnology, Fysikgraend 3, 41296 Gothenburg, Sweden

A/P56 THE CONTROL OF MATERIAL PROPERTIES USING NITROGEN PLASMATRON, V.F. Chinnov, E.Kh. Isakaev, M.V. Illichev, P.P. Ivanov and D.I. Ryazhsky, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia and G.A. Filippov, Bardin Institute for Ferrous Metallurgy, 2nd Baumanskaya 9/23, 107005 Moscow, Russia

A/P57 A PROGRESS IN PLASMA HARDENING AND NITRIDING OF RAILWAY WHEELS, Antipovsky, V.F. Chinnov, E.Kh. Isakaev, P.P. Ivanov and A.S. Tyuftyaev, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia and V.M. Amelin, A.A. Troitsky and A.E. Yablonsky, Moscow Railways, Krasnoprudnaya 20, 107140 Moscow, Russia

A/P58 PYROLYSIS OF NATURAL GAS IN THE GLIDING ELECTRIC DISCHARGES, A. Czernichowski (1) and P. Czernichowski(2), (1)Université d'Orléans, Faculté des Sciences, 45067 Orléans cedex 02, France, (2)Etudes Chimiques et Physiques, 21 rue François Marchand, 45100 Orléans, France

A/P59 PRODUCTION OF HYDROGEN FROM CH_4, CO OR H_2S IN THE GLIDING ELECTRIC DISCHARGES, A. Czernichowski, Université d'Orléans, Faculté des Sciences,45067 Orléans cedex 02, France

A/P60 ECOLOGICAL PURE PLASMA METHOD ROCK BREAKING, V. Emeljanenko, S. Makeev, Institute of geotechnical mechanics of National Sciences Academy of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine

A/P61 PLASMA METALLURGICAL MODULES AS A COMPONENT OF ECOLOGICALLY CLEAR ENERGY TECHNOLOGICAL COMPLEX, Yu.V. Tsvetkov, A.V. Nikolaev, Baikov Institute of metallurgy and material science R A S

A/P62 PLASMA CATALYSIS PROCESSES for HYDROGEN and SYN-GAS PRODUCTION in MICROWAVE DISCHARGE at ATMOSPHERE PRESSURE, A.I. Babaritskiy, S.A. Dyomkin, M.I. Deminski, V.K. Jivotov, B.V. Potapkin, V.D. Rusanov, E.I. Ryazantsev, R.V. Smirnov, RRC Kurchatov Institute, Kurchatov sqr., Moscow 123182, Russia

A/P63 RESEARCH OF INTERACTION OFLOW PRESSURE RF PLASMA WITH A NATURAL LEATHER, I. Abdullin, H. Abdullina-Meckeshkina, M. Bulatova, Kazan State Technological University, Light Industry Department, 68 K.Marx str., Kazan, 420015, Russia

A/P64 FULLERENE PRODUCTION IN A PLASMATRON FROM AN AMORPHOUS CARBON, E.Kh. Isakaev*, G.A. Kobzev*, B.V. Scripka*, E.P. Smirnov*, V.F. Chinnov*, V.N. Bezmelnitsyn**, A.V. Eletskii**, *Joint Institute of High Temperatures RAS. 13/19 Izhorskaya Moscow 127412 Russia, **Russian Research Center “Kurchatov Institute” Kurchatov Square Moscow 123182 Russia

A/P65 GENERATION OF OZONE BY LOW TEMPERATURE PLASMA, S.V. Dresvin, A.P. Veselovskiy, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia

A/P66 LIQUID-PLASMA TREATMENT OF MATERIALS, A.P. Veselovskiy, S.V. Dresvin, D.V. Ivanov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia

A/P67 STUDY AND QUALIFICATION OF DESORPTION PHENOMENON OF CHLORINE AND HEAVY METALS IN WASTE INCINERATED END PRODUCTS, S. Cavadias, P. Rousseau, F. Genet, J. Amouroux, Laboratoire de Génie des Procédés Plasmas, 11 rue Pierre et Marie Curie, 75005 Paris Cedex, France

A/P68 ITEMIZED DETERMINATION OF THE CARBON BALANCE IN A PLASMA REACTOR, F. Genet, M.F. Gonnord, A. Vincent, J. Amouroux*, Laboratoire des Méchanismes Réactionnels, CNRS UMR 7651, Ecole Polytechnique, 91128 Palaiseau Cedex, France, *Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France

