POSTER SESSIONS

Poster Session #1 - Tuesday 14 September (17:30 – 18:30)

INDU / Industrial hot topics

INDU #096 A simple approach to transpose the deposition conditions in two different magnetron sputtering chambers: a case study of oxidation of sputter-deposited VN films
A. García Wong, D. Pilloud, F. Capon, J.F. Pierson
Institut Jean Lamour, Nancy (FR)

NANO / Nanomaterials and nanostructured thin films

NANO #018 $PtCu@TiO_2$ nanoparticles by low pressure plasma
E. Haye[1], L. Chavée[1], A. Achour[1], J.F. Colomer[1], L. Houssiau[1], S. Bruyère[2], A. Nominé[2], S. Lucas[1]
[1] UNamur - Namur (BE)
[2] Univ. Lorraine, CNRS, IJL, Nancy (FR)

~~**NANO #082** Local plasma-chemical etching of the silicon substrate surface by using of anodic alumina template~~ ***canceled***
~~**G. Gorokh[1], A. Lozovenko1, A. Zakhlebaeva[1], M. Iji[1], A. Dinescu[2], R. Gavrila[2], A. Avram[2]**~~
~~*[1] Belarusian State University of Informatics and Radioelectronics, Minsk (BY)*~~
~~*[2] National Institute for Research and Development in Microtechnologies, Bucharest (RO)*~~

~~**NANO #107** Nitrogenation of monolayer graphene films in N_2 and N_2-O_2 flowing afterglows: analysis of incorporation-limiting mechanisms~~ ***canceled***
~~**L. Stafford, G. Robert-Bigras, R. Martel**~~
~~*Univ. Montréal (CA)*~~

NANO #141 Transport of sulfur species in a microwave argon plasma column for functionalization of CVD-grown graphene films
C. Moderie[1,2], S. Blanchette[1], R. Martel[3,2], L. Stafford[1,2]
[1] Département de Physique, Univ. Montréal (CA)
[2] Regroupement Québécois sur les Matériaux de Pointe (RQMP), Montréal (CA)
[3] Département de Chimie, Univ. Montréal (CA)

PROC / Process control (including plasma diagnostics, plasma modelling)

PROC #025 Adaptation of spark to atmospheric-pressure micro-plasma jets flow conditions
D. Gonçalves[1,2], J. Santos Sousa[2], S. Pasquiers[2], M. Lino Da Silva[1], L. Lemos Alves[1]
[1] Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Lisbon (PT)
[2] Univ. Paris-Saclay, CNRS, Laboratoire de Physique des Gaz et des Plasmas, Orsay (FR)

PROC #081 Study of the influence of a substrate on the axis of the plasma discharge by Optical Emission Spectroscopy (OES)
L. Renoux
IRCER, Limoges (FR)

PROC #084 Reaction of neutral species in homogeneous phase in molecular dynamics simulation of Ar/CH_4 plasma
G. Otakandza Kandjani, P. Brault, M. Mikikian
GREMI, UMR7344, CNRS -Univ. Orléans (FR)

PROC #110 Mass spectrometric investigations in a Ar/CH_4 radio frequency low pressure discharge
E. Von Wahl, I. Ellien, T. Lecas, M. Mikikian
GREMI, CNRS / Univ. Orléans (FR)

PROC #159 NO_x emissions intrinsic to water/gas hybrid DC arc plasma torch at different power levels and gas flow rates
R. Tomar[2,3,4], N. Kumar[1], V.S. Sikarwar[5], A. Mašláni[5], M. Jeremias[5], M. Pohorely[6]
[1] Univ. West Bohemia, Pilsen (CZ)
[2] Institute of Plasma Physics, Czech Academy of Sciences, Pilsen (CZ)
[3] ORLEN Unipetrol Centre for Research and Education, Litvínov-Záluží (CZ)
[4] Univ. Chemistry and Technology, Prague (CZ)
[5] Institute of Plasma Physics, Czech Academy of Sciences, Prague (CZ)
[6] Department of Power Engineering, Univ. Chemistry and Technology, Prague (CZ)

PROC #160 The role of energetic ions at the substrate in thin film plasma processing
A. Rawat, C. Linnane, T. Gilmore
Impedans Ltd, Dublin (IE)

Poster Session #2 – Wednesday 15 September (11:30 – 12:30)

DEPO / Plasma - deposited coatings for optical, electronical and other functionalities

