POSTER SESSIONS

Poster Session #1 - Tuesday 23 September (17:30 – 19:30)

DEPO / Plasma-assisted deposition, coatings and layers

#013 Elaboration of 316L/Cu composite alloy using a hybrid PVD/SPS process
Y. Pinot[1], A. Besnard[2], M.R. Ardigo-Besnard[3], F. Bussiere[3]
[1] Arts et Métiers Institute of Technology, LaBoMaP - Cluny (FR)
[2] Univ. Marie et Louis Pasteur, SUPMICROTECH, CNRS, Institut FEMTO-ST - Besançon (FR)
[3] Laboratoire ICB, UMR 6303 CNRS, Univ. Bourgogne Europe - Dijon (FR)

#027 Development and investigation of advanced coatings for high-temperature applications
I. Toumi[1], S. Achache[1], A. Alhussein[1], B. Panicaud[2]
[1] ICD-LASMIS, UTT, UMR 6281, CNRS, Nogent (FR)
[2] ICD-LASMIS, UTT, UMR 6281, CNRS, Troyes (FR)

#050 Deposition of dielectric, and metal layer solution for TSV integration, innovative sequential process, application of low temperature deposition
M. Segers, P.D. Szkutnik, S. Benkoula
Plasma-Therm Europe - Grenoble (FR)

#068 Development of hydrogen barrier thin films based on silicon carbonitride
M. Tetouani[1], A. Al Hussein[1], S. Achache[1], M. Cherkaoui[2]
[1] UR LASMIS, Univ. Technologie de Troyes - Nogent (FR)
[2] Univ. Ibn Tofaïl - Kenitra (MA)

#072 Study of the impact of different dielectric materials on the performance and optical features of a Micro-Hollow Cathode Discharge (MHCD)
N. Chazapis, B. Menacer, D. Stefas, G. Lombardi, C. Lazzaroni, K. Gazeli
LSPM - CNRS & Univ. Sorbonne Paris Nord, Villetaneuse, Paris (FR)

#140 On thermal stability and oxidation behavior of metastable W–Zr thin-film alloys
M. Červená, J. Houška, R. Čerstvý, P. Zeman
Department of Physics and NTIS - European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)

#141 Microstructural and mechanical properties of flash SPS WC-Co/AiSi 304L diffusion bonded
B. Maamache[1], N. Ouali[1], B. Belkessa[1], P. Hvizdos[2], M. Fides[2], B. Cheniti[1]
[1] Research Center in Industrial Technologies - CRTI - Cheraga, Algiers (DZ)
[2] Institute of Materials Research, Slovak Academy of Sciences - Watsonova, Kosice (SK)

#143 Nanocrystalline nickel synthesis by pulsed current
A. Boukhouiete[1], S. Boumendjel[2]
[1] Univ. Badji-Mokhtar, Annaba (DZ)
[2] Univ. Hassiba Benbouali-Chlef, Chlef (DZ)

ITEC / Innovative applications, solutions and technologies

#062 Functionalized amorphous carbon coatings for low secondary electron yield and controlled surface resistance in particle accelerators
W. Vollenberg[1], P. Costa Pinto[1], L. Mourier[1], Y. Rabetsimialona[1], N. Bundaleski[2], I.M. Marrucho Ferreira[2], J. Deuermeier[2]
[1] CERN - Genève (CH)
[2] Univ. Nova de Lisboa - Lisbon (PT)

#064 A low-temperature synthesis of strongly thermochromic VO_2-based coatings for energy-saving smart windows
M. Kaufman, E. M. Nia, J. Vlcek
Department of Physics and NTIS - European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)

#085 Magnetron deposition of chromogenic thin films for smart windows
J. Purans, M. Zubkins
Institute of Solid State Physics, Univ. Latvia - Riga (LT)

#129 Transforming Leak Detection in Vacuum environment with Remote Plasma Optical Emission Spectroscopy
B. Daniel[1,2,3]
[1] Gencoa Ltd - Liverpool (UK)
[2] Gencoa Ltd - Marcus Law (UK)
[3] Gencoa Ltd - Oisin Boyle (UK)

#132 PERC solar cells for the electrification of Africa: computational and experimental study
Z. Aqachmar
Faculty of Sciences Semlalia - Cadi Ayyad Univ. - Marrakesh (MA)

AMELI / Plasma and/in liquids interaction

#053 Slow pulsed sputtering onto liquid: importance of surface refreshment and of plasma heating
A. Caillard, S. Atmane, A. Diop, E. Millon, P. Brault
GREMI CNRS / Univ. Orléans (FR)