A/P69 DEPOLLUTION PROCESSES IN NON EQUILIBRIUM PLASMAS, S. Robert, F Genet, S. Cavadias, E. Francke and J. Amouroux, Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France

A/P70 DECOMPOSITION OF ACETALDEHYDE IN AIR IN A DIELECTRIC BARRIER DISCHARGE, S. Robert, E.Francke, S. Cavadias, M.F. Gonnord* and J. Amouroux, Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France, *Laboratoire des Méchanismes Réactionnels, CNRS UMR 7651, Ecole Polytechnique, 91128 Palaiseau Cedex, France

A/P71 INVESTIGATION OF DUSTED JET OF RF PLASMA TORCH, S.V. Dresvin, O.N. Feiguenson, S.G. Zverev, J. Amouroux, D. Morvan, Technical University, Politechnic Str. 29, 195251 Saint Petersburg, Russia, *LGPPTS, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris, France

A/P72 ELECTROPHYSICAL PROPERTIES OF IMPULSE DISCHARGES OF LOW POWER IN WATER, V.L. Goryachev, A.I. Kuleshevich, A.A. Ufimtsev, Ph.G. Rutberg

A/P73 PLASMA FURNACE FOR TREATMENT OF SOLID, TOXIC WASTES, Ph.G. Rutberg, A.A. Safronov, A.N Bratsev, A.A. Ufimtsev, V .E. Popov ,S. Popov, A. Surov

A/P74 PLASMACHEMICAL TREATMENT OF POWDERS I ELECTRON-BEAM PLASMA, M.N. Vasiliev, Moscow Institute of Physics and Technology, Moscow, Russia

A/P75 POLYMERIZATION IMAGE OF GLOW DISCHARGE, V.I. Zyn, Dept of General and Laser Physics, State Technical University of Samara, 141 Galaktionovskaya Str., 443010 Samara, Russia

A/P76 PLASMA REDUCTION FURNACE AS A STRUCTUREUNIT OF THE ENERGY METALLURGICAL COMPLEX, A.V. Nikolaev, Tavatkov Yu.V., Nikolaev A.A Baiko Institute of metallurgyand materials science, R A S, Leninskii prospekt, 49, 117911 Moscow, Russia

A/P77 HEAVY METALS VOLATILITY UNDER TRANSFERRED ARC PLASMA, N. Cerqueira, I. Ghiloufi, C. Vandensteendam, J.M. Baronnet, Laboratory of Plasma Chemistry, Limoges University, 123 ave Albert Thomas, 87060 Limoges Cedex, France

A/P78 NANOMETRIC Al2O3-ZrO2 POWDERS PRODUCTION BY ARC PLASMA TREATMENT, N. Cerqueira, C. Vandensteendam, J.M. Baronnet, Laboratory of Plasma Chemistry, Limoges University, 123 ave Albert Thomas, 87060 Limoges Cedex, France

A/P79 SIMULATION THE ENERGY OF A HIGH-PRESSURE SULPHUR DISCHARGE; C.W. Johnston, H.V.D. Heijden, B. Hartgers, J. van Ddijk, J. van der Mullen Equilibria and Transport in Plasma, Department of Applied Physics, Technische Uni. Eindhoven, N-laag a 1.69, Den Dolech 2 Eindhoven 5600 MB, The Netherlands

A/P80 ENERGY BALANCE OF SF6 AND AR ARC PLASMAS WITH RESPECT TO RADIATION, V. Aubrecht and M. Bartlova, Brno University of Technology, Department of power electrical and electronic engineering, Czech Republic

A/P81 KINETIC PARAMETERS OF THERMAL PROCESSES TAKING, PL___ IN RO_KS UNDERTHE ACTION OFPLASMA, V. SHUMRIKOV, V. Osenniy, Institute of Geotechnical Mechanics NAS of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine

A/P82 WIDENING OF APPLICATION OF PLASMA DEVICES FOR VOLUME MEREASING OF WELLS, V. Osenniy, J. Vakhalin and A. Osenniy, Institute of Geotechnical Mechanics NAS of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine

A/P83 NEW REISE DRILL AND BLAST TECHNOLOGY, B. Alymov, V. Osenny, L. Kholavchenko, K. Ishchenko, Institute of Geotechnical Mechanics NAS of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine, A.Chirva, G. Kunets, Research Mining Institute, 50086, Gagarina Str., 57, Krivoy Rog, Ukraine

A/P84 EQUIPMENT AND TECHNOLOGY FOR PLASMA ENLARGING OF BOREHOLES IN HARD ROCKS, L. Kholjavchenko, V. Osennij, B. Alymov, Institute of geotechnical mechanics of National Sciences Academy of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine, U. Remkha, Research design institute Ore of a mechanical engineering, 50024, Kharitonova Str., 1a, Krivoj Rog, Ukraine

A/P85 DEVELOPMENT OF PLASMOTECHNOLOGY IN UKRAINE, (Information Analysis), N. Osenniaja, Institute of geotechnical mechanics of National Sciences Academy of Ukraine, 49005, Simferopol Str., 2_, Dnepropetrovsk, Ukraine

A/P86 REMOVAL OF OXIDE LAYER ON METAL SURFACE BY VACUUM ARC: ADVANCED THERMOPHYSICAL FUNDAMENTALS AND THEIR APPLICATION, O.P. Solonenko, Inst. of Theor. And Appl. Mechanics, Sib. Div. Russian Ac. Sci., Institutskaya 4/1, 630090 Novosibirsk, Russia and K. Takeda, Akita Prefectural University honjyo, Akita 015-0055, Japan

A/P87 DEVELOPMENT OF METAL AND METAL OXIDE CATALYSTS BY PLASMA TECHNIQUE FOR THE APPLICATION IN ENERGY SAVING PROCESSES, Z.R. Ismagilov, O.Yu. Podyacheva, Boreskov Inst. of Catalysis, Sib. Div. Russian Ac. Sci., Lavrentiyeva 5, 630090 Novosibirsk, Russia and O.P. Solonenko, V.I. Kuzmin, Inst. of Theor. And Appl. Mechanics, Sib. Div. Russian Ac. Sci., Institutskaya 4/1, 630090 Novosibirsk, Russia

A/P88 MAIN GUIDELING OF MELTIN HIGH NITROGEN STEELS USING THERMAL PLASMA, J. Siwka, Faculty of Metallurgy and Materials Engineering, Technical University of Czestochowa, Poland

A/P89 INVERSTIGATION OF MICROPARTICLES EMISSION FROM PLASMA OF GAS DISCHARGE WITH HOLLOW CATHODE, A.S. Zolkin, A.A. Maksyashin, V.V. Prihodko, Novosibirsk Sate University, Pirogova, Str.2, Novosibirsk- 90, 630090, Russia

A/P90 SYNTHESIS OF THIN FILMS WITH CONTROLLED ABSORPTION BY JET OF INDUCTIVE COUPLED RF PLASMA TORCH, I. Abdullin*, R. Galiaoutdinov**, N. Kashapov**, *Kazan State Technological University, Kazan, 68 K.Marx str., Kazan, 420015, Russia, **Russian Scientific-ResearchInstitute of Pumping Engeneering Technology, apart. 20, house 42, Gavrilovastr., Kazan, 420137, Russia

A/P91 INFLUENCE OF FREQUENCY VARIATION ON THIN FILM DEPOSITON IN RF DISCHARGES, D. Mataras, E. Amanatides, D. Rapakoulias, Laboratory of Plasma Chemistry, University of Patras, Chemical Engineering Department, 26500 Patras, Greece

A/P92 ANALYSIS OF THE WEAR MECHANISMS ON THE BASE OF THE SCRATCH-TEST MEASUREMENTS FOR DIFFERENT PVD COATINGS OBTAINED ON THE SURFACE OF GAS NITRIDED STEEL 35CrMoV5 IN THE DUPLEX TREATMENT PROCESSES, J. Smolik, J. Walkowicz, Insitute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland, J. Tacikowski, Institute of Precision Mechanics, ul. Duchnicka 3, Warsaw, Poland

A/P93 CORRELATION BETWEEN SPATIAL DISTRIBUTION OF PLASMA ELEMENTS AND UNIFORMITY OF THE NITRIDED LAYER STRUCTURE IN ION NITRIDING PROCESSES, J. Walkowicz, J. Smolik, Insitute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland

A/P94 PRODUCTION OF DIAMOND FILMS IN ATMOSPHERIC PRESSURE ARGONHYDROGEN THERMAL PLASMA JET, J. Gregor, I. Jakubova, J. Senk, Department of Electrical Power Engineering, FEEI TU Brno, Bozetechova 2, 612 66 Brno and M. Hrabovsky, B. Kolman, V. Kopecky, Institute of Plasma Physics, Za Slovankou 3, 182 21 Praha 8, Czech Republic

A/P95 THE HIGH PRESSURE GLIDING DISCHARGE AS A NEW TYPE OF IGNITION OF FUEL MIXTURES IN SPARK IGNITION ENGINES, J. Janca and C. Tesar, Dep. of Physical Electronics Masaryk University, Kotlaoska 2, 6ll37 Brno,Czech Rep., F. Hosek and B. Dolejsí, Military Academy, Kounicova 65, 61200 Brno, Czech Republic

A/P96 THE STRUCTURE OF ENERGY BALANCE WITHIN THE CATHODE SPOT OF THE METAL VAPOR ARC, Y. Vasenin, Paton Welding Institute, 11 Bozhenko St., 03680, Kiev, Ukraine

A/P97 ENERGETIC ION BOMBARDMENT OF THE ANODE DURING THE OFF-PULSE IN DC-PULSED GLOW DISCHARGES, C.V. Budtz-Jørgensen, J. Bottiger and P. Kringhoj, Institute of Physics and Astronomy, University of Aarhus, Ny Munkegade, 8000 Aarhus, Denmark

A/P98 STUDY OF VOLTAGE FLUCTUATIONS IN PLASMA JETS BY THE WAY OF THE RECURRENCE PLOTS, B. Pateyron, J.-F. Coudert, G. Delluc, P Fauchais and E. Kononov*, SPCTS UMR CNRS, 123 avenue Albert Thomas,87060 Limoges Cedex, France, *33 Harbey Rd,W.Springfield, MA 01089, USA

A/P99 THE STUDY OF HEAT TRANSFER IN ANODE SPOTS OF ELECTRIC ARC, S.V. Dresvin, A.V. Krylov, St. Petersburg State Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia

A/P100 INFLUENCE OF DOPPED GRAPHITE-ELECTRODE ELECTRIC ARC FOR THE FORMATION OF SINGLE-WALL CARBON NANOTUBES, M. Razafinimanana, M. Pacheco, M. Monthioux, H. Allouche, H. Lange, A. Huczko, P. Teulet and A. Gleizes, Centre de Physique des Plasmas et de leurs Applications de Toulouse, E.S.A. n°5002, Université Paul Sabatier, 118 rte de Narbonne, 31062 Toulouse Cedex 4, France

A/P101 RESEARCH OF EROSION OF WATER COOLING ELECTRODES OF POWERFUL AC PLASMA GENERATORS, Ph.G. Rutberg, A.A. Safronov, V.E. Kuznetsov, A. Surov, S. Popov

A/P102 INFLUENCE OF CATHODE SPUTTERING ON UPPER SURFACE OF ALPHA-IRON, J. Baranowska, Institute of Material Engineering, Technical University of Szczecin, l. Piastow 19, 70-310 Szczecin, Poland

A/P103 RESEARCH OF THE ELECTROARC DEVICE FOR DISPERSIONS OF METAL, D. Chechurin, S. Dresvin, V. Frolov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia

A/P104 THRESHOLD CURRENT OF VACUUM ARC, A.V. Parfyonov, Ulyanovsk State Technical University, 432030 Ulyanovsk, Russia

A/P105 INVESTIGATION OF PROPAGATION OF PERTURBATIONS IN THERMAL DC ARC PLASMA JET, M. Hrabovsky, V. Kopecky and P. Macura, Institute of Plasma Physics, Za Slovankou 3, 182 21 Praha 8, Czech Republic

A/P106 ARC PROCESSES ON THE ELECTRODES IN DIFFERENT MEDIUM (AIR, SF6 AND VACUUM), V.V. Borisov, Y.N. Bocharov, St. Petersburg State Technical University, Polytechnicheskaya str. 29, 195251 St. Petersburg, Russia

A/P107 ARC AND EROSIVE PROCESSES IN THE ARC-EXTINGUISHING DEVICE WITH GAS BLOW THROUGH NETTED ELECTRODES, V.V. Borisov, St. Petersburg State Technical University, Polytechnicheskaya str. 29, 195251 St. Petersburg, Russia