~~**DEPO #007**~~ ~~Deterioration mechanism of RF-sputtered ITO films on plastic substrates~~ ***canceled***
~~**T. Fukuda, M. Taguchi, T. Shingu**~~
~~*Graduate School of Engineering, Univ. Osaka (JP)*~~

DEPO #019 Dual-functionality multilayer coating compatible with IML for automobile applications using reactive DC magnetron sputtering
H. Pizarro[1], M. Freitas[1], D. Dias[1], R. Carvalho[1], V. Paulo[2], J. Viana[3], D. Dias[4]
[1] CeNTI – Centre for Nanotechnology and Smart Materials, Famalicão (PT)
[2] GLN, Leiria (PT)
[3] Univ. Minho, Braga (PT)
[4] PIEP - Innovation in Polymer Engineering, Guimarães (PT)

DEPO #118 Effects of the operating parameters on aerosol-assisted atmospheric pressure plasma thin film deposition
R. Magnan, R. Clergereaux, P. Raynaud, N. Naudé
CNRS-LAPLACE, Toulouse (FR)

~~**DEPO #136**~~ ~~How to allow adhesion of powder paint on insulating substrates?~~ ***canceled***
~~**D. Debarnot[1], A. Colin[2]**~~
~~*[1] Institut des Molécules et Matériaux du Mans, Le Mans (FR)*~~
~~*[2] Centre de Transfert de Technologies du Mans, Le Mans (FR)*~~

~~**DEPO #154**~~ ~~Magnetron co-sputtered TiO_2/Ag/Cu antimicrobial coatings~~ ***canceled***
~~**D. Gospodinova[1], I. Ivanova[2]**~~
~~*[1] TU-Sofia (BG)*~~
~~*[2] Sofia Univ. St. Kliment Ohridski, Sofia (BG)*~~

GROM / Thin films growth and modelling

GROM #030 High temperature oxidation resistance of metallic materials by PVD coatings: influence of the initial substrate roughness
A. Besnard[1], Q. Ostorero[2], G. Nkou Bouala[1], M.R. Ardigo-Besnard[2]
[1] Arts et Metiers Science and Technology – LaBoMaP, Paris (FR)
[2] Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB), Dijon (FR)

GROM #097 Microstructure and properties control in sputter-deposited Zr-Cu thin film metallic glasses
A. Borroto, S. Bruyère, D. Pilloud, D. Horwat, J.F. Pierson
Univ. Lorraine, CNRS, IJL, Nancy (FR)

GROM #126 Epitaxial growth of $(ZnO)_x(InN)_{1-x}$ films by magnetron sputtering: effects of surface polarity of ZnO substrates
R. Narishige, D. Yamashita, K. Kamataki, T. Okumura, K. Koga, M. Shiratani, N. Itagaki
Kyushu Univ., Fukuoka (JP)

HELI / Health and life science

HELI #146 Investigation of the chemical stability of plasma-activated solutions
K. Sklias[1], K. Gazeli[1], T.H. Chung[2], A. Stancampiano[3], S. Dozias[3], C. Douat[3], J.M. Pouvesle[3], E. Robert[3], L. Mir[2], J. Santos Sousa[1]
[1] Univ. Paris-Saclay, CNRS, Laboratoire de Physique des Gaz et des Plasmas, Orsay (FR)
[2] Univ. Paris-Saclay, CNRS, Gustave Roussy, VTA, UMR 8203, Villejuif (FR)
[3] GREMI, CNRS UMR 7344, Univ. Orléans (FR)

Poster Session #3 – Wednesday 15 September (14:00 – 15:00)

ENER / Renewable energies

ENER #056 Optical performance of high temperature air-stable solar absorber coatings based on W/SiCH plasma multilayers
A. Diop[1], D. Ngoue[1,2], A. Carling-Plaza[1], A. Bousquet[3,4], S. Quoizola[1,2], T. Sauvage[5], A. Goullet[6], A. Soum-Glaude[1], É. Tomasella[3,4], L. Thomas[1,2]
[1] PROMES-CNRS, Perpignan / Font-Romeu-Odeillo-Via (FR)
[2] Univ. Perpignan (FR)
[3] ICCF, Institut de Chimie de Clermont-Ferrand (FR)
[4] Univ. Clermont Auvergne, Aubière (FR)
[5] CEMHTI (Conditions Extrêmes et Matériaux), Orléans (FR)
[6] IMN, Institut des Matériaux Jean Rouxel, Nantes (FR)