#128 The influence of the discharge parameters on the physicochemical properties of plasma activated water
L. Marcinauskas[1], E. Jankaitytė[2], M. Aikas[1], L. Ragelienė[2], R. Uscila[1], A. Tamošiūnas[1], Z. Naučienė[2], V. Mildažienė[2]
[1] Plasma Processing Laboratory, Lithuanian Energy Institute - Kaunas (LT)
[2] Faculty of Natural Sciences, Vytautas Magnus Univ. - Kaunas (LT)

MODIDD / Modelling, diagnostics and data-driven optimization of plasma processes

#036 Open-source modeling of gas phase dynamics in industrial magnetron sputtering processes
J. Beyer, P. Nizenkov, S. Copplestone, A. Mirza
boltzplatz - numerical plasma dynamics GmbH - Stuttgart (DE)

#073 Rotational temperature measurements of N_2(C), NO(A), and OH(A) in different micro hollow cathode discharge configurations using Optical Emission Spectroscopy
D. Stefas[1], G. Makrypodi[2], B. Menacer[1], P. Svarnas[2], G. Lombardi[1], C. Lazzaroni[1], K. Gazeli[1]
[1] LSPM - CNRS & Univ. Sorbonne Paris Nord - Villetaneuse (FR)
[2] High Voltage Lab., Electrical & Computer Eng. Dept., Univ. Patras - Rion (GR)

#081 Assessing actinometry and line ratio techniques for species densities and electric field determination in DC glow discharges
T. Silva[1], L. Kuijpers[2], E. Baratte[3], V. Guerra[1], R. Van De Sanden[2], J.P. Booth[3], O. Guaitella[3]
[1] Institute for Plasmas and Nuclear Fusion (IPFN) - Lisbon (PT)
[2] Dutch Institute for Fundamental Energy Research (DIFFER) - Eindhoven, (NL)
[3] Laboratoire de Physique des Plasmas (LPP) - Paris (FR)

#094 Two dimensional distribution of atomic nitrogen absolute density in three DC MHCD
K. Gazeli[1], A. Remigy[1], B. Menacer[1], K. Kourtzanidis[2], O. Gazeli[3], G. Lombardi[1], C. Lazzaroni[1]
[1] Univ. Sorbonne Paris Nord, LSPM, CNRS, UPR 3407 - Villetaneuse (FR)
[2] CPERI, Centre for Research & Technology Hellas (CERTH), Thermi (GR)
[3] FOSS Research Centre for Sustainable Energy, Univ. Cyprus - Nicosia (CY)

#095 Analysis of sputtered species transport in High Power Impulse Magnetron Sputtering (HiPIMS) discharge employing magnetized QCM probe
A. Kapran[1], C. Ballage[1], Z. Hubička[2], T. Minea[1]
[1] Laboratoire de Physique des Gaz et des Plasmas (LPGP), CNRS - Univ. Paris-Saclay - Orsay (FR)
[2] FZU - Institute of Physics of the Czech Academy of Sciences - Prague (CZ)

#101 Plasma-surface interactions in CO_2 glow discharges
V. Guerra[1], B. Berdugo[2], A. Filipe[1], O. Guaitella[2], A.S. Morillo Candás[2], P. Viegas[1]
[1] Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa (PT)
[2] LPP, CNRS, Sorbonne Univ., École Polytechnique, Institut Polytechnique de Paris - Palaiseau (FR)

POSTER SESSIONS

Poster Session #2 – Wednesday 24 September (16:35 – 18:30)

NANO / Plasma nanotechnologies

#012 Photoluminescent ZnO-SiO_2 nanocomposites prepared by a hybrid process coupling aerosol and Plasma Enhanced Chemical Vapour Deposition
M. Richard-Plouet[1], J. Chevet[1], M. Feron[2,3], A. Granier[1], M. Kahn[3], R. Clergereaux[2], A. Goullet[1]
[1] Nantes Univ., CNRS-IMN - Nantes (FR)
[2] CNRS-Laplace - Toulouse (FR)
[3] CNRS-LCC - Toulouse (FR)

#087 Pulsed laser sources for nanometer-scaled complex materials and devices
M. Gireau[1], F. Du[2], J. Youssef[3, 4], S. Vergnole[4], G. Humbert[3], S. Zeng[2], C. Champeaux[1], F. Dumas-Bouchiat[1]
[1] Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)
[2] Univ. Troyes, CNRS, L2N, UMR 7076, Troyes (FR)
[3] Univ. Limoges, CNRS, XLIM, UMR 7252, Limoges (FR)
[4] ALPhANOV, Optics and Lasers Technology Ctr., Institut d'optique d'Aquitaine - Limoges (FR)

PSURF / Plasma surface processing

#032 Stability of expanded austenite during annealing in vacuum
S. Mändl, D. Manova
Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)

