



E-MRS Spring Meeting 2001
June 5 - 8, 2001

SYMPOSIUM C

Protective Coatings and Thin-Films - 01

Symposium Organizers:

Herwig Bangert, University of Technology, Wien, Austria

Tapio Mäntylä, University of Technology, Tampere, Finland

Yves Pauleau, National Polytechnic Institute of Grenoble, France

Nikola Radic, Ruder Boskovic Institute, Zagreb, Croatia

György Radnóczy, Hungarian Academy of Sciences, Budapest, Hungary

Papers will be published in Surface & Coatings Tech.

E-MRS 2001 SPRING MEETING

SYMPOSIUM C

Tuesday, June 5, 2001
Mardi 5 juin 2001

Morning
Matin

Session I Structure and properties of thin films

Session Chairs: P. B. Barna, D. O. Boerma

- C-I1** 9:00 Invited TEM OF LOW PRESSURE CVD DIAMOND FILMS, **P. Pongratz**, Institute of Applied and Technical Physics, Vienna University of Technology, Wiedner Hauptstrasse 8-10/137, 1040 Vienna, Austria
- C-I2** 9:30 STRUCTURE, COMPOSITION AND VISIBLE LUMINESCENCE OF EU-DOPED AlN FILMS, **J.C. Oliveira**, A. Cavaleiro and M.T. Vieira, ICEMS, Grupo de Materiais e Engenharia de Superfícies, Departamento de Engenharia Mecânica, Polo II, Universidade de Coimbra, Pinhal de Marrocos, 3030 Coimbra, Portugal, C. Garapon and B. Jacquier, Laboratoire de Physico-Chimie des Matériaux Luminescents, UMR n°5620 CNRS, Université Lyon 1, 69622 Villeurbanne, France
- C-I3** 9:50 INTERRELATION BETWEEN NANOSTRUCTURE AND OPTICAL PROPERTIES OF OXIDES THIN FILMS BY SPECTROSCOPIC ELLIPSOMETRY, **M. Losurdo**, P. Capezzuto, G. Bruno, Plasma Chemistry Research Center-CNR, via Orabona 4, 70126 Bari, Italy, D. Barreca, E. Tondello, Centro Di Studio sulla Stabilità e Reattività dei Composti di Coordinazione-CNR, Dipartimento di Chimica Inorganica, Metallorganica ed Analitica, Università di Padova, via Marzolo 1, 35131 Padova, Italy
- C-I4** 10:10 IMPROVEMENT OF THE ADHESION STRENGTH OF COPPER FILMS ON GLASSY CARBON SURFACES BY USING PLASMA PRE-TREATMENT AND ADHESION PROMOTING INTERMEDIATE LAYERS, **C. Eisenmenger-Sittner**(a), H. Bangert(a), E. Neubauer(b), G. Korb(b), (a)Vienna University of Technology, Institute for Applied and Technical Physics, Wien, Austria, (b)Austrian Research Centers Seibersdorf, Dept. of Materials Technology, Seibersdorf, Austria
- C-I5** 10:30 CHEMICAL VAPOR DEPOSITION OF SnO₂ COATINGS ON Ti PLATES FOR THE PREPARATION OF ELECTROCATALYTIC ANODES, P. Duverneuil(a), **F. Maury**(b), N. Pebere(b), F. Senocq(b), H. Vergnes(a), (a)LGC, ENSIACET, 18 Chemin de la Loge, 31078 Toulouse, France, (b)CIRIMAT, ENSIACET, 118 Route de Narbonne, 31077 Toulouse, France
- 10:50 **BREAK**

Session II **Characterization techniques**
Session Chairs: J. I. Onate, A.R. Gonzalez-Elipe

- C-II.1** 11:10 Invited CHARACTERIZATION OF NITRIDE COATINGS BY XPS, **I. Bertóti**, Research Laboratory for Materials and Environmental Chemistry, Chemical Research Center, Hungarian Academy of Sciences, PO Box 17, 1525 Budapest, Hungary
- C-II.2** 11:40 IN-SITU AND REAL-TIME ELLIPSOMETRY DIAGNOSTIC TECHNIQUES TOWARDS THE MONITORING OF THE BONDING STRUCTURE AND GROWTH KINETICS: SILICON OXIDE COATINGS, A. Laskarakis, P. Patsalas, **S. Logothetidis**, Department of Physics, Aristotle University of Thessaloniki, 54006 Thessaloniki, Greece
- C-II.3** 12:00 MEASUREMENT OF THE INTERMIXING OF CrN/NbN MULTI-LAYERS IN A CORROSION RESISTANT COATING VIA IMAGING EELS, **J.M. Rodenburg**, H. Meidia, C. Schonjahn, D. Munz, A. Cullis, Sheffied University, Sheffield, UK
- C-II.4** 12:20 USING OF THE PLANAR X-RAY WAVEGUIDE FOR ENERGY DISPERSION DIFFRACTION CHARACTERIZATION OF THIN FILMS, T.V. Bilchik, E.V. Egorov, Moscow Engineering and Physical Institute, Moscow, Russia and **V.K. Egorov**, IPMT RAS, Chernogolovka, Moscow Dist, Russia
- C-II.5** 12:40 R.F. SPUTTERING OF COMPOSITE SiO_x/PLASMA POLYMER FILMS AND THEIR BASIC PROPERTIES, **A. Choukourov**, J. Pihos, V. Stelmashuk, H. Biederman and D. Slavinska, Department of Macromolecular Physics, Charles University, V. Holesovickach 2, 18000 Prague 8, Czech Republic
- 13:00 **LUNCH**

Tuesday, June 5, 2001
Mardi 5 juin 2001

Afternoon
Après-Midi

Session III Formation and properties of thin films I
Session Chairs: O. Conde, A. Straboni

- C-III.1** 14:30 Invited REAL TIME IN SITU STRESS MEASUREMENTS OF ION BEAM ASSISTED DEPOSITION OF BN THIN FILMS, **A. Kolitsch**, C. Fitz, W. Fukarek, W. Möller, Institute of Ion Beam Physics and Materials Research, Forschungszentrum Rossendorf, POB, 510119, 01314 Dresden, Germany
- C-III.2** 15:00 CHARACTERIZATION OF C-BN COATINGS BY AN ASSISTED PHYSICAL VAPOR DEPOSITION AND DC PULSED SPUTTERING OF A B₄C TARGET, **P. Leray**, G. Ceccone and F. Rossi, EC-JRC, IHCP, Ispra(VA), Italy - European Commission - Joint Research Center, Institute for Health and Consumer Protection, TP 203 -21020 Ispra(VA), Italy
- C-III.3** 15:20 STRUCTURAL AND ELASTIC PROPERTIES OF CUBIC BORON NITRIDE FILMS, C.E. Bottani, **P.M. Ossj**, INFN-Dipartimento di Ingegneria Nucleare, Politecnico di Milano, via Ponzio, 34/3, 20133 Milano, Italy and A. Miotello, INFN-Dipartimento di Fisica, Università di Trento, 38050 Povo (TN), Italy
- C-III.4** 15:40 INVESTIGATION OF MECHANICAL PERFORMANCE AND GROWTH CHARACTERISTICS OF BORON NITRIDE THIN FILMS WITH RESPECT TO THEIR OPTICAL AND COMPOSITIONAL PROPERTIES, **Y. Panayiotatos**, C. Charitidis, P. Patsalas and S. Logothetidis, Department of Physics, Aristotle University of Thessaloniki, 54006 Thessaloniki, Greece
- C-III.5** 16:00 DEPOSITION AND CHARACTERISATION OF THICK AND THIN DIAMOND-LIKE CARBON FILMS, **J. Robertson**, W.I. Milne, A.C. Ferrari, D. Chua, Engineering Dept, Cambridge University, Cambridge CB2 1PZ, UK
- 16:20 **BREAK**

Session IV Formation and properties of thin films II
Session Chairs: C. Mitterer, F. Rossi

- C-IV.1** 16:40 DEPOSITION OF DIAMONDLIKE CARBON BY MAGNETIC POLE ENHANCED INDUCTIVELY COUPLED PLASMA, T. Mezziani(a,b), P. Colpo, G. Ceccone, P. Leray, P.N. Gibson, D. Summa, P. Ranson(b), A. Varagnat(b) and F. Rossi, (a)European Commission - JRC, IHCP, T.P. 203, Via E. Fermi, 21020 Ispra (VA), Italy, (b)GREMI-ESPEO, Université d'Orléans/CNRS, 14 rue d'Issoudun, B.P. 6744, 45067 Orléans Cedex 2, France
- C-IV.2** 17:00 ELASTIC CONSTANTS OF DIAMOND-LIKE AMORPHOUS CARBON FILMS: THE EFFECT OF INTERNAL STRESSES, A.Yu. Belov and H.U. Jaeger, Forschungszentrum Rossendorf e.V., Institute of Ion Beam Physics and Materials Research, Postfach 510119, 01314 Dresden, Germany
- C-IV.3** 17:20 STRUCTURE OF AMORPHOUS CARBON-NITRIDE THIN FILMS, G. Radnóczy, I. Kovács, O. Geszti, L.P. Biró, G. Sáfrán, Research Institute for Technical Physics and Materials Science, Hungarian Academy of Sciences, Budapest XII, Konkoly-Thege ul 29-33, Hungary
- C-IV.4** 17:40 CHEMICAL AND MICROSTRUCTURAL CHARACTERISATION OF SILICON-CONTAINING CARBON FILMS, N. Laidani, G. Speranza, L. Calliari, V. Micheli, M. Anderle, Istituto di Ricerca Scientifica e Tecnologica-ITC, Divisione Fisica-chimica delle Superfici, Via Sommarive 18, 38050 Povo (Trento), Italy and G. Mariotto, Dipartimento di Fisica, Università di Trento, 38050 Povo (Trento), Italy
- C-IV.5** 18:10 CHARACTERIZATION OF CN_x FILMS DEPOSITED BY PULSED LASER ABLATION USING SPECTROSCOPIC ELLIPSOMETRY, P. Boher, SOPRA S.A., 26 rue Pierre Joigneaux, 92270 Bois-Colombes, France, E. Fogarassy, T. Szorenyi, F. Antoni, PHASE, UPR 292 CNRS, BP 20, 67037 Strasbourg Cedex 02, France
- 18:30-20:00 **Poster Session 1**