A/P108 THE NEAR CATHODE REGION OF HIGH CURRENT DIVERGENT CHANNEL ARC PLASMATRONS AS A METROLOGICAL OBJECT, A.A. Belevtsev, V.F. Chinnov, V.A. Khaimin, E.Kh. Isakaev, Associated Institute for High Temperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P109 EXPERIMENTDIAGNOSTIC OF A SF6 PTFE CONFINED PUFFER CIRCUIT BREAKER, F. Gentils, A. Jemni, E. Le Menn, J.-M. Bauchire, C. Fievet, C. Fleurier, GREMI-ESPEO, CNRS et Université d'Orléans, France

A/P110 CALCULATION OF PLASMA IN RF PLASMATRON BY NON-EQUILIBRUM MODEL. Nguyen Quoc Shi, S.V. Dresvin, St. Petersburg State Technical University, Polytechnicheskaya Str. 29, 195251 St. Petersburg, Russia and J. Amouroux, D. Morvan, LGPPTS, EMSCP, 11 rue P.&M. Curie, 75005 Paris, France

A/P111 MATHEMATICAL MODEL FOR PARTICALS HEATING IN "TUBE-WISE"TRANSFERRED PLASMA ARC, M.K. Mihovsky,V. Angelova, V. Petkov, University of Chemical Technology and Metallurgy, PLASMALAB, 8 Kl.Ohridsky Blvd., 1156 Sofia, Bulgaria

A/P112 3-D CFD MODELING OF PLASMA SPRAYING: EFFECT OF GEOMETRIC AND MODEL PARAMETERS ON FLOW AND PARTICLES, G. Mariaux, A. Vardelle, A. Boussagol, C. Baudry and M.F. Elchinger, SPCTS UMR-CNRS 6638, ENSIL, 16 rue Atlantis, 87068 Limoges Cedex, France

A/P113 PHYSICAL MODEL OF POWERFUL CLOSED ARC IN MULTILAYER COIL STRUCTURE, V.V. Filatov, Efremov Institute of Electrophysical Apparatus, St.Petersburg 189631, Russia and V.V. Titkov, State Technical University, St.Petersburg 195251, Russia

A/P114 SIMULATION OF LOW PRESSURE RF PLASMA TREATMENT OF CAPILLARY-POROUS MATERIALS, V. Jeltoukhin*,A. Meckeshkin-Abdullin**, *Kazan State University, 18 Kremlyovskaya str., Kazan 420008, Russia, **Kazan State Technological University, 68, K.Marx str., Kazan 420015, Russia

A/P115 SIMULATION OF RF PLASMA MODIFICATION OF LEATHER GOODS, I. Abdullin, L. Abutalypova, I. Krasina, Kazan State Technological University, Kazan, Russia, 68 K.Marx str., Kazan, 420015, Russia

A/P116 SIMULATION OF LOW-PRESSURE RF DISCHARGES IN PROCESSING OF SOLID SURFACES, V. Jeltoukhin*,A. Meckeshkin-Abdullin**, *Depart. of Computing Mathematics and Cybernetics of Kazan State University, 18, Kremlyovskaya str., Kazan 420008, Russia, **Kazan State Technological University68, K.Marks str., Kazan 420015, Russia

A/P117 A NEW APPROACH TO MODELING TURBULENT FLOWS WITH ELECTRIC ARCS, O.I. Yas'ko, Heat & Mass Transfer Institute, P. Browky St., 15220072 Minsk, Belarus

A/P118 1-D MODELING OF COATING FORMATION UNDER PLASMA SPRAYING CONDITIONS : SPLAT COOLING AND LAYERING, M. El Ganaoui, B. Pateyron, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas, 87060 Limoges, France, A. Vardelle, SPCTS UMR-CNRS 6638 ENSIL, 16 rue Atlantis, 87068 Limoges, France

A/P119 1-D MODELING OF STRESS DISTRIBUTION IN COMPOSITE COATING FORMATION, G. Delluc, Bernard Pateyron and Pierre Fauchais, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas 87060 Limoges

A/P120 TEMPERATURE FIELDS OF THE RADIATIVE HFI-PLASMA, A.V. Gerasimov, A.P. Kirpichnikov, Kazan State Technical University, Kazan, Russia

