

POSTER SESSIONS

WEDNESDAY 25 OCTOBER

14:00-16:00

Topic #1 Renewable energies

- 01PO-042 Zinc content effect on $\text{Cu}_2\text{ZnSnS}_4$ synthesis
A. Khelfane, M. Tablaoui, M.I. Ziane
Bulk Semiconductors Crystal Growth team (CSM), CRTSE - Algiers (DZ)
- 01PO-058 ZnSnN_2 thin films for photovoltaic applications: elaboration and characterization
F. Alnjiman, S. Diliberto, P. Boulet, J. Ghanbaja, P. Miska, J.F. Pierson
Institut Jean Lamour, Univ. Lorraine - Nancy (FR)
- 01PO-066 Study of the Schottky junction Au/a-Si : H (B) based on hydrogenated amorphous silicon prepared by DC magnetron sputtering and doped with co-pulverized boron
S. Tata¹, N. Khelifati², A. Rahal¹
¹ *Couches Minces et Semi-conducteurs, Lab. de Physique des Matériaux, USTHB, Algiers (DZ)*
² *Research Center in Semiconductors Technology for Energetics 02, Algiers (DZ)*
- 01PO-068 A comparative study of as-deposited and annealed CIGS thin films sputtered at high substrate temperatures
I. Bouchama¹, R. Zouache¹, S. Hamrite²
¹ *Electrical Department, Faculty of Technology, Univ. Msila (DZ)*
² *Mechanical Department, Faculty of Technology, Univ. Msila (DZ)*
- 01PO-074 Physical and photo-electrochemical characterizations of CuO and ZnO thin films: application to methylen blue oxidation under solar light
L. Chabane, N. Zebbar, B. Bellal, M. Lamri Zeggar, M. Trari, S. Tata, M. Kechouane
Univ. Science and Technology Houari Boumediene - Algiers (DZ)
- 01PO-077 A study of the gallium concentrations influence on the tandem CIGS thin films solar cells performances by (2D) SILVACO-TCAD
I. Bouchama¹, S. Hamrite², R. Zouache¹
¹ *Electronic Department, Faculty of Technology, Univ. Msila (DZ)*
² *Mechanical Department, Faculty of Technology, Univ. Msila (DZ)*
- 01PO-082 Properties of a-Si thin films: comparative study between a-Si:H and a-SiGe:H passivation layers
L. Laidoudi, A. Fedala, R. Cherfi, S. Tata, A. Rahal
Univ. Sciences and Technology Houari Boumediene - Algiers (DZ)
- 01PO-105 Annealing duration effect on optical, structural and morphological properties of ultrasonic sprayed CZTS
S. Kermadi, S. Sali, L. Zougar
Centre de recherche des semiconducteurs pour l'énergétique - Algiers (DZ)

Topic #2 Nanomaterials and nanostructured thin films

- 02PO-012 Morphology of poly(oxide propylene)/Montmorillonite nanocomposites
L. M'rah
Department of Chemistry, Faculty of Science - Oran (DZ)
- 02PO-015 First-principal calculations of electronic and optical properties of $\text{Fe}_{1-x}\text{Zn}_x\text{S}_2$ and $\text{Zn}_{1-x}\text{Mg}_x\text{O}$ alloys
N. Ouarab, M. Boumaour
Development of Semiconductor Conversion Devices Division, CRTSE, Algiers (DZ)
- 02PO-017 Feasibility study of WBC synthesis from segmented magnetron target
M. Kroker, P. Soucek, P. Vasina
Faculty of Science, Masaryk Univ., Brno (CZ)

- 02PO-038 Perpendicular magnetic anisotropy in ZnMnS ultra-thin films caused by structural cleavage
N. Ouarab, A. Haroun
Quantum Physics and Dynamical Systems Laboratory, Ferhat Abbas Univ. Sétif (DZ)
- 02PO-040 Deposition of Cobalt(II,III) oxide support layers by means of HiPIMS and RF magnetron sputtering
R. Perekrestov
Department of Low-Temperature Plasma, Prague (CZ)
- 02PO-041 Atmospheric-pressure plasma-initiated Chemical Vapour Deposition for the fast and low-temperature formation of high-quality and ultrathin insulating polymer layers
D. Abessolo Ondo¹, P. Dale², P. Choquet¹, N.D. Boscher¹
¹ *Material Research & Technology, Luxembourg Institute of Science & Technology - Belvaux (LU)*
² *Physics and Materials Science Research Unit, FSTC, Univ. Luxembourg - Belvaux (LU)*
- 02PO-043 Controlled growth orientation of AlN thin films grown by DC magnetron sputtering
N. Redjail¹, M. Azzaz², B. Guedouar³, H. Menari⁴, A. Manseri⁴, N. Guabouze⁴, M. Kechouane⁵
¹ *CRTSE. Division Couches Minces & Applications. - Algiers (DZ)*
² *Faculté de Génie Mécanique et Génie des procédés, USTHB. Algiers (DZ)*
³ *Centre de développement des technologies Avancée, Algiers (DZ)*
⁴ *CRTSE - Algiers (DZ)*
⁵ *Faculté de Physique, USTHB, Algiers (DZ)*
- 02PO-044 Nanostructured Transparent Conductive Oxide V doped ZnO thin films deposited onto flexible PEN substrates by RF- magnetron sputtering from nanopowder target
S. Hamrit¹, K. Djessas², K. Medjnoun²
¹ *Faculty of Technology University Mohaed Boudiaf M'sila - M'sila (DZ)*
² *Univ. Perpignan (FR)*
- 02PO-045 Effect of magnetron sputter process parameters on the chemical composition and microstructure of Mo-N thin films
S. Bräunig¹, C. Wüstefeld², D. Rafaja², M. Müller¹, S. Ulrich³
¹ *Robert Bosch GmbH - Stuttgart (DE)*
² *Institute of Materials Science, Freiberg Univ. of Technology - Freiberg (DE)*
³ *Institute for Applied Materials, Karlsruhe Institute of Technology - Eggenstein-Leopoldshafen (DE)*
- 02PO-053 Modifications associated to nanoporous alumina anodic support coverage with Fe₂O₃ by ADL: effect on geometrical, chemical, optical and electrochemical parameters
J. Benavente¹, A. Cuevas², S. Bijani², V. Venga³, L. Gelde¹, M.D.V. Martínez De Yuso⁴, A.S. Gonzalez⁵, V. Prida⁶, B. Hernando⁶
¹ *Dpto. Física Aplicada I, Facultad de Ciencias, Univ. Málaga (ES)*
² *Lab. Nanotecnología. SCBI Centro. Univ. Málaga (ES)*
³ *Lab. Membranas Nanoporosas. Servicios Científico-Técnicos, Univ. Oviedo (ES)*
⁴ *Servicios Centrales de Investigación, Univ. Málaga (ES)*
⁵ *Lab. Membranas Nanoporosas. Servicios Científico-Técnicos, Univ. Oviedo (ES)*
⁶ *Dpto. de Física, Facultad de Ciencias, Univ. Oviedo (ES)*
- 02PO-061 Growth of WTe₂ and MoTe₂ by close space isothermal tellurization using different Mo precursors
M. Sanchez¹, O. De Melo², E. Sanchez-Montejo³, A. Borroto⁴, C. De Melo⁴, B.J. García⁵, J.L. Pau⁵, D. Horwat⁴
¹ *Physics Faculty, Univ. Havana (CU)*
² *Univ. Autónoma de Madrid (ES)*
³ *Physics Faculty, Univ. de la Isla de la Juventud Jesús Montané Oropesa - La Habana (CU)*
⁴ *Institut Jean Lamour, Univ. Lorraine, Nancy (FR)*
⁵ *Departamento de Física Aplicada, Univ. Madrid (ES)*