LIQU / Plasma and liquids

LIQU #004 Bi_2O_3 nano-sheets and nanotubes synthesized by discharges in liquid nitrogen
A.V. Nominé[1], M. Trad[1], T. Gries[1], C. Noel[1], J. Ghanbaja[1], A. Nominé[1,2], V. Milichko[1,2], T. Belmonte[1]
[1] Univ. Lorraine, CNRS, IJL, Nancy (FR)
[2] ITMO Univ., St. Petersburg (RU)

~~**LIQU #032** Efimov physics and few-body approximation in nuclear, atomic and molecular physics~~ ***canceled***
~~**S. Pozdneev**~~
~~*FIAN, Moscow (RU)*~~

~~**LIQU #033** Resonances in electron scattering by molecules~~ ***canceled***
~~**S. Pozdneev**~~
~~*FIAN, Moscow (RU)*~~

LIQU #061 Synthesis of bismuth-based nanoparticles into an imidazolium ionic liquid by reactive magnetron sputtering
A. Bousquet, S. Ibrahim, J.M. Andanson, P. Bonnet
ICCF, Institut de Chimie de Clermont-Ferrand (FR)

LIQU #128 Viscous droplet in a nonthermal plasma: microflow at plasma-liquid interface
T. Hoder, L. Potocnakova
Masaryk Univ., Brno (CZ)

NANO / Nanomaterials and nanostructured thin films

NANO #024 Synthesis and characterization of plasmonic composites (Fe/La)/Au for enhanced optical properties

A.V. Nominé[1], T. Gries[1], C. Noel[1], J. Ghanbaja[1], A. Nominé[1,2], E. Gunina[2], V. Milichko[1,2], T. Belmonte[1]
[1] Univ. Lorraine, CNRS, IJL, Nancy (FR)
[2] ITMO Univ., St. Petersburg (RU)

NANO #057 Nanocomposite cermet coatings for CSP technologies deposited by RF reactive PVD assisted with microwave ECR sources

A. Diop[1], D. Ngoue[1,2], H. Glenat[1,2], A. Bousquet[3,4], S. Quoizola[1,2], T. Sauvage[5], A. Goullet[6], A. Soum-Glaude[1], É. Tomasella[3,4], L. Thomas[1,2]
[1] PROMES-CNRS, Perpignan / Font-Romeu-Odeillo-Via (FR)
[2] Univ. Perpignan (FR)
[3] ICCF, Institut de Chimie de Clermont-Ferrand (FR)
[4] Univ. Clermont Auvergne, Aubière (FR)
[5] CEMHTI (Conditions Extrêmes et Matériaux), Orléans (FR)
[6] IMN, Institut des Matériaux Jean Rouxel, Nantes (FR)

NANO #088 Charge gas and discharge parameters influence on kinetic and nucleation in RF Ar/C_2H_2 plasmas

G. Tetard[1], A. Michau[1], S. Prasanna[1], J. Mougenot[1], P. Brault[2], K. Hassouni[1]
[1] LSPM, Villetaneuse (FR)
[2] GREMI, Orléans (FR)

NANO #101 Investigation of the mechanisms involved in one-step nanocomposite thin films synthesis by direct pulsed liquid injection of a colloidal solution in a low-pressure plasma

S. Chouteau[1], M. Mitronika[1], M. Richard-Plouet[1], A. Goullet[1], A. Granier[1], L. Stafford[2]
[1] Univ. Nantes, CNRS, Institut des Matériaux Jean Rouxel, Nantes (FR)
[2] Département de Physique, Univ. Montréal, Québec (CA)

NANO #102 Optimization of nanostructured TiAlBN coatings deposited by HiPIMS

A. Mendez Fernandez[1,2,3], J.A. Santiago[1], I. Fernández-Martínez[1], A. Wennberg[1], M.A. Monclús[2], J.M. Molina-Aldareguía[2]
[1] Nano4Energy SLNE, Madrid (ES)
[2] IMDEA Materials Institute, Getafe (ES)
[3] Univ. Madrid (ES)

Poster Session #4 – Thursday 16 September (17:30 – 18:30)

NANO / Nanomaterials and nanostructured thin films

~~**NANO #105**~~ ~~Enhanced resonance Raman scattering of spin-coated silver nanoparticles by treatment in a microwave argon plasma jet open to ambient air~~ ***canceled***
~~**L. Stafford[1], J. Trahan[1], J. Profili[1], G. Robert-Bigras[1], M. Mitronika[2], A. Granier[2], M. Richard-Plouet[2]**~~
~~[1] *Univ. Montréal (CA)*~~
~~[2] *Institut des Matériaux Jean Rouxel - Nantes (FR)*~~