A/P121 1-D MODEL OF THE HEATING OF A COMPOSITE SPHERICAL PARTICLE UNDER PLASMA SPRAYING CONDITIONS, G. Delluc, B. Pateyron, H. Ageorge and P. Fauchais, SPCTS UMR-CNRS 6638, 123 Avenue A. Thomas, 87060 Limoges, France

A/P122 COMPARATIVESTUDY BETWEENKINETIC AND THERMODYNAMIC CALCULATION OF COMPOSITION IN N_2 AND SF_6 PLASMAS, V. Rat(1), J. Aubreton(1), M.F. Elchinger(1), P. Fauchais(1), P. André(2), A. Lefort(2), (1)SPCTS University of Limoges, 123 av. A. Thomas, 87060 Limoges cedex, France, (2)LAEPT Blaise Pascal University, 24 av. des Landais, 63177 Aubière cedex, France

A/P123 CALCULATION OF RF PLASMA TORCH PARAMETERS IN MIXTURES OF GASES AN ARGON + HYDROGEN AND CALCULATION OF HEATING OF A SOLID PARTICLES IN THESE MIXTURES, S. Dresvin, A. Balashov, D. Ivanov, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia, J. Amouroux, LGPPTS, ENSCP, 11 rue P. & M. Curie, 75005 Paris, France

A/P124 2D AND 3D MODELING OF THE PLASMA REACTOR USED FOR A SILICON DEPOSITON PROCESS, Ph. Mandin, F. Bourg, D. Morvan, J. Amouroux, LGPPTS, EMSCP, 11 rue P. & M. Curie, 75005 Paris, France

A/P125 CALCULATION OF TEMPERATURE AND ATOMIC HYDROGEN FIELDS IN AN Ar-H2 THERMAL RF PLASMA COMPARISON WITH THE EXPERIEMENTAL MEASUREMENTS, Ph. Mandin, F. Bourg, F. Krayem, D. Morvan, J. Amouroux and S. Dresvin*, Laboratoire de Génie des Procédés Plasmas, Université Pierre et Marie Curie, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris Cedex 05, France, *Laboratory of Electrotechnological and Plasma Installation, Polytechnical Institute, University of Saint-Petersburg, Russia

A/P126 CALCULATION OF RF PLASMA TORCH PARAMETERS BY MEANS OF NON-EQUILIBRIUM MODEL OF AR PLASMA, S.V. Dresvin, D. Ivanov, Nguyen Kuok Shi, J. Amouroux, Technical University, Polytechnic Str. 29, 195251 St. Petersburg, Russia, *LGPPTS, ENSCP, 11 rue Pierre et Marie Curie, 75005 Paris, France

A/P127 ARRHENIUS' EQUATION AND THERMOPHYSICAL MACROMODEL OF ELECTRODE EROSION, A. Marotta and A.M. Essiptchouk, Inst. of Phys. of UNICAMP, 13083-970 Campinas, Sao Paulo, Brazil, L.I. Sharakhovsky, Heat & Mass Transfer Institute, P. Brovki Str. 15, 220072 Minsk, Belarus

A/P128 MODELLING OF TRANSIENT BEHAVIOUR OF FREE PLASMA JET, G.V. Miloshevsky (1), V.I. Tolkach (1), I. Smurov (2), (1)The Academic Scientific Complex "Luikov Institute of Heat and Mass Transfer" Belarus Academy of Sciences, 15 P. Brouki street, Minsk BY-220072, Republic of Belarus; (2)Ecole Nationale díIngénieurs de Saint-Etienne, 58 rue Jean Parot, 42023 St-Etienne Cedex 2, France

A/P129 NUMERICAL EXPERIMENTS OF VORTEX LAMINAR FLOWS IN PLASMATRONS, O.A. Sinkevich, S.E. Chikunov and V.V. Glazkov, Moscow Power Engineering Institute (Technical University), Krasnokazarmennaya 14, 103835 Moscow, Russia andE.Kh. Isakaev, Associated Institute for HighTemperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P130 NUMERICAL CALCULATION OF LAMINAR FLOWS IN PLASMATRONS, O.A. Sinkevich, V.V. Glazkov and S.E. Chikunov, Moscow Power Engineering Institute (Technical University), Krasnokazarmennaya 14, 103835 Moscow, Russia, E. Kh.Isakaev and A.G. Khachaturova, Associated Institute for HighTemperatures, Russian Academy of Sciences, Izhorskaya 13/19, 127412 Moscow, Russia