Poster Session 1

- C/P1.01** ELECTRON DENSITY PROFILES OF D.L.C. FILMS FROM X-RAYS REFLECTIVITY MEASUREMENTS, C. Meunier, S. Vives, CREST, FRE 2278 CNRS, 4 place Tharradin, BP 71427, 25200 Montbéliard, France, E. Tomasella, IMP CNRS, 66000 Perpignan, France, S.Mikhailov, Centre d'Analyses par Faisceau Ionique, 8a rue jambe Ducommun, 2400 Le Locle, Switzerland
- C/P1.02** CHARACTERIZATION OF AMORPHOUS HYDROGENATED CARBON FILMS DEPOSITED FROM CO-C₂H₂ MIXTURES IN A DISTRIBUTED ECR PLASMA REACTOR, F. Thiéry, C. Vallée, Y. Pauleau, J. Pelletier, A. Lacoste and Y. Arnal, CNRS-LEMD, BP 166, 38042 Grenoble Cedex 9, France
- C/P1.03** PRECIPITATION OF AMORPHOUS CARBON LAYER ON SINTERED MANGANESE STEEL MATRIX, J. Georgiev, Institute of Metal Science, Bulgarian Academy of Sciences, Sofia, Bulgaria, Tadeusz Pieczonka, University of Mining and Metallurgy, al. Mickiewicza 30, 30-059 Krakow, Poland, M. Stoytchev, Institute of Metal Science, Bulgarian Academy of Sciences, Sofia, Bulgaria, and D. Teodosiev, Space Research Institute, Bulgarian Academy of Sciences, Sofia, Bulgaria
- C/P1.04** RELATIONSHIP BETWEEN COMPOSITION AND POSITION OF RAMAN PEAKS IN DISORDERED CARBON ALLOYS, G. Fanchini(a), G. Messina(b), S.C. Ray(a), S. Santangelo(b), A. Tagliaferro(a), (a)Dip. Fisica & Unità INFN, Politecnico di Torino, Torino, Italy, (b)Dip. Meccanica e Materiali & Unità INFN, Università di Reggio Calabria, Reggio Calabria, Italy
- C/P1.05** CVD DIAMOND SYNTHESIS ON GLASS AND OXIDE SUBSTRATES, Y. Takagi, Teikyo University of Science and Technology, Japan
- C/P1.06** ULTRAVIOLET AND VISIBLE RAMAN SPECTROSCOPY CHARACTERIZATION OF CHEMICAL VAPOR DEPOSITION DIAMOND FILMS, S.M. Huang and Y.F. Lu, Laser Microprocessing Laboratory, Data Storage Institute, National University of Singapore, 10 Kent Ridge Crescent, 117608 Singapore, Z. Sun, School of Electrical and Electronic Engineering, Nanyang Technological University, Nanyang Avenue, 639798 Singapore
- C/P1.07** DEPOSITION AND CHARACTERIZATION OF NANOCRYSTALLINE DIAMOND FILMS, E. Mohasseb, F. Silva, K. Hassouni, A. Gicquel, Laboratoire d'Ingénierie de Matériaux et des Hautes Pressions, CNRS UPR 1311, Université Paris Nord, Avenue J.B. Clement, 93430 Villetaneuse, France
- C/P1.08** MECHANICAL CHARACTERIZATIONS OF DIAMOND CARBON FILMS MADE BY PACVD, P. Djemia(a), F. Tétard(a), F. Ganot(a), M.I. De Barros(b), L. Vandenbulcke(b), (a)LPMTM UPR 9001, Institut Galilée, av JB Clément, 93430 Villetaneuse Cedex, France, (b)LCSR, UPR 4211 CNRS, Université d'Orléans, 1C Avenue de la recherche scientifique, 45071 Orléans cedex 2, France
- C/P1.09** CALCULATION OF INTRINSIC STRESSES IN AMORPHOUS CARBON FILMS GROWN BY MOLECULAR DYNAMICS SIMULATION: FROM THE ATOMIC TO THE MACROSCOPIC SCALE, A.Yu. Beloy and H.U. Jaeger, Forschungszentrum Rossendorf e.V., Institute of Ion Beam Physics and Materials Research, Postfach 510119, 01314 Dresden, Germany
- C/P1.10** EFFECTS OF NITROGEN INCORPORATION IN CN_x THIN FILMS DEPOSITED BY RF MAGNETRON SPUTTERING, N. Mubumbila, P.Y. Tessier, B. Angleraud, G. Turban, Institut des Matériaux de Nantes, Laboratoire des Plasmas et des Couches Minces, UMR 6502-CNRS, Université de Nantes, 44322 Nantes Cedex 3, France
- C/P1.11** ION BEAM SYNTHESIS OF a-CN_x:H FILMS, V. Kopustinskas, M. Puceta, V. Grigaliunas, S. Meskinis, J. Margelevicius, Institute of Physical Electronics, Savanoriu 271, 3009 Kaunas, Lithuania, R. Tomasiunas, Vilnius University, Sauletkio 10, 2040 Vilnius, Lithuania

- C/P1.12** SURFACE AND BULK CHARACTERIZATIONS OF CN_x THIN FILMS MADE BY RF MAGNETRON SPUTTERING, F. Tétard(a), Ph. Djemia(a), B. Angleraud(b), N. Mubumbila(b), P.Y. Tessier(b), (a)LPMTM UPR 9001 CNRS, Institut Galilée, av JB Clément, 93430 Villetaneuse Cedex, France, (b)LPCM, Institut des Matériaux J. Rouxel UMR 6502/CNRS, 2 rue de la Houssinière, 44322 Nantes, France
- C/P1.13** NUCLEATION AND GROWTH MECHANISM OF NITRIDE FILMS DEPOSITED ON GLASS BY UNBALANCED MAGNETRON SPUTTERING, M.J. Jung, K.H. Nam and J.G. Han, Center for Advanced Plasma Surface Technology, Sung Kyun Kwan University, 300 Chunchun-dong, Jangan-gu, Suwon 440-746, Korea
- C/P1.14** CHARACTERISATION OF NONSTOICHIOMETRIC SPUTTERED ZIRCONIUM NITRIDES, M. Benia(a), G. Schmerber(b), M. Guemmaz(a), A. Mosser(c) and J.C. Parlebas(b), (a)Laboratoire de Dosage Analyse et Caractérisation en haute résolution, (DAC), Université de Sétif, 19000 Sétif, Algérie, (b)IPCMS-GEMME, 23 rue du Loess, 67037 Strasbourg Cedex, France, (c)IPCMS-GSI, 23 rue du Loess, 67037 Strasbourg Cedex, France
- C/P1.15** EXPERIMENTAL INVESTIGATIONS ON PHYSICAL PROPERTIES OF NONSTOICHIOMETRIC NIOBIUM NITRIDES PREPARED BY DC MAGNETRON SPUTTERING, M. Torche(a), M. Guemmaz(a), A. Mosser(c), J.C. Parlebas(b) and G. Schmerber(b), (a)Laboratoire de Dosage Analyse et Caractérisation en haute résolution, (DAC), Université de Sétif, 19000 Sétif, Algérie, (b)IPCMS-GEMME, 23 rue du Loess, 67037 Strasbourg Cedex, France, (c)IPCMS-GSI, 23 rue du Loess, 67037 Strasbourg Cedex, France
- C/P1.16** INFLUENCE OF THE LOW-PRESSURE CATHODIC ARC PARAMETERS ON THE COMPOSITION OF GENERATED REACTIVE PLASMA AND THE STOICHIOMETRY OF DEPOSITED (Ti, Al)_n COATINGS, J. Walkowicz, Institute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland
- C/P1.17** OXIDATION AND WEAR BEHAVIOUR OF REACTIVELY SPUTTERED SUPERHARD (Ti,Si,Al)_n NANOCOMPOSITE FILMS, L. Rebouta, S. Carvalho, F. Vaz, Departamento de Fisica, Universidade do Minho, 4800-058 Guimaraes, Portugal and E. Alves, ITN, Departamento de Fisica, 2686-953 Sacavem, Portugal, A.S. Miranda, Departamento de Mecanica, Universidade do Minho, 4800-058 Guimaraes, Portugal
- C/P1.18** EFFECT OF INTERGRANULAR PHASE AMOUNT OF Si₃N₄ SUBSTRATES ON MPCVD DIAMOND DEPOSITION, V.A. Silva(a), A.J.S. Fernandes(b), F.M. Costa(b), R.F. Silva(a), (a)Department of Ceramics and Glass Engineering, UIMC, Univ. of Aveiro, 3810 Aveiro, Portugal, (b)Department of Physics, Univ. of Aveiro, 3810 Aveiro, Portugal
- C/P1.19** CHARACTERISATION OF REACTIVELY SPUTTERED Ti-B-N and Ti-B-O COATINGS, J.F. Pierson, J.Ph. Bauer, CREST, Pôle Universitaire, BP 71427, 25211 Montbéliard Cedex, France, V. Chapusot, A. Billard, LSGS, Ecole des Mines, Parc de Saurupt, 54042 Nancy Cedex, France
- C/P1.20** CHARACTERIZATION OF a-C AND t-BN FILMS DEPOSITED ON POLYCRYSTALLINE METALLIC SUBSTRATES, M. Vinnichenko(a), K. Vinnichenko(a), W. Fukarek(b), E. Richter(c), L. Poperenko(a), A. Bardamid(a), (a)Kyiv Taras Shevchenko University, 01033 Kyiv, Ukraine, (b)Leybold Optics, Dresden, Germany, (c) Forschungszentrum Rossendorf, 01314 Dresden, Germany
- C/P1.21** STUDY OF THE ELASTIC BEHAVIOUR OF Ti_xN_y THIN FILMS AS PREPARED BY DUAL ION BEAM SPUTTERING, G.G. Fuentes, E. Elizalde and J.M. Sanz, Departamento de Fisica Aplicada C-XII, Universidad Autonoma de Madrid, Cantoblanco, 28049 Madrid, Spain, D.Caceres and I. Vergara, Departamento de Fisica Aplicada, Universidad Carlos III de Madrid, 28911 Leganés (Madrid), Spain
- C/P1.22** EFFECTS OF THE LOW ENERGY-ION BEAM ASSISTANCE IN THE GROWTH OF Ti_xN_y THIN FILMS, G.G. Fuentes(a), D.Caceres(b), I. Vergara(b), R. Pérez-Casero(a), E. Elizalde(a) and J.M. Sanz(a), (a)Departamento de Fisica Aplicada C-XII, Universidad Autonoma de Madrid, Cantoblanco, 28049 Madrid, Spain, (b)Departamento de Fisica Aplicada, Universidad Carlos III de Madrid, 28911 Leganés (Madrid), Spain