SOUR / Plasma sources and electrical discharges

SOUR #064 Power balance in microwave microplasmas generated in capillary tubes
O. Leroy[1], F. Coquery[2], T. Minea[1], G.D. Stancu[2]
[1] *LPGP, Orsay (FR)*
[2] *EM2C, Gif Sur Yvette (FR)*

SOUR #140 The DC gas breakdown in tubes of arbitrary length
V. Lisovskiy, E. Bannikova, S. Dudin, R. Osmayev, V. Yegorenkov
V.N. Karazin Kharkiv National Univ., Kharkiv (UA)

SURF / Plasma - surface interactions

~~**SURF #047**~~ ~~Atmospheric pressure plasma microfluidic chips wettability treatment~~ ***canceled***
~~**A. Stolz[1], A. Audebert[1], C. Douat[1], S. Dozias[1], S. Roman[2], T. Tillocher[1]**~~
~~[1] *GREMI – CNRS UMR 7344, Univ. Orléans (FR)*~~
~~[2] *ISTO - BRGM CNRS UMR 7327, Univ. Orléans (FR)*~~

SURF #080 Cryo-ALE of Si based on SF_6 physisorption
J. Nos[1], G. Antoun1, T. Tillocher[1], P. Lefaucheux[1], J. Faguet[2], K. Maekawa[3], R. Dussart[1]
[1] *GREMI, CNRS, Univ. Orléans (FR)*
[2] *Tokyo Electron America, Austin (US)*
[3] *TEL Technology Center, Albany (US)*

SURF #089 Plasma surface activation of CFRP substrate to enhance adhesion of PVD/PECVD coatings
N. Ranger[1], C. Jaoul[2], P. Tristant[2], T. Maerten[1], S. Belveze[1], S. Guimond[3], M. Cavarroc[4]
[1] *OERLIKON Balzers France, Limoges (FR)*
[2] *IRCER, UMR CNRS 7315, Univ. Limoges (FR)*
[3] *OERLIKON Balzers Liechtenstein, Balzers (LI)*
[4] *SAFRAN TECH, Châteaufort (FR)*

SURF #109 Contributions of grain boundaries in plasma-modified graphene
P. Vinchon, X. Glad, G. Robert Bigras, R. Martel, L. Stafford
Univ. Montréal (CA)

~~**SURF #137**~~ ~~Atmospheric pressure plasma for surface engineering applications~~ ***canceled***
~~**A. Bishop[1], Z. Huang[1], C. Giusca[1], A. Bennett[2], M. Castelli[2,3,4], J. Nicholls[1]**~~
~~[1] *Cranfield Univ. (UK)*~~
~~[2] *Cranfield Plasma Solutions (UK)*~~
~~[3] *The Manufacturing Technology Centre (MTC), Coventry (UK)*~~
~~[4] *Univ. College Dublin (IE)*~~

~~**SURF #142** Effect of plasma sources on the surface modification of carbon reinforced epoxy by atmospheric pressure plasma treatment~~ ***canceled***
~~**L. Frumosu, A. Bennett, Z. Huang, J. Nicholls**~~
~~*Cranfield Univ. (UK)*~~

TRIB / Plasma - deposited protective and tribological coatings

TRIB #065 Structure, stress and mechanical properties of Mo-Al-N sputter-deposited thin films: role of point defects
G. Abadias[1], F. Angay[1], D. Eyidi[1], L. Löfler[2], D. Holec[2], P. Djemia[3], F. Tétard[3]
[1] Institut Pprime - CNRS – Univ. Poitiers, Chasseneuil-Futuroscope (FR)
[2] Department of Materials Science, Univ. Leoben (AT)
[3] LSPM, Univ. Sorbonne Paris Nord, Villetaneuse (FR)

~~**TRIB #072** Enhanced tribomechanical performance of metal-doped DLC coatings deposited by HiPIMS with positive pulse technology~~ ***canceled***
~~**J. Santiago[1], I. Fernandez[1], A. Wennberg[1], J.L. Endrino[1], M. Panizo[2], J. Molina[3], M. Monclus[3]**~~
~~*[1] Nano4Energy, Madrid (ES)*~~
~~*[2] Univ. Politécnica de Madrid (ES)*~~
~~*[3] IMDEA Materiales, Madrid (ES)*~~

TRIB #122 Resonant nuclear reaction analysis investigation of nitrogen and oxygen diffusion processes involved in plasma assisted multi-interstitials surface hardening of Ti6Al4V alloy
L. Pichon[1], M. Drouet[1], P. Berger[2], Y. Vallet[1], R. Genin[1]
[1] Institut P'- CNRS UPR3346 – Univ. Poitiers (FR)
[2] LEEL, UMR 3685, CEA/CNRS NIMBE, CEA Saclay, Paris (FR)