#074 Atomic Layer Etching of SiO_2 using CF_4 plasma in deposition regime at cryogenic temperature
T. Tillocher[1], M. Adjabi[1], J. Nos[1], S. Iseni[1], G. Cunge[2], M. Kogelschatz[2], P. Lefaucheux[1], L. Becerra[1], E. Despiau-Pujo[2], R. Dussart[1]
[1] GREMI – Univ. Orléans / CNRS - Orléans (FR)
[2] LTM – Univ. Grenoble Alpes / CNRS / Grenoble INP / CEA - Grenoble (FR)

#079 Novel atmospheric-pressure plasma curing of anti-corrosion transparent silicon-based coating
P. Ghourchi Beigi, L. Zahedi, R. Krumpolec, D. Kováčik
Dpt. Plasma Physics and Technology, CEPLANT, Faculty of Science, Masaryk Univ. - Brno (CZ)

#133 Enhancing fiber/matrix interface in bio-based composites by cold plasma treatment: a step towards better fluid sealing
F. Perrier-Michon[1], S.A.E. Boyer[2], A. Burr[2], V. Rohani[1]
[1] PERSEE (MINES Paris PSL) - Sophia Antipolis (FR)
[2] CEMEF CNRS 7635 (MINES Paris PSL) - Sophia Antipolis (FR)

DEPO / Plasma-assisted deposition, coatings and layers

#002 Influencing the properties of TiN and (Ti,Al)N hard coatings by modifying their composition and structural design

D. Munteanu[1], C. Lopes[2], I. Borsan[1], C. Gabor[1], M.S. Rodrigues[2], A. Ferreira[2], F. Macedo[2], E. Alves[3], N.P. Barradas[3], F. Vaz[2]
[1] Dept. of Material Science, Transilvania Univ. Brasov - Brasov (RO)
[2] Physics Centre of Minho and Porto Univ. (CF-UM-UP), Univ. Minho - Braga (PT)
[3] IPFN, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa - Lisbon (PT)

#011 HEA thin films as protective barrier against carbon diffusion during SPS

A. Besnard[1], M. El Garah[2], F. Sanchette[2], Y. Pinot[3], R. Charvet[4], M.R. Ardigo-Besnard[4], F. Herbst[4], N. Geoffroy[4]
[1] Univ. Marie et Louis Pasteur, SUPMICROTECH, CNRS, Institut FEMTO-ST - Besançon (FR)
[2] LASMIS, Antenne de Nogent et LRC CEA-LASMIS, NICCI, Nogent (FR)
[3] Arts et Métiers Institute of Technology, LaBoMaP - Cluny (FR)
[4] Laboratoire ICB, UMR 6303 CNRS, Univ. Bourgogne Europe - Dijon (FR)

#014 Thermodynamic modeling and experimental investigation of Ti PVD coatings as protective barriers against carbon diffusion during SPS

Y. Pinot[1], R. Charvet[2], M.R. Ardigo-Besnard[2], F. Baras[2], S. Le Gallet[2], F. Herbst[2], N. Geoffroy[2], A. Besnard[3]
[1] Arts et Métiers Institute of Technology, LaBoMaP - Cluny (FR)
[2] Laboratoire ICB, UMR 6303 CNRS, Univ. Bourgogne Europe - Dijon (FR)
[3] Univ. Marie et Louis Pasteur, SUPMICROTECH, CNRS, Institut FEMTO-ST - Besançon (FR)

#035 Reversible functionalization of citronellal plasma polymers - towards pH responsive thin films

J. Oliveira, P. Covin, A. Airoudj, F. Bally-Le Gall, V. Roucoules
Univ. Haute-Alsace, Univ. Strasbourg, CNRS, IS2M UMR 7361, Mulhouse (FR)

#066 Nanostructuring of bismuth oxyfluoride thin films by oblique angle deposition for CO_2 photoconversion

A.E. Kabouia[1], A. Bousquet[1], S. Roth[2], A. Bonduelle[2], M. Richard-Plouet[3], M. Le Granvalet[3], R. Smaali[4], E. Centeno[4]
[1] Univ. Clermont Auvergne (UCA), ICCF - Clermont-Ferrand (FR)
[2] IFP Energies nouvelles - Solaize (FR)
[3] Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel - Nantes (FR)
[4] Univ. Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal - Clermont-Ferrand (FR)

#134 Discriminating between morphological and chemical effects on the antibacterial properties of metal thin films through laser surface structuring