- C/P1.23** GRAZING INCIDENCE SMALL ANGLE X-RAY SCATTERING INVESTIGATION OF TUNGSTEN-CARBON ALLOYS PRODUCED BY REACTIVE MAGNETRON SPUTTERING, P. Dubcek, Sincrotrone Trieste, SS 14 km 163,5, 34012 Basovizza (TS), Italy, N. Radic, Ruder Boskovic Institute, Bijenicka 54, 10000 Zagreb, Croatia, O. Milat, Institute for Physics, Bijenicka 46, 10000 Zagreb, Croatia, S. Bernstorff, Sincrotrone Trieste, SS 14 km 163,5, 34012 Basovizza (TS), Italy
- C/P1.24** STUDY OF THIN HARD COATING OF CHROMIUM CARBIDES ON STEEL SUBSTRATES, C. Harkati, L. Chekour and R. Halimi, Laboratoire Couches Minces et Interfaces, Unité de Recherche de Physique, Université Mentouri, 25000 Constantine, Algeria
- C/P1.25** ELABORATION AND CHARACTERIZATION OF TANTALUM CARBIDE COATINGS, Y. Hadjar and R. Halimi, Laboratoire Couches Minces et Interfaces, Unité de Recherche de Physique, Université Mentouri, 25000 Constantine, Algérie
- C/P1.26** REACTIVE PULSED LASER ABLATION AND DEPOSITION OF TUNGSTEN CARBIDE THIN FILMS IN RF PLASMA, A. Giardini, V. Marotta, S. Orlando, CNR - IMS, Zona Industriale di Tito Scalo, 85050 Tito Scalo (PZ), Italy and E. Cappelli, CNR - IMAI, P.O.Box 10, 00016 Monterotondo Scalo (ROMA), Italy
- C/P1.27** TITANIUM NITRIDE THIN FILMS DEPOSITED BY REACTIVE PULSED LASER ABLATION IN RF PLASMA, A. Giardini, V. Marotta, S. Orlando, CNR - IMS, Zona Industriale di Tito Scalo, 85050 Tito Scalo (PZ), Italy
- C/P1.28** SOME PROPERTIES OF ATMOSPHERIC AIR- AND INERT GAS HIGH PRESSURE PLASMA SPRAYED ZrB₂ COATINGS, M. Tului, F. Arezzo, Centro Sviluppo Materiali, via di Castel Romano 100, 00128 Roma, Italy, L. Pawlowski, Ecole Supérieure de Chimie de Lille, BP 108, 59652 Villeneuve d'Ascq, France
- C/P1.29** SOME PROPERTIES OF ATMOSPHERIC AIR- AND INERT GAS HIGH PRESSURE PLASMA SPRAYED ZnO AND ZnO+Al₂O₃, M. Tului, F. Arezzo, Centro Sviluppo Materiali, via di Castel Romano 100, 00128 Roma, Italy, L. Pawlowski, Ecole Supérieure de Chimie de Lille, BP 108, 59652 Villeneuve d'Ascq, France
- C/P1.30** TRIBOLOGICAL PROPERTIES OF ARC SPRAYED COATINGS OBTAINED FROM FeCrB AND FeCr BASED POWDER WIRES, H. Pokhmurska, Institute for Applied Problems of Mechanics and Mathematics of NASU, 3-b Naukova Str., 79601 Lviv, Ukraine, V. Dovhnyk, M. Student, physico-Mechanical institute Nasu, 5 Naukova Str., 79601 Lviv, Ukraine, E. Bielanska, Institute of Metallurgy and Material Science PAS, 25 Reymonta Str., 30-059 Krakow, Poland
- C/P1.31** CANCELLED
- C/P1.32** NITROGEN FLOW RATE DEPENDENCE OF THE GROWTH MORPHOLOGY OF TiAlN FILMS DEPOSITED BY REACTIVE SPUTTERING, Kuntal Chakrabarti, Jin Jung Jeong, Sun Keun Hwang and Chongmu Lee. Department of Materials Science and Engineering, Inha University, Incheon 402-751, Korea
- C/P1.33** COMPARISON OF STRUCTURAL, MECHANICAL AND CHEMICAL PROPERTIES OF Cr-BASED HARD COATINGS, M. Cekada(a), P. Panja(a), M. Mace(a,b), P. Smi(c), (a)Jozef Stefan Institute, Department of Thin Films and Surfaces, Jamova 39, 1000 Ljubljana, Slovenia, (b)University of Ljubljana, Faculty of Electrotechnical Engineering, Trzaska 25, 1000 Ljubljana, Slovenia, (c)University of West Bohemia, Department of Physics, 30614 Plzen, Czech Republic

- C/P1.34** GROWTH TEMPERATURE EFFECTS ON LP-MOCVD TiN_xO_y and TiO₂ LAYERS PROTECTIVE FEATURES, F. Fabreguette, J. Guillot, L. Imhoff, B. Domenichini, M.C. Marco de Lucas, P. Sibillot, S. Bourgeois and M. Sacilotti LPUB and LRRS, Université de Bourgogne, 9 avenue A. Savary, BP 47870, 21078 Dijon cedex, France
- C/P1.35** Ti, TiN AND Ti/TiN THIN FILMS PREPARED BY ION BEAM ASSISTED DEPOSITION (IBAD) AS DIFFUSION BARRIERS BETWEEN Cu AND Si, Yuehui Yu(a), Haicuan Mu(a), E.Z. Luo(b), B. Sundaravel(b), S.P. Wong(b), I.H. Wilson(b), (a)Ion beam laboratory, Shanghai Institute of Metallurgy, Chinese Academy of Sciences, 865 Changning Road, Shanghai 200050, P.R.China, (b)Department of Electrical Engineering and Materials Science and Technology Research Center, The Chinese University of Hongkong, Shatin, N.T., Hongkong, People's Republic of China
- C/P1.36** INVESTIGATION OF SINTERED AND LASER SURFACE REMELTED COMPOSITES, Z. Gacsi, University of Miskolc, Egyetemvaros, 3515 Miskolc, Hungary, J. Kovács, University of Miskolc, Egyetemvaros, 3515 Miskolc, Hungary, T. Pieczonka, University of Mining and Metallurgy, Mickiewicz Ave. 30, 30059 Krakow, Poland, G. Buza, Zoltan Bay Institute of Materials Science and Materials Technology, Fehervari Street 130, 1139 Budapest, Hungary
- C/P1.37** HAFNIUM CARBIDE HARD COATINGS PRODUCED BY PULSED LASER ABLATION AND DEPOSITION, R. Teghil, A. Santagata, Dipartimento di Chimica, Università di Basilicata, via N. Sauro 85, 85100 Potenza, Italy, V. Marotta, Istituto Materiali Speciali CNR, via S. Loja, Tito Scalo, Italy, S.M. Barinov, High Tech Ceramics Research Center, Russian Academy of Sciences, Ozernaya 48, Moscow, 119361, Russia, G. De Maria, Dipartimento di Chimica, Università La Sapienza, P.le A. Moro 5, 00185 Roma, Italy
- C/P1.38** SYNTHESIS OF Fe₂W BY LOW PRESSURE LASER SPRAYING, Yoji Isshiki(a), Ji Shi(b), Hisashi Nakai(c), Mituru Hashimoto(b), (a)Tokyo Metropolitan Research Institute of Industrial Technology, 3-13-10, Nishigaoka, Kita-ku, Tokyo, 115-8586, Japan, (b)Department of Applied Physics and Chemistry, University of Electro-Communications, 1-5-1, Chofugaoka, Chofu-si, Tokyo, 182-8585, Japan, (c)International Student Center, University of Electro-Communications, 1-5-1, Chofugaoka, Chofu-si, Tokyo, 182-8585, Japan
- C/P1.39** STUDY ABOUT ALUMINIUM - COPPER - IRON ALLOYS: APPLICATION FOR LASER CLADDING, L. Dubourg, IREPA LASER, parc d'innovation, Pôle API, 67400 Illkirch, France, F. Hlawka, A. Cornet, LISS, ENSAIS, 24 bd de la victoire, 67000 Strasbourg, France
- C/P1.40** THE STRUCTURE AND PROPERTIES OF THE CARBON PLAIN STEEL SURFACE LAYER LASER ALLOYED WITH TANTALUM, A. Woldan, University of Mining and Metallurgy, Faculty of Metallurgy and Materials Science, 30 Mickiewicz Ave., 30-059 Cracow, Poland
- C/P1.41** MICROSTRUCTURE AND PROPERTIES SWV9 HIGH SPEED TOOL STEEL LASER MELTED, S. Kac, J. Kusinski, A. Woldan, University of Mining and Metallurgy, Faculty of Metallurgy and Materials Science, 30 Mickiewicz Ave, 30-059 Cracow, Poland
- C/P1.42** MODELING OF THERMAL FIELDS AT LASER GLAZING OF PLASMA SPRAYED HYDROXYAPATITE COATINGS, L. Pawlowski, ENSL, BP 108, 59652 Villeneuve d'Ascq, France, I. Smurov, ENISE, 58, rue Jean Parot, 42023 Saint Etienne, France
- C/P1.43** THEORETICAL STUDY OF POWDER PARTICLE BEHAVIOR IN THERMAL SPRAYING FLAMES, I. Smurov, ENISE, 58, rue Jean Parot, 42023 Saint Etienne, France, L. Pawlowski, ENSCL, avenue Mendeleev, BP 108, 59652 Villeneuve d'Ascq, V. Gerevich, Belarusian State University of Information and Radioelectronics, 6 P. Brovka, 220027 Minsk, Belarus
- C/P1.44** CANCELLED
- C/P1.45** EFFECT OF HIGH ENERGY IMPLANTATION ON TAFe TITANIUM ALLOY, H. Pelletier(a), D. Muller(b), P. Mille(a), J.J. Grob(b), (a)Laboratoire d'Ingénierie des Surfaces de Strasbourg, ENSAIS, 24 Boulevard de la Victoire, 67000 Strasbourg, France, (b)Laboratoire PHASE, CNRS UPR 292, 23 rue du Loess, BP 20CR, 67037 Strasbourg Cedex 2, France