PROC / Process control (including plasma diagnostics, plasma modelling)

PROC #081 Study of the influence of a substrate on the axis of the plasma discharge by Optical Emission Spectroscopy (OES)
L. Renoux
IRCER, Limoges (FR)

Poster Session #5 – Friday 17 September (11:30 – 12:30)

DEPO / Plasma - deposited coatings for optical, electronical and other functionalities

DEPO #077 Direct observation of twinning domains in copper iodide thin film synthesized by magnetron sputtering of Cu thin layers at low temperature and iodine vapor
O. Madkhali[1, 2], J. Ghanbaja[1], A. Redjaimia[1], F. Alnjiman[1], A.E. Giba[1,3], M. Jullien[1], J.F. Pierson[1]
[1] Institut Jean Lamour (UMR CNRS 7198), Univ. Lorraine, Nancy (FR)
[2] Department of Physics at College of Science, Univ. Jazan (SA)
[3] National Institute of Laser Enhanced Sciences, Cairo Univ., Giza (EG)

DEPO #119 EELS study of $SmNiO_3$ thin films deposited by magnetron sputtering with a soft air atmosphere post-annealing
Z. Fernandez, S. Bruyère, D. Kharkhan, D. Pilloud, S. Barrat, F. Capon
Univ. Lorraine, CNRS, IJL, Nancy (FR)

DEPO #124 PE-CVD with organometallic precursors: contribution of aerosol assisted processes
R. Clergereaux[1], C. Simonnet[1,2], E. Loranger[2], G. Carnide[3,1], L. Cacot[1,2], D. Roubert[3,4], D. Zargarian[4], L. Stafford[2], J.C. Hierso[5], M.L. Kahn[3]
[1] Laplace – Univ. Toulouse (FR)
[2] Dpt de Physique – Univ. Montréal (CA)
[3] LCC – CNRS, Univ. Toulouse (FR)
[4] Dpt de Chimie – Univ. Montréal (CA)
[5] ICMUB – Univ. Bourgogne (FR)

DEPO #125 Plasma polymer for enhancing adhesion bonds of metal/elastomer assembly
F. Poncin-Epaillard, M. Ji, L. Benyahia
IMMM, Le Mans (FR)

~~**DEPO #155** Fabrication and characterization of magnetron co-sputtered TiO_2/SiO_2/Ag coatings inhibiting bacterial adhesion and biofilm formation~~ ***canceled***
~~**T. Vladkova[1], I. Ivanova[2], F. Mergulhaoe[3]**~~
~~*[1] UCTM, Sofia (BG)*~~
~~*[2] Sofia Univ. "St. Kl. Ohridski", Sofia (BG)*~~
~~*[3] Univ. Porto (PT)*~~

GROM / Thin films growth and modelling

GROM #063 Multi-scale modelling of sputtered deposited TiN, ZrN, HfN and TiAlN thin films at oblique angle incidence
C. Mastail, R. Mareus, F. Nita, A. Michel, G. Abadias
Institut Pprime, UPR 3346, CNRS-Univ. Poitiers-ENSMA, Poitiers (FR)

GROM #087 Optimization of the anti-reflective coating (SiC_XN_YH) / Silicon interface to improve silicon photovoltaic cell performance
H. Beji[1], C. Robert-Goumet[2], E. Tomasella[3], G. Monier[2], A. Bousquet[3]
[1] Chemistry and physics of materials - IP-ICCF Clermont-Ferrand (FR)
[2] Physics of materials - IP- Clermont-Ferrand (FR)
[3] Chemistry of materials - ICCF- Clermont-Ferrand (FR)

GROM #132 Effect of the deposition rate on competitive growth between amorphous and crystalline phases in sputtered Zr-Cr thin films
Q. Liebgott[1,2], A. Borroto[1], Z. Fernandez-Gutierrez[1], S. Bruyère[1], D. Horwat[1]
[1] Univ. Lorraine, CNRS, IJL, Nancy (FR)
[2] Chair of Functional Materials, Saarland Univ., Saarbrücken (DE)

HELI / Health and life science

~~**HELI #121** The application of Cold Atmospheric Plasma (CAP) in medicine~~ ***canceled***
~~**M. Rezaei**~~
~~*Shahid Beheshti Univ., Tehran (IR)*~~