A-L. Thomann[1], P. Birnal[1], F. Brule-Morabito[2], B. Aspe[1], N. Semmar[1], P. Andreazza[3], E. Bourhis[3], P. Brault[1], M. Cavarroc[4], A. Sauldubois[1], T. Vaubois[4], E. Menou[4], A. Caillard[1], C. Andreazza[3]
[1] GREMI (CNRS / Univ. Orléans) - Orléans (FR)
[2] ART ARNmessager US55-INSERM / LI²RSO / Univ. Orléans, CHU d'Orléans - Orléans (FR)
[3] ICMN (CNRS / Univ. Orléans) - Orléans (FR)
[4] Safran Paris-Saclay – Safran Tech - Magny-les-Hameaux (FR)

#142 Nanostructure engineering and properties enhancement of Cu-based films by Zr and Ta alloying

M. Zhadko, A. Benediktová, J. Houška, R. Čerstvý, P. Baroch, P. Zeman
Univ. West Bohemia - Pilsen (CZ)

MODIDD / Modelling, diagnostics and data-driven optimization of plasma processes

#009 Pure ammonia microwave discharges: a global model
T. Belmonte[1], M.Y. Awaji[1,2], L. Pentecoste[1], C. Noel[1], M. Belmahi[1], T. Gries[1]
[1] Univ. Lorraine, CNRS, IJL, Nancy (FR)
[2] Department of Physical Sciences, Physics Division, College of Science, Jazan Univ., Jazan (SA)

#017 Rate coefficients of the N + H + M(Ar, N_2) → NH + M recombination reaction in flowing afterglows of microwave plasmas
A. Ricard, V. Ferrer, J.P. Gardou, F. Marchal, J.P. Sarrette
LAPLACE, Univ. Toulouse, CNRS, UPS, INPT, Toulouse (FR)

#059 Experimental investigations on the impact of gas flow on the propagation dynamics of a pulsed-driven µm-scale plasma jet
Y. Agha[1], K. Giotis[1, 2], D. Stefas[1], L. Invernizzi[1], H. Hoeft[3], P. Svarnas[2], K. Gazeli[1], G. Lombardi[1]
[1] Univ. Sorbonne Paris Nord, LSPM, CNRS, UPR 3407, Villetaneuse (FR)
[2] Univ. Patras, Electrical & Computer Engineering Dept., High Voltage Lab., Rion - Patras (GR)
[3] Leibniz Institute for Plasma Science and Technology (INP), Greifswald (DE)

#098 Modelling N_2-H_2 for ammonia production
C. Pintassilgo[1, 2], S. Baghel[1], M. Budde[3], A. Gonçalves[1], O. Guaitella[3], L. Marques[4], P. Pereira[1], N. Pinhão[1], L.L. Alves[1]
[1] IPFN, Instituto de Plasmas e Fusão Nuclear - Lisboa (PT)
[2] FEUP, Faculdade de Engenharia, Univ. Porto - Porto (PT)
[3] LPP, Ecole Polytechnique - Palaiseau (FR)
[4] Centro de Física da Univ.do Minho e do Porto - Braga (PT)

#100 Ion energy distribution function measurement in hybrid HiPIMS with carbon target
I. Naiko[1, 2], M. Čada[1], A. Ostapenko[1], Z. Hubička[1]
[1] Institute of Physics, Academy of Sciences of the Czech Republic - Prague (CZ)
[2] Charles Univ., Faculty of Mathematics and Physics, Dpt. Surface and Plasma Science - Prague (CZ)

#126 Optimizing ECR plasma ashing for high yield during spintronic sensor fabrication on 200mm wafers
F. Favita[1], S. Cardoso[1,2]
[1] INESC MN - Lisbon (PT)
[2] Instituto Superior Técnico (IST) - LIsbon (PT)

#137 Enhancing surface emission in micro-gap atmospheric discharge via harmonic excitation
Y. Liu[1], N. Le Thomas[2,3], C. Leys[1], A. Nikiforov[1]
[1] RUPT, Dpt. Applied Physics, Faculty of Engineering and Architecture, Ghent Univ., Ghent (BE)
[2] Photonics Research Group, INTEC Dpt., Ghent Univ. - IMEC, Ghent (BE)
[3] Center for Nano- and Biophotonics, Ghent Univ., Ghent (BE)

GROM / Thin films growth and modelling

#043 Influence of discharge parameters on the properties of TiO_2 films grown by reactive Bipolar HiPIMS discharges
S. Debnarova[1], M. Michiels[1,2], S. Konstantinidis[1]
[1] Plasma-Surface Interaction Chemistry, Univ. Mons, Mons (BE)
[2] Haute École en Heinaut, Mons (BE)

#127 Multisource deposition conditions prediction towards required composition of thin films
J. Gutwirth[1], T. Halenkovič[1], S. Šlang[1], V. Nazabal[2, 1], P. Němec[1]
[1] Univ. Pardubice - Pardubice (CZ)
[2] Univ. Rennes - Rennes (FR)