- C/P1.46** CORRELATION BETWEEN SPATIAL DISTRIBUTION OF PLASMA ELEMENTS AND UNIFORMITY OF THE NITRIDED LAYER STRUCTURE IN ION NITRIDING PROCESSES, J. Walkowicz, Institute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland
- C/P1.47** THE INFLUENCE OF THE GAS NITRIDING AND ISOTHERMIC HEAT TREATMENT PROCESSES ON THE PHASE STRUCTURE AND MATERIAL PROPERTIES OF THE Ti, Cr, Ti-N, Cr-N PVD COATINGS, J. Smolik, Institute for Terotechnology, ul. Pulaskiego 6/10, 26-600 Radom, Poland
- C/P1.48** INCREASING OF GAS NITRIDING KINETICS VIA SURFACE PRETREATMENT, J. Baranowska, K. Szczecinski, M. Wysięcki, Institute of Materials Engineering, Technical University of Szczecin, al. Piastow 19, 70-310 Szczecin, Poland
- C/P1.49** INVESTIGATION ON THE PULSED DC PLASMA NITRIDING WITH LANGMUIR PROBE AND OPTICAL EMISSION SPECTROSCOPY, Yong M. Kim, Jong U. Kim, Jeon G. Han, Center for Advanced Plasma Surface Technology, Sungkyunkwan University, 300 Chunchun-dong, Jangangu, Suwon 440-746, Korea
- C/P1.50** STRUCTURAL AND CHEMICAL MODIFICATIONS INDUCED BY MOLYBDENUM ION IMPLANTATION IN STAINLESS STEEL, N. Mottu, M. Vayer, P. Andreazza, C. Andreazza-Vignolle, R. Benoit, R. Erre, Centre de Recherche sur la Matière Divisée, 1B rue de la Férollerie, 45071 Orléans Cedex 2, France and T. Sauvage, G. Blondiaux, Centre d'Etudes et de Recherches par Irradiation, 3A rue de la Férollerie, 45071 Orléans Cedex 2, France
- C/P1.51** APPLICATION OF WC-TiAlN NANOCOMPOSITE COATING FOR EXTENDING SERVICE LIFE OF PCB DRILL, H.Y. Lee(a), S.S. Kim(a), J.G. Han(a), Y.H.Jun(b) and S.H. Yang(c), (a)Center for Advanced Plasma Surface Technology, Sung Kyun Kwan University, 300 Chunchun-Dong, Jangan Gu, Suwon 440-746, Korea, (b)J&L Tech, #314.3.ma.Industrial Complex 1379-13 Jeongwang-Dong.Siheung-City, Kyunggi-do, 429-450, Korea, (c)Korea Institute of Industrial Technology, Advanced consumer products R&D Center, Chonan 330-820, Korea

Wednesday, June 6, 2001
Mercredi 6 juin 2001

Afternoon
Après-Midi

Session V High temperature mechanical coatings I.
Session Chairs: C. Templier, T. Piezonka

- C-V.1** 14:00 Invited HIGH TEMPERATURE WEAR RESISTANT Fe-Al INTERMETALLIC COATING IN AGGRESSIVE FLUIDISED-BED ENVIRONMENTS, **A.C. Magnee**, University of Liège, Department of Metallurgy and Materials Science, Belgium
- C-V.2** 14:30 CHARACTERIZATION OF PROTECTIVE CHROME LAYER FORMED BY PULSE PLATING, **Y. Choi**, B.G. Kim, J.W. Lee, Y.W. Lee, Dept. of Metall. & Mater. Eng., Sunmoon University, Korea Atomic Energy Research Inst., Asan, Chung-Nam, Korea
- C-V.3** 14:50 THERMOCHEMICAL TREATMENT OF Fe-Cr-Mo ALLOYS, **J. Kazior**, Cracow University of Technology, C. Janczur, Cracow University of Technology, T. Piezonka, University of Mining And Metallurgy, J. Ploszczak, Cracow University of Technology, Poland
- C-V.4** 15:10 MECHANICAL PROPERTIES OF NbN/Si₃N₄ MULTILAYER COATINGS DEPOSITED BY REACTIVE SPUTTERING, Jin Jung Jeong, **Jae bum Kim**, Hyun Soo Kim, Sun Keun Hwang, Chongmu Lee. School of Materials Science and Engineering. Inha University, 253 Youngheyon-dong, Incheon 402-751, Korea
- C-V.5** 15:30 PROPERTIES OF HIGHLY DAMPING COATINGS PRODUCED BY EBPVD METHOD, **A. Ustinov**, B. Movchan, IC EBT, 68 Gorky Str., Kyiv 03150, Ukraine, F. Lemkey, USIC, 1800N, Kent St., Ste.1106, Avlinton VA 22209, USA and V. Skorodzievskii, IMP, 36 Vernadsky Str., Kyiv 03142, Ukraine
- C-V.6** 15:50 EVALUATING THE MICROSTRUCTURE OF NANOCOMPOSITE PVD TiAlBN WEAR RESISTANT COATINGS BY XPS AND TEM, **M.A. Baker**(a), S. Klose(a), C. Rebholz(b), A. Leyland(b), A. Matthews(b), (a) School of Mechanical and Materials Engineering, University of Surrey, Guildford, Surrey GU2 7XH, UK, (b)Research Centre in Surface Engineering, University of Hull, Hull HU6 7RX, UK
- 16:10 **BREAK**

Session VI Optical properties of thin films
Session Chairs: F. Maury, O. Zywitzki

- C-VI1** 16:30 Invited OPTICAL PROPERTIES OF AMORPHOUS CARBON-BASED MATERIALS, G. Fanchini, C.S. Ray, **A. Tagliaferro**, Dip. Fisica & Unità INFM, Politecnico Torino, Italy
- C-VI2** 17:00 OPTICAL INVESTIGATIONS OF THE MICROSTRUCTURE OF CARBON NITRIDE FILMS DEPOSITED BY RF MAGNETRON SPUTTERING, **M. Lejeune**(a), O. Durand-Drouhin(a), D. Ballutaud(b), A. Grossman(c) and M. Benlahsen(a), (a)Laboratoire de Physique de la Matière Condensée, UPRES-EA 2081 Faculté des Sciences d'Amiens, 33 rue Saint Leu, 80039 Amiens Cedex 2, France, (b)Laboratoire de Physique des Solides et de Cristallogénèses, UMR CNRS 8635, 1 place A. Briand, 92195 Meudon Cedex, France, (c)Groupe de Physique des Solides, CNRS UA 17, Universités Paris VII et VI, 2 place Jussieu, 75251 Paris cedex 05, France
- C-VI3** 17:20 OPTICAL PROPERTIES OF THIN BORON NITRIDE LAYERS, **A. Soltani**, P. Thévenin, A. Bath, MOPS/CLOES, University of Metz & Supélec, 2 rue Edouard Belin, 57078 Metz Cedex 03, France
- C-VI4** 17:40 TRANSPARENT CONDUCTIVE ZnO:Al THIN FILM DEPOSITED ON POLYMER SUBSTRATES BY R.F. MAGNETRON SPUTTERING, **E. Fortunato**(a), P. Nunes(a), I. Ferreira(a), H. Aguas(a), R. Martins(a) and P. Vilarinho(b), (a)Department of Materials Science/CENIMAT, Faculty of Sciences and Technology, New University of Lisbon and CEMOP-UNINOVA, 2825-114 Caparica, Portugal, (b)Department of Ceramics and Glass Engineering/UIMC, University of Aveiro, 3810-193 Aveiro, Portugal
- C-VI5** 18:00 EFFECT OF THICKNESS ON THE PROPERTIES OF ITO FILMS DEPOSITED BY rf-PLASMA ENHANCED REACTIVE THERMAL EVAPORATION ON UNHEATED TRANSPARENT SUBSTRATES, C. Nunes de Carvalho(a), A. Luis(a), G. Lavareda(a,b), E. Fortunato(a), A. Amaral(b,c), (a)Departamento de Ciência dos Materiais, FCT-UNL, Quinta da Torre, 2825-114 Caparica, Portugal; (b)Centro de Física Molecular, Complexo I, IST-UTL, Av. Rovisco Pais, 1049-001 Lisboa, Portugal; (c)Departamento de Física, IST-UTL, Av. Rovisco Pais, 1049-001 Lisboa, Portugal
- C-VI6** 18:20 Si-O-C-H THIN FILMS PREPARED BY PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION FROM A Si(CH₃)₃Cl PRECURSOR, A. Barranco, J. Cotrino, F. Yubero, **A.R. Gonzalez-Elise**, Instituto de Ciencia de Materiales de Sevilla (CSIC-Univ. Sevilla), Avda. Americo vespucio s/n, 41092 Sevilla, Spain, T. Girardeau, Université de Poitiers, SP2MI LMP UMR 6630 CNRS, 86960 Futuroscope Cedex, France