A/P131 NUMERICAL MODELLING OF RF-RF HYBRID PLASMA TORCHES AND PARAMETRIC STUDY FOR VARIOUSGEOMETRIC, FLOW AND ELECTRIC CONFIGURATIONS, D. Bernardi*, V. Colombo**, G.G.M. Coppa*, E. Ghedini**, A. Mentrelli**, *Istituto Nazionale per la Fisica della Materia and Dipartimento di Energetica, Politecnico di Torino, Corso Duca degli Abruzzi, 10129 Torino, Italy; **Dipartimento di Matematica and C.I.R.A.M., Universita degli Studi di Bologna, Via Saragozza 8, 40123 Bologna, Italy

A/P132 INDUCTION SUBSONIC FLOWS TEMPERATURE MEASUREMENTS FROM ATOMS AND MOLECULE RADIATION, N.G. Bykova, S.A. Vasil’evskii, I.S. Pershin, M.I. Yakushin

A/P133 DIELECTRIC PROPERTIES OF NANOCRYSTALLINE AIN IN RESPECT TO ITS CRISTAL CHEMISTRY, A.R. Olszyna, A. Sokolowska, Faculty of Materials Science & Engineering, Warsaw University of technology, Wolowska 141, 02-507 warsaw, Poland and J. Szmidt, A. Werbowy, M. Bakowski, Warsaw Universty of Technology

A/P134 DEPOSOTION OF SIC COATINGS BY SPRAYING A POWDER ACCELERATED ELECTRODYNAMICALLY IN A COAXIAL PULSE PLASMA GENERATOR, A.R. Olszyna, Faculty of Materials Science & Engineering, Warsaw University of technology, Wolowska 141, 02-507 Warsaw, Poland and J. Bodzenta, Institute of Physics, Silesian Technical university, Krzywoustego 2, 44-100 Gliwice, Poland

Saturday June 3, 2000 **Morning**
Samedi 3 juin 2000 Matin

Journée Franco – Russe

Plasma Processes Space Materials and Waste Treatments.

Procédés Plasma pour les matériaux Spatiaux et les traitements des déchets spéciaux.

8h30 – 12h00 Plasma technics for Space Materials:

Chairman: Professeur S. DRESVIN
Professeur J. AMOUROUX

Invited speakers :

Professeur S. DRESVIN: RFPlasma Torches and non equilibrium charactéristics for simulation of space conditions.

Professeur J. AMOUROUX, Dr. S. CAVADIAS: Catalycity and space simulation of heat transfer phénoména

Professeur A.S. KOROTEEV: Application of plasma torches for sattellite systems

Professeur FROLOV: Plasma Spraying and Ceramic deposit

Professeur V. BATENIN: Application of Plasma Torches for Hardening of metal surface

Professeur O. YASKO: New approach of Modelling turbulent flows in an electrical arc

Dr. A. BOURDON (CORIA): Experimental and numerical studies carried out on facilities at Coria. IUSTI

Dr. J.L. VERANT (ONERA): Modelling of catalycity for numerical applications

Professeur O. SOLONENKO

*** Invités**

D. DEVEZEAUX	**CNES**
S. RADULOVIC	**CNES**
A. FRESLON	**CEA DAM**
PH. ADAM	**DGA**
D. DELAGE	**CFEI**

8h30 – 12h00 **Waste treatments and Plasma Processes**

Chairman: Professeur Ph. RUTBERG
Professeur P. FAUCHAIS

Invited Speakears

Professeur Ph.RUTBERG: Medical waste detructions by Plasma Processes

Professeur D.NEUSCHUTZ: Waste Treatment of municipal waste by Arc furnace

Professeur P.FAUCHAIS: Refiom treatment in a Plasma arc Process

Professeur D.MORVAN: Modelling of a molten slag pool by a plasma jet – evaporation phenomena

Dr. MF. GONNORD: Dioxin destruction in plasma reactor -diagnostic control-

Professeur A.J. MOSSE: Destruction of toxic organic waste in a three plasma jet reactor

Professseur Y.V. THZVETNOV: Applications of Plasma torch for Metallurgical Waste Treatment