Thursday, June 7, 2001
Jeudi 7 juin 2001

Morning
Matin

Session VII **Surface processing by photons** (Common session of C and L symposia)
Session Chairs: **J. Kusinsky, T. Szörényi**

- C-VII.1** 08:30 PREDICTION OF TEMPERATURE EVOLUTION ON METALS DURING LASER HARDENING PROCESS, A. Yanez, G. Nicolas, E. Saavedra, C. Alvarez, A.J. Lopez, J.A. Perez, A. Ramil, Universidad de La Coruna, Escuela Politecnica Superior, C/Mendizabal s/n, 15403 Ferrol, Spain
- C-VII.2** 08:50 SPECTROSCOPIC CHARACTERIZATION OF DLC FILMS DEPOSITED ON POLYCARBONATE BY PULSED LASER ABLATION, M. Bonelli, A. Miotello, P. Mosaner, INFN and Dipartimento di Fisica, Universita di Trento, 38050 Povo (Trento), Italy and C. Casiraghi, P.M. Ossj, INFN and Dipartimento di Ingegneria Nucleare, Politecnico di Milano, Via Ponzio 33/4, 20133 Milano, Italy
- C-VII.3** 09:10 LATERAL DISTRIBUTION OF THE SILICIDE PHASES FORMED DURING VISIBLE AND UV PULSED LASER PROCESSING OF THE Ti/Si(001) INTERFACE STUDIED BY XPS MICROSCOPY WITH SYNCHROTRON RADIATION, R. Larciprete(a,b), M. Danailov(a), A. Barinov(a), L. Casalis(a), L. Gregoratti(a) and M. Kiskinova(a), (a)Sincrotrone Trieste, S.S. 14, Km.163,5, 34012 Basovizza (TS), (b)ENEA, Div. Fisica Applicata, via E. Fermi 45, 00044 Frascati (RM), Italy
- C-VII.4** 9:30 MODELING OF THE HIGH POWER LASER INTERACTION WITH APS DEPOSITED FeCr-TiC COMPOSITE, L. Pawlowski, I. Smurov, Ecole Nationale Supérieure de Chimie de Lille, PO Box 108, 59652 Villeneuve d'Ascq, France
- C-VII.5** 9:50 STRUCTURAL AND ELECTRICAL PROPERTIES OF TANTALUM OXIDE FILMS GROWN BY PHOTO-INDUCED PULSED LASER DEPOSITION, J.-Y. Zhang and I.W. Boyd, Electronic & Electrical Engineering, University College London, Torrington Place, London WC1E 7JE, UK
- C-VII.6** 10:10 AN XPS STUDY OF PULSED LASER DEPOSITED CN_x FILMS, F. Le Normand(a), J. Hommet(a), T. Szörényi(2,3), C. Fuchs(b), E. Fogarassy(b), (a)IPCMS, UMR 7504 CNRS, BP 20, 67037 Strasbourg Cedex 2, France, (b)CNRS-PHASE, UPR 292 CNRS, BP 20, 67037 Strasbourg Cedex 2, France, (c)Research Group on Laser Physics, 6701, Po Box 406, Szeged, Hungary
- 10:30 **BREAK**

Session VIII Thermal barrier and protective coatings I.

Session Chairs: A. S. Korhonen, J. Kazior

- C-VIII1** 10:40 Invited METHODS TO REDUCE THE THERMAL CONDUCTIVITY OF EB-PVD TBC's, **J.R. Nicholls**, K.J. Lawson, A. Johnstone* and D.S. Rickerby*, Cranfield University, Cranfield, Bedford MK43 0AL, U.K., *Rolls Royce plc, PO Box 31, Derby DE24 8BJ, UK
- C-VIII2** 11:10 NOVEL CORROSION RESISTANT FILMS FOR MG ALLOYS, A. Yfantis, I. Paloumpa, D. Schmeisser, D. Yfantis, Brandenburg Technical University of Cottbus, E.-W. str. 1, 03044 Cottbus, Germany
- C-VIII3** 11:30 CANCELLED
- C-VIII4** 11:50 PROTECTIVE MULTILAYER COATINGS FOR CARBON-CARBON COMPOSITES, R. Gadow and M. Speicher, IFKB University of Stuttgart, Allmandring 7b, 70569 Stuttgart, Germany
- C-VIII5** 12:10 PROTECTIVE PROPERTIES OF THE VACUUM ARC DEPOSITED DECORATIVE TITANIUM DIOXIDE COATINGS ON STAINLESS STEEL, B. Straumal(a), O. Gribkova(b), A. Kazakevich(b), N. Vershinin(a), A. Lytovich(c), A. Gusko(c), (a)I.V.T. Ltd. (Institute for Vacuum Technology), P.O. Box 47, 109180 Moscow, Russia, (b)Moscow Institute of Steel and Alloys (Technical University), Moscow, Leninsky Prospekt 4, 117049 Russia, (c)Staatliche Materialpruefungsanstalt, Universitaet Stuttgart, Pfaffenwaldring 32, 70569 Stuttgart, Germany
- 12:30 **LUNCH**

Thursday, June 7, 2001
Jeudi 7 juin 2001

Afternoon
Après-Midi

Session IX **Structure and morphology**
Session Chairs: **C. Eisenmenger-Sittner, G.K. Wolf**

- C-IX.1** 14:10 STRUCTURE AND PROPERTIES OF Al₂O₃ LAYERS DEPOSITED BY PLASMA ACTIVATED REACTIVE ELECTRON BEAM EVAPORATION, O. Zywitzki, K. Goedicke, H. Morgner, Fraunhofer Institut Elektronenstrahl-und Plasmatechnik, Winterberstrasse 28, 01277 Dresden, Germany
- C-IX.2** 14:30 A COMPARATIVE STUDY ON REACTIVE AND NON-REACTIVE UNBALANCED MAGNETRON SPUTTER DEPOSITION OF TiN_x COATINGS, P.H. Mayrhofer(a), F. Kunc(b), J. Musil(b), C. Mitterer(a), (a)Department of Physical Metallurgy and Materials Testing, University of Leoben, Franz-Josef-Strasse 18, 8700 Leoben, Austria, (b)Department of Physics, University of West Bohemia, P.O.Box 314, 306 14 Plzeň, Czech Republic
- C-IX.3** 14:50 IN-SITU HIGH-TEMPERATURE SCANNING TUNNELING MICROSCOPY STUDIES OF EARLY STAGE GROWTH KINETICS OF TiN(001)/TiN(001), S. Kodambaka, V. Petrova, A. Vailionis, P. Desjardins, D.G. Cahill, I. Petrov and J.E. Greene, Materials Science Department and the Frederick Seitz Materials Research Laboratory, University of Illinois, 104 South Goodwin Avenue, Urbana IL 61801, USA
- C-IX.4** 15:10 MULTILAYER TiAlN COATINGS WITH COMPOSITION GRADIENT, R. Manaila, A. Devenyi, National Institute for Materials Physics, Bucharest, Atomistilor Street No. 105, Romania, D. Biro, L. David, "Petru Maior" University, Tg. Mures, N. Iorga Street, No.1, Romania, P.B. Barna, A. Kovacs, Research Institute for Technical Physics and Materials Science, Budapest, Konkoly Thege Street No. 29-33, Hungary
- C-IX.5** 15:30 THIN METALLIC FILMS DEPOSITED BY PVD : ATOMISTIC SIMULATIONS AND ANALYTICAL MODEL OF ISLAND NUCLEATION AND COALESCENCE, J. Dalla Torre(a,b), G.H. Gilmer(a), F.H. Baum(a), P.L. O'Sulli(a), M. Djafari Rouhani(b), (a)Bell Labs, Lucent Technologies, Murray Hill, USA, (b)Laboratoire de Physique des Solides UMR5477, Université P. Sabatier & LAAS-CNRS, Toulouse, France
- C-IX.6** 15:50 FORMATION MECHANISM OF C/SiC/C MULTI-COATING LAYERS BY SELF-PROPAGATING HIGH TEMPERATURE SYNTHESIS, B.G. Kim, Y.W. Lee, J.W. Lee, Y. Choi Korea Atomic Energy Research Inst. Div. of Metall. & Mater. Eng., Sunmoon University, Korea Atomic Energy Research Inst., Asan, Chung-Nam, Korea
- 16:10 **BREAK**

Session X **Tribological coatings**
Session Chairs: **P. M. Ossi, P. Goudmand**

- C-X.1** 16:30 Invited APPLICATION ORIENTED TRIBOTESTINGS OF THIN LAYERS, **I. Iliuc**, Institute of Solid Mechanics, Bucharest, Romania
- C-X.2** 17:00 MAGNELI PHASE OF TITANIUM OXIDES Ti_nO_{2n-1} : ELABORATION, CHARACTERIZATION AND TRIBOLOGICAL PROPERTIES: A REVIEW, **C. Langlade**, STMS Dpt, IfoS Lab, Ecole Centrale de Lyon, BP 136, 69131 Ecully, France
- C-X.3** 17:20 DEVELOPMENT OF AN INDUSTRIALISED DLC DUPLEX TREATMENT PROCESS, L. Pointier, Nitruvid, Argenteuil, France, **E.H.A. Dekempeneer**, VITO, Mol, Belgium, A. Pasgrimaud and Y. Desalos, Renault, Paris, France, F. Balanck, STC, St-Truiden, Belgium
- C-X.4** 17:40 INFLUENCE OF AL-INTERLAYER ON THE MECHANICAL PROPERTIES OF ALN(Er) COATINGS, J.C. Oliveira, **A. Cavaleiro** and M.T. Vieira, ICEMS, Grupo de Materiais e Engenharia de Superficies, Departamento de Engenharia Mecanica, Polo II, Universidade de Coimbra, Pinhal de Marrocos, 3030 Coimbra, Portugal
- C-X.5** 18:00 COMPOSITE COATINGS ON LIGHT METAL SUBSTRATES WITH DRY LUBRICATION ABILITY, R. Gadow and **D.F. Scherer**, University of Stuttgart, Institute for Manufacturing Technologies of Ceramic Components and Composites (IFKB), Allmandring 7b, 70569 Stuttgart, Germany
- C-X.6** 18:20 TRIBOLOGICAL EVALUATION OF ALUMINA/ALUMINUM COMPOSITES WITH AND WITHOUT LUBRICIOUS POLYMERIC COMPOSITE COATINGS, **M.Y. Chen**, Air Force Research Laboratory, AFRL/MLBT, Wright-Patterson AFB, OH 45433-7750, USA, Z. Bai and S.C. Tan, Wright Materials Research Co., 1187 Richfield Center, Beavercreek OH 45430, USA
- 18:30-20:00 **Poster Session 2**

Poster Session 2

- C/P2.01** MASS-TRANSPORT DRIVEN BY ATOMIC DISPLACEMENT AND BALLISTIC RELOCATION EFFECTS UNDER ION IRRADIATION, C. Templier(a), L. Pranevicius(b), J. Nomgaugyte(b), (a)Laboratoire de Métallurgie Physique, Université de Poitiers, BP 30179, 86962 Futuroscope, France (b)Vytautas Magnus University, 28 Daukanto St., Kaunas 3000, Lithuania
- C/P2.02** DEPENDENCE OF THE PHOTOEMISSION SPECTRA OF AMORPHOUS SILICON NITRIDES THIN FILMS ON THEIR LOCAL COMPOSITION. THE ROLE OF THE DANGLING BONDS, G. Compagnini(a), C. Galati(b), C. Miliani(c), and R.S. Cataliotti(c), (a)Dipartimento di Scienze Chimiche, Università di Catania, Viale A. Doria 6, 95125 Catania, Italy, (b)ST-Microelectronics, Stradale Primosole 50, 95121 Catania, Italy, (c)Dipartimento di Chimica, Laboratorio di Chimica Fisica, Università di Perugia, Via Elce di Sotto 8, 06100 Perugia, Italy
- C/P2.03** STRUCTURE AND MAGNETIC PROPERTIES OF POLY AND EPITAXIALLY GROWN Co/Cu MULTILAYERS BY ION IRRADIATION, J.S. Yang, Photonics Research Center, Korea Institute of Science and Technology, 39-1 Cheongryang, Seoul, Korea, Y.H. Shin, J.S. Yun, J.H. Song, Advanced Analysis Center, Korea Institute of Science and Technology 39-1, Cheongryang, Seoul, Korea, T.G. Kim, M.C. Sung, J.Lee, C.N. Whang, K. Jeong, Department of Physics and Applied Physics, Yonsei University 134, Shinchon-dong, Sudaemoon-gu, Seoul, Korea
- C/P2.04** MOCVD OF PALADIUM FILMS: KINETIC ASPECTS AND FILM PROPERTIES, V.K. Wunder, S. Schmid, N. Popovska, G. Emig, Department for Industrial Chemistry I, University Erlangen-Nuremberg, Egerlandstr. 3, 91058 Erlangen, Germany
- C/P2.05** COATING OF SMALL PARTICLES BY FILMS, V.V. Levdansky, Heat and Mass Transfer Institute NAS RB, 15 P. Brovka St., 220072 Minsk, Belarus, J. Smolik and P. Moravec, Institute of Chemical Process Fundamentals AS CR, Rozvojova 135, 165 02 Prague 6, Czech Republic
- C/P2.06** PREPARATION AND PROPERTIES OF YTTRIA-STABILIZED ZIRCONIA THIN FILMS BY RF MAGNETRON REACTIVE SPUTTERING, T. Matsui, K. Sekiguchi, H. Sano, M. Nakao, K. Kamimura, Y. Onuma, Shinshu University, 380-8553 Nagano, Japan
- C/P2.07** PREPARATION OF $Ce_{1-x}Gd_xO_{2-0.5x}$ THIN FILMS BY UV ASSISTED SOL-GEL METHOD, Q. Fang, V. Jignash and J-Y Zhang*, School of Engineering, Univ. of Warwick, Coventry CV4 7AL, UK,*Dept of Electric & Electronic Eng. Univ. College London, London WC1E 7JE, UK
- C/P2.08** MORPHOLOGY AND ELECTRICAL PROPERTIES OF TITANIUM OXIDE NANOMETRIC MULTILAYERS DEPOSITED BY DC REACTIVE SPUTTERING, S.G. Springer, P.E. Schmid, R. Sanjinés and F. Lévy Institut de physique appliquée, EPFL, Ecole Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland
- C/P2.09** EFFECTS OF SUBSTRATE-BIAS ON THE STRUCTURE OF SPUTTER-DEPOSITED Co-Pt FILM, T. Shinmitsu, J. Shi and M. Hashimoto, Department of Applied Physics and Chemistry, The University of Electro-Communications 1-5-1, Chofugaoka, Chofu-shi, Tokyo, 182-8585, Japan
- C/P2.10** PREPARATION OF Co-Ti-N MAGNETIC NANOCOMPOSITE FILMS, C.C. Chen, J. Shi and M. Hashimoto, Department of Applied Physics and Chemistry, The University of Electro-Communications, 1-5-1 Chofugaoka, Chofu-shi, Tokyo 182-8585, Japan
- C/P2.11** THE STRUCTURE OF THIN ZIRCONIA FILMS OBTAINED BY SELF-ASSEMBLED MONOLAYER MEDIATED DEPOSITION: TEM AND HREM STUDY, V.V. Roddatis, D.S. Su, E. Beckmann, F. Jentoft, U. Braun, J. Kröhnert, and R. Schlögl, Fritz-Haber-Institut der MPG, Abteilung AC, Faradayweg 4-6, 14195, Berlin, Germany

- C/P2.12** CHARACTERISATION OF THE GENERATION OF IONS IN ELECTRON BEAM EVAPORATOR FOR THE CONTROL OF METAL DEPOSITION PROCESSES, A. Lyutovich, K. Maile, A. Gusko, Staatliche Materialpruefungsanstalt (MPA) Stuttgart, University of Stuttgart, Pfaffenwaldring 32, 70569 Stuttgart, Germany, K. Ashurov, S. Morozov, Arifov Institute of Electronics, Uzbek Academy of Sciences, Akademgorodok, 700143 Tashkent, Republic of Uzbekistan
- C/P2.13** GROWTH AND MORPHOLOGY OF MAGNETRON SPUTTER DEPOSITED SILVER FILMS, M. Del Re, J.P. Dauchot, R. Gouttebaron, R. Snyders, M. Wautelet, M. Hecq, University of Mons-Hainaut, Materia Nova, 7000 Mons, Belgium
- C/P2.14** TEM STUDY OF THE Sb DOPED SnO₂ FILMS OBTAINED BY THE SOL-GEL DIP COATING METHOD, C.S. Sandu, National Institute for Materials Physics, P.O. Box MG-7, 76900 Bucharest, Romania, M.G. Blanchin, Département de Physique des Matériaux (CNRS, UMR 5586), Université Claude Bernard-Lyon1, 69622 Villeurbanne Cedex, France and O. Eibl, Institute für Angewandte Physik, Universität Tübingen, Auf der Morgenstelle 10, 72076 Tübingen, Germany
- C/P2.15** HIGHLY ORIENTED AND CONDUCTING ZnO:Ga LAYERS GROWN BY CHEMICAL SPRAY PYROLYSIS, K.T. Ramakrishna Reddy, T.B.S. Reddy, Department of Physics, Sri Venkateswara University, Tirupati - 517 502, India and I.Forbes, R.W. Miles, School of Engineering, University of Northumbria, Newcastle upon Tyne, UK
- C/P2.16** A STUDY OF THE ELECTRICAL BEHAVIOURS OF ZINC OXIDE FILMS PREPARED BY SCREEN PRINTING TECHNIQUE, B. Ismail, M. Abaab and B. Rezig, Photovoltaïcs & Semiconductor Materials Laboratory-ENIT-BP 37, le Belvédère 1012, Tunisia
- C/P2.17** CHARACTERIZATION OF Si₃N₄ THIN FILMS PREPARED BY RF MAGNETRON SPUTTERING, M. Vila(a), C. Prieto(a), P. Miranzo(b), M.I. Osendi(b) and R. Ramirez(c), (a)Instituto de Ciencia de Materiales de Madrid, CSIC, Cantoblanco, 28049 Madrid, Spain, (b)Instituto de Ceramica y Vidrio, CSIC, Arganda del Rey, 28500 Madrid, Spain, (c)Dept. Fisica, Escuela Politécnica Superior, Universidad Carlos de Madrid, Avda. Universidad 30, 28911 Leganes, Spain
- C/P2.18** ORIENTATION DEPENDENT SPUTTER YIELD OF ALUMINIUM, D. Manova, M. Schreck, S. Mändl, B. Stritzker, Institut für Physik, Universität Augsburg, 86135 Augsburg, Germany, and B. Rauschenbach, Institut für Oberflächenmodifizierung Leipzig und Institut für Experimentelle Physik
- C/P2.19** NUCLEATION, GROWTH AND PROPERTIES OF THIN LAYERS OF IRON PHOSPHIDES, J. Nowacki, Technical University of Szczecin, Institute of Materials Engineering, Al. Piastow 19, 70-310 Szczecin, Poland
- C/P2.20** BaTiO₃ THIN FILMS OBTAINED BY SOL-GEL SPIN COATING, M. Manso, M. Hernández Vélez, R.J. Martín Palma, and J.M. Martínez-Duart. Departamento de Física Aplicada, UAM, Cantoblanco 28049 Madrid, Spain, L. Fuentes Cobas, Laboratorio de Cerámicas Piezoeléctricas, Centro de Investigaciones en Materiales Avanzados, S.C., Chihuahua, C.P. 31110 Mexico
- C/P2.21** FIRST NUCLEATION STAGES IN METALLIC THIN FILMS GROWTH BY PLASMA SPUTTER DEPOSITION, P. Andreazza, C. Andreazza-Vignolle, Centre de Recherche sur la Matière Divisée, 1b rue de la Férollerie, 45071 Orléans Cedex 2, France and J.P. Rozenbaum, A.-L. Thomann, P. Brault, Groupe de Recherches sur l'Energétique des Milieux Ionisés, Université d'Orléans, BP6744, 45067
- C/P2.22** INFLUENCE OF ADDITIVES ON THE EVOLUTION OF TEXTURES IN POLYCRYSTALLINE Al AND Ag THIN FILMS, M. Adamik(a), P.B. Barna(a), I. Tomov(b), H. Bangert(c), Ch. Eisenmenger-Sittner(c), (a)Res. Inst. Techn. Phys. Mat. Sci., 1525 Budapest, P.O.Box 49, Hungary, (b)Inst. Phys. Chem., 113 Sofia, G. Bonchev Str. B1 11, Bulgaria, (c)Inst. Angew. Techn. Phys. TU Wien, 1040 Wien, Wiedener Hauptstr. 8-10, Austria

- C/P2.23** PREPARATION OF SnO₂ THIN FILM COATED Ni PARTICLES BY CHEMICAL VAPOUR DEPOSITION IN A FLUIDIZED BED REACTOR, N. Bertrand(a), F. Maury(b), P. Duverneui(a), INPT/ENSIACET, (a)Site de l'Óle du Ramier, 18 chemin de la Loge, 31078 Toulouse cedex 04, France, (b)Site de Rangueil, 118 route de Narbonne, 31077 Toulouse Cedex 04, France
- C/P2.24** THE DENSIFICATION OF PSG FILMS AND RELATED EFFECTS ON P=O BONDS POPULATION, M. Bercu, C. Moldovan, B.N. Bercu, Bucharest, Romania
- C/P2.25** ANTIREFLECTION AND PROTECTIVE COATING OF CESIUM IODIDE OPTICAL WINDOWS, I. Hud, B. Pavlyk, R. Didyk, Ivan Franko Lviv National University, Physics Dept., 50 Dragomanov str., 79005 Lviv, Ukraine
- C/P2.26** ELECTRICAL AND OPTICAL PROPERTIES OF TiO_x THIN FILMS DEPOSITED BY REACTIVE MAGNETRON SPUTTERING, O. Banakh, R. Sanjinés, P.E. Schmid, F. Lévy, Institut de physique appliquée, EPFL, Ecole Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland
- C/P2.27** SPECTROSCOPIC STUDY OF ACRYLIC POLYMERS IN SOLID MATRICES, C. Miliani, M. Ombelli, A. Morresi, A. Romani, University of Perugia, Dept Chemistry, Via Elce di Sotto8, 00123 Perugia, Italy
- C/P2.28** OXIDATION OF N⁺ IMPLANTED SILICON: OPTICAL AND STRUCTURAL PROPERTIES, T. Chevolleau(a), W. Möller(a), A. Szekeres(b), S. Alexandrova(b), (a)Institute of Ion Beam Physics and Materials Research, Research Center Rossendorf, P.O. Box 510119, 01314 Dresden, Germany, (b)Institute of Solid State Physics, Tzarigradsko Chaussee 72, Sofia 1784, Bulgaria
- C/P2.29** VACUUM ARC DEPOSITION OF MULTILAYER COATINGS FOR SURGICAL LAMPS, B. Straumal(a), N. Vershinin(a), A. Cantarero(b), M. Friesel(c), (a)I.V.T. Ltd. (Institute for Vacuum Technology), P.O. Box 47, 109180 Moscow, Russia, (b)Materials Science Institute, University of Valencia, P.O. Box 2085, 46071 Valencia, Spain, (c)Chalmers University of Technology, SIMS-Laboratory, 412 96 Gothenburg, Sweden
- C/P2.30** PROTECTIVE AND DECORATIVE COPPER AND NICKEL PATTERNED COATINGS, O. Gribkova(a), A. Kazakevich(a), B. Straumal(b), N. Vershinin(b), (a)Moscow Institute of Steel and Alloys (Technical University), Moscow, Leninsky Prospekt 4, 117049 Russia, (b)I.V.T. Ltd. (Institute for Vacuum Technology), P.O. Box 47, 109180 Moscow, Russia
- C/P2.31** INDIUM ZINC OXIDE THIN FILMS WITH UNIQUE TRANSPARENT CONDUCTIVE PROPERTIES, H. Takatsuij, Toshiaki Arai, Satoshi Tsuji, Display Business Unit, IBM Japan, Ltd., Shimotsuruma, Yamato-shi, Kanagawa 242, Japan
- C/P2.32** TiO₂ THIN FILMS FORMED BY REACTIVE MAGNETRON SPUTTERING, B. Ismail, B. Rezig, Laboratory of Photovoltaic & Semiconductors Materials, ENIT, BP 37, Département Génie Industriel, Le Bélvédère, 1002 Tunis, Tunisia
- C/P2.33** ALL-SOLID-STATE ELECTROCHROMIC MULTILAYER SYSTEMS FOR SURFACE HEAT RADIATION CONTROL, E. Franke, Institut für Oberflächenmodifizierung Leipzig, Permoserstr. 15, 04318 Leipzig, Germany, M. Schubert, Institut für Experimentelle Physik II, Universität Leipzig, Linnèstr. 5, 04103 Leipzig, Germany, C.L. Trimble and J.A. Woollam, CMOMR and Electrical Engineering Department, University of Nebraska-Lincoln, 68588-0511 Lincoln, USA
- C/P2.34** OPTICAL COATINGS DESIGN AND DEPOSITION ON PLASTICS BY PECVD, P. Bulkin, A. Hofrichter, T. Novikova* and B. Drévilion, LPICM (UMR 7647 du CNRS), Ecole Polytechnique, 91128 Palaiseau Cedex, France, *also with the Institute for Mathematical Modeling of the Russian Academy of Sciences, Miusskaya sq. 4a, Moscow 125047, Russia
- C/P2.35** PLASMA ENHANCED CHEMICAL VAPOR DEPOSITION OF FUNCTIONAL COATINGS FOR LARGE AREA APPLICATIONS, P. Bulkin, A. Hofrichter, A. Sharaya and B. Drévilion, LPICM (UMR 7647 du CNRS), Ecole Polytechnique, 91128 Palaiseau Cedex, France

- C/P2.36** CHARACTERIZATION OF TRANSPARENT AND CONDUCTIVE Al DOPED ZnO FILMS PREPARED BY ECR PLASMA ENHANCED CVD, A. Martin, J.P. Espinos, J. Benitez, A. Justo, F. Yubero, M.C. Jimenez and A.R. Gonzalez-Elipe, Instituto de Ciencia de Materiales de Sevilla (CSIC-Universidad Sevilla), Centro de Investigaciones Cientificas "Isla de la Cartuja", Avda. Americo vespucio s/n, 41092 Sevilla, Spain
- C/P2.37** COATING AND ACTIVE SURFACE OF Ni-Zn ALLOYS STUDIED BY ATOMIC FORCE MICROSCOPY, M. Hiane and J. Ebothé, UTAP-LMET, UPRES EA 2061, Université de Reims, 21 rue Clément Ader, 51685 Reims Cedex 02, France
- C/P2.38** NITROGEN AND HYDROGEN DEPTH PROFILING WITH MARPEL, M. Schwickert, F. Harbsmeier, H. Schebela, M. Uhrmacher and K.P. Lieb, Universität Göttingen, II. Physikalisches Institut, Bunsenstr. 7-9, 37073 Göttingen, Germany
- C/P2.39** OPTICAL, STRUCTURAL AND ELECTRICAL PROPERTIES OF TIN OXIDE FILMS PREPARED BY MAGNETRON SPUTTERING, I.A. Karapatnitski, K.A. Mit, D.M. Mukhamedshina and N.B. Beisenkhanov, Institute of Physics and Technology, Ministry of Education & Science, Republic of Kazakhstan, Almaty 480082, Kazakhstan
- C/P2.40** SPECTROSCOPIC ELLIPSOMETRY STUDIES OF SURFACE ROUGHNESS EFFECTS OF HgI₂ AND OPTICAL PROPERTIES OF THIN FILM KHgI₃, A. En Naciri, L. Broch and L. Johann, Laboratoire de Physique des Liquides et Interfaces, 1 Boulevard Arago, CP 87811, 57078 Metz Cedex 3, France, M. Sieskind and M. Amann, Laboratoire PHASE, UPR du CNRS n°292, B.P.20, 67037 Strasbourg Cedex 2, France
- C/P2.41** CORROSION-RESISTANT ELECTROCATALYTIC COATINGS ON TITANIUM ANODES, V.V. Poplavsky, N.P. Matveiko, V.G. Matys, Belarussian State University of Technology, Sverdlova Street, 13a, 220050 Minsk, Belarus, D.I. Mychko, E.A. Streltsov, Belarussian State University, Skoriny Avenue, 4, 220050 Minsk, Belarus
- C/P2.42** MICROWAVE-CVD DIAMOND PROTECTIVE COATING FOR 3D STRUCTURED SILICON MICROSENSORS, H. Csorbai(c,d) P. Fürjes(a), A. Tóth(a), G. Hárs(b), Cs. Dücs (a), I. Bársony(a), E. Kálmán(c,d) and P. Deák(b), (a)Research Inst. for Technical Physics and Materials Science - MFA, P.O.Box. 49, 1525 Budapest, Hungary, (b)Budapest University of Technology and Economics, Department of Atomic Physics, Budafoki út 8., 1111 Budapest, Hungary, (c)Bay Zoltan Institute for Materials Science and Technology, 1116 Budapest, Fehérvári út 130, Hungary, (d)Chemical Research Center, Institute of Chemistry, Hungarian Academy of Sciences, 1025 Budapest, Pusztaszeri út 59-67, Hungary
- C/P2.43** ELECTROCRYSTALLIZATION OF CORROSION-RESISTANT NiCuMo COATINGS FROM COMPLEX AQUEOUS SOLUTION, E. Beltowska, Institute of Metallurgy and Materials Science, Polish Academy of Sciences, 25 Reymonta Str., 30-059 Cracow, Poland
- C/P2.44** ELECTRODEPOSITION OF CORROSION-RESISTANT ZnNi COATINGS FROM SULPHATE-ACETATE ELECTROLYTES, E. Beltowska(a), P. Ozga(a), Z. Swiatek(a), J. Guspil(a), C. Lupi(b), (a)Institute of Metallurgy and Materials Science, Polish Academy of Sciences, 25 Reymonta Str., 30-059 Cracow, Poland, (b)Department of Chemical Engineering, University "La Sapienza", via Eudossiana 18, 00184 Roma, Italy
- C/P2.45** CORROSION RESISTANT ZrO₂ THIN FILMS PREPARED AT ROOM TEMPERATURE BY ION BEAM INDUCED CHEMICAL VAPOR DEPOSITION, J.P. Holgado, F. Yubero, J.P. Espinos, A.R. Gonzalez-Elipe, Instituto de Ciencia de Materiales de Sevilla (CSIC-Univ. Sevilla), Avda. Americo vespucio s/n, 41092 Sevilla, Spain, M. Ruiz, Dep. Q. Fisica, Univ. La Laguna, Gran Canaria, Spain
- C/P2.46** THE SACRIFICIAL ALUMINIUM COATING WITH TIN AND INDIUM MICROADMIXTURES FOR USING IN NEUTRAL CHLORIDE-FREE SOLUTIONS, Yu.Ya. Andreev, A.V. Goncharov, Moscow Institute of Steel and Alloys (Technical University), Corrosion department, Leninsky prospect 4, 117936 Moscow, Russia

- C/P2.47** SILICON NITRIDE AND OXYNITRIDE FILMS AS A PROTECTIVE COATING OF OUTER GETTERING LAYER, A.A. Evtukh, V.G. Litovchenko, V.Ya. Rassamakin, Yu.V. Rassamakin Institute of Semiconductor Physics, 45 Prospekt Nauki, Kiev 03028, Ukraine
- C/P2.48** ELECTRON BEAM SPUTTERING OF POLYMERS FOR SYNTHESIS OF PROTECTIVE COATINGS FOR ORGANIC SOLAR CELLS, M. Yablokov, Karpov Institute of Physical Chemistry, Vorontsovo Pole 10, 103064 Moscow, Russia, V. Kazachenko, Belarussian State University of Transport, Kirov Street 34, 246653 Gomel, Belarus, A. Kuznetsov, Enikolopov Institute of Synthetic Polymer Materials, Profsousnaya 70, 117393 Moscow, Russia, M. Belov and I. Yakushchenko, Institute of Problems of Chemical Physics, Chernogolovka, Moscow region 142432, Russia
- C/P2.49** OPTICAL PROPERTIES OF SOL-GEL COATINGS FOR FIBEROPTIC SENSORS, M. Lechna, I. Holowacz, A. Ulatowska, H. Podbielska, Bio-Optics Group, Institute of Physics, Wroclaw University of Technology, Wybrzeze Wyspianskiego 27, 50 370 Wroclaw, Poland

Friday, June 8, 2001
Vendredi 8 juin 2001

Morning
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Session XI Nitride and carbide coatings and films
Session Chairs: K. Hassouni, J. Nowacki

- C-XL1** 08:30 Invited EFFECT OF A THIRD ELEMENT ON STRUCTURE AND PROPERTIES OF W-C/N, **M.T. Vieira**, A. Cavaleiro, B. Trindade, ICEMS, Grupo de Materiais e Engenharia de Superfícies, Departamento de Engenharia Mecânica, Polo II, Universidade de Coimbra, Pinhal de Marrocos, 3030 Coimbra, Portugal
- C-XL2** 09:00 RAMAN STUDY OF α -WC THIN FILMS, **B. Pivac**(a), N. Radic(a) and F. Meinardi(b),(a)Rudjer Boskovic Institute, P.O.B. 1016, 10000 Zagreb, Croatia and (b)Dipartimento di Scienza dei Materiali, University Milan, Milano, Italy
- C-XL3** 09:20 IMPROVEMENT OF HOT WORKING TOOLS WITH PVD COATINGS, **P. Panjan**(a), I. Urankar(a), M. Tercelj(b), B. Navinsek(a), M. Cekada(a), R. Turk(b), (a)Jozef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia, (b)Department of Materials and Metallurgy, University of Ljubljana, Askerceva 12, 1000 Ljubljana, Slovenia
- C-XL4** 09:40 PERFORMANCES OF CrN and Cr₂N COATINGS DEPOSITED BY MAGNETRON AND TRIODE SPUTTERING METHODS, **M.A. Djouadi**(a,b), C. Nouveau(a), O. Banakh(b), R. Sanjines(b) and F. Levy(b), (a)Ecole Nationale Supérieure d'Arts et Métiers, La.Bo.Ma.P., 71250 Cluny, France, (b)Institute of Applied Physics, EPFL, 1015 Lausanne, Switzerland
- C-XL5** 10:00 LASER-ASSISTED DEPOSITION OF α -B₄C COATINGS USING ETHYLENE AS CARBON PRECURSOR, M.J. Santos(a), A.J. Silvestre(b), **O. Conde**(a), (a) Faculdade de Ciências, Lisboa, Portugal, (b)Instituto Superior de Transportes, Lisboa, Portugal
- 10:20 **BREAK**

Session XII Thermal barrier and protective coatings II

Session Chairs: **H. Biederman, C. Metzner**

- C-XII.1** 10:40 Invited LANTHANUM HEXAALUMINATE - NOVEL THERMAL BARRIER COATINGS FOR GASTURBINE APPLICATIONS - MATERIALS AND PROCESS DEVELOPMENT, **R. Gadow** and M. Lischka, IFKB University of Stuttgart, Allmandring 7b, 70569 Stuttgart, Germany
- C-XII.2** 11:10 IMPROVED SEALING TREATMENTS FOR THICK THERMAL BARRIER COATINGS, **S. Ahmaniemi**, P. Vuoristo and T. Mäntylä, Institute of Materials Science, Tampere University of Technology, PO Box 589, 33101 Tampere, Finland
- C-XII.3** 11:30 LIQUID PHASE COATING PROCESS FOR PROTECTIVE CERAMIC LAYERS ON CARBON FIBERS, **F. Kern** and R. Gadow, IFKB University of Stuttgart, Allmandring 7b, 70569 Stuttgart, Germany
- C-XII.4** 11:50 FLAMMABILITY AND THERMAL STABILITY STUDIES OF COLD PLASMA COATED POLYMERS, A. Quédé(a,b), C. Jama(a,b), O. Dessaux(a), P. Goudmand(a), M. Le Bras(b) and R. Delobel(b), GEPIFREM, (a)USTL, (b)ENSCL, 59655 Villeneuve d'Ascq, France
- C-XII.5** 12:10 (Cr-Al) BI-LAYER COATINGS OBTAINED BY ION ASSISTED PVD ON C/C-SiC COMPOSITES AND Ni-BASED ALLOYS, E. Roos, **K. Maile**, A. Lyutovich, A. Gusko and A. Udoh, Staatliche Materialprüfungsanstalt (MPA) Stuttgart, University Stuttgart, Pfaffenwaldring 32, 70569 Stuttgart, Germany
- 12:30 **LUNCH**

Friday, June 8, 2001
Vendredi 8 juin 2001

Afternoon
Après-midi

Session XIII High temperature mechanical coatings II.
Session Chairs: L. Pranevicius, P. Panjan

- C-XIII.1** 14:10 TENTATIVE MODELLING OF NITRIDING MECHANISMS, THE ROLE OF SURFACE EFFECTS, G. Abrasonis(a,b), P. Meheust(a), J.P. Riviere(a), L. Pranevicius(b) and C. Templier(a), (a)Laboratoire de Métallurgie Physique, Université de Poitiers, BP 30179, 86962 Futuroscope, France, (b)Vytauto Didziojo Universitetas, 28 Daukanto St., Kaunas -3000, Lithuania
- C-XIII.2** 14:30 ELECTRON MICROSCOPY STUDIES OF HARD COATINGS DEPOSITED ON SHARP EDGES BY PLASMA ASSISTED PVD, E.B. Macak, J.M. Rodenburg, W.-D. Münz. Material Research Institute, Sheffield Hallam University, S1 1WB Sheffield, UK
- C-XIII.3** 14:50 LATERAL HOMOGENEITY VARIATION IN METAL PLASMA IMMERSION ION IMPLANTATION AND DEPOSITION, P. Huber, D. Manova, S. Mändl, Institut für Physik, Universität Augsburg, Augsburg, Germany, and B. Rauschenbach, Institut für Oberflächenmodifizierung Leipzig und Institut für Experimentelle Physik II,
- C-XIII.4** 15:10 IN SITU LOWER PRESSURE PLASMA NITRIDING AND HARD PVD COATING DUPLEX TREATMENT OF M2 HIGH SPEED STEEL, G. Naval(a,b), W.-D. Münz(a,b), I.J. Smith(b), (a)Sheffield Hallam University, Materials Research Institute, Howard Street, Sheffield, S1 1WB, UK, (b)Bodycote SHU Coatings Ltd, Matilda Street, Sheffield S1 4QF, UK
- C-XIII.5** 15:30 INFLUENCE OF PLASMA PARAMETERS ON THE PROPERTIES OF (Ti,Al)N HARD COATINGS DEPOSITED BY PECVD, R. Cremer, O. Kyrylov, D. Neuschuetz, RWTH Aachen, LTh, Kopernikusstr. 16, 52056 Aachen, Germany
- C-XIII.6** 15:50 MICROSTRUCTURE AND PROPERTIES OF COATINGS MADE OF STAINLESS STEEL SU316L AND HASTELLOY-C ON NICKEL BASE DEPOSITED ON SS400 STEEL, A.D. Pogrebnjak, Sumy Institute for Surface Modification, P.O. Box 163, 40030 Sumy, Ukraine, Yu.N. Tyurin, Electric Welding Institute, Kiev, Ukraine, A.P. Kobzev, Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia, Yu.F. Ivanov, High Current Electronics Institute, Tomsk, Russia, and Seiji Kuroda, National Research Institute for Metals, Tsukuba, Ibaraki, Japan