... Topic #2 Nanomaterials and nanostructured thin films

- 02PO-062 Nanostructures produced by erosion of Cu₂₈Ag₇₂ electrodes using nanosecond-pulsed discharges in liquid nitrogen
T. Belmonte, H. Kabbara, J. Ghanbaja, C. Noël
Institut Jean Lamour, Univ. Lorraine, Nancy (FR)
- 02PO-064 Bi-metallic and alloyed Cu-Ag nanoparticles formed by combined plasma-in-liquid and laser treatments
N. Tarasenko¹, H. Kabbara², J. Ghanbaja², A. Nevar¹, A. Nominé², T. Belmonte², N. Tarasenko¹
¹*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus - Minsk (BY)*
²*Institut Jean Lamour, Univ. Lorraine, Nancy (FR)*
- 02PO-072 Pulsed laser deposition of hydrogenated graphene: effect of the deposition time on the microstructural and the electrical properties
R. Benhagouga¹, S. Abdelli-Messaci², S. Lafane², A. Rahal³
¹*USTHB, LPM - Algiers (DZ)*
²*CDTA, Algiers (DZ)*
³*Univ. des sciences et de la technologie Houari Boumediene, LPM - Algiers (DZ)*
- 02PO-073 Influence of H₂ on the TiN/Si interface microstructure elucidated by X-ray photoelectron spectroscopy (XPS)
V. Antunes¹, S.R. Sales De Mello², C. Figueroa², F. Alvarez¹
¹*Instituto de Física "Gleb Wataghin", Univ. Campinas (BR)*
²*Centro de Ciências Exatas e Tecnologia, Univ. Caxias Do Sul (BR)*
- 02PO-086 Study of the evolution of silicon nanoparticles in Silicon Oxynitride annealed at high temperatures using spectroscopic ellipsometry and FTIR
B. Kaghouché¹, F. Mansour²
¹*Univ. Center Abdelah MORSLI of Tipaza - Tipaza (DZ)*
²*LEMEAMED Laboratory, Mentouri Brothers Univ. - Constantine (DZ)*
- 02PO-091 Exploration of KNbO₃-NaNbO₃ solid solution in thin films through a co-sputtering process
Q. Simon, N. Jaber, M. Zaghrioui, S. Marimel, P. Laffez
Laboratoire GREMAN, Univ. François Rabelais de Tours, Blois (FR)
- 02PO-095 Fabrication and characterization of thin films produced by laser-induced nanostructuring and wet chemical deposition on metal and fiber materials
K. Engelkemeier, O. Grydin, M. Schaper
Paderborn University - Paderborn (DE)
- 02PO-097 Theoretical electronic investigation of the ternary AlN:Er system in the Er poor corner
T. Pavloudis¹, J. Kioseoglou¹, V. Brien²
¹*Physics Department, Aristotle University of Thessaloniki - Thessaloniki (GR)*
²*CNRS, Institut Jean Lamour, Université de Lorraine, Nancy (FR)*
- 02PO-104 Hybrid ECR and RF magnetron sputtering plasmas used for SiCN:H thin films deposition with TMS/Ar/N₂ feed gases
M. Belmahi¹, Z. Al Hallak¹, A. Ahmad², A. Naja², R. Hugon¹, H. Glénat³, T. Easwarakhanthan¹, L. Thomas³
¹*Institut Jean Lamour, Univ. Lorraine, Nancy (FR)*
²*Laboratoire de Physique et Modélisation, Univ. Libanaise - Tripoli (LY)*
³*Laboratoire PROMES, Univ. Perpignan (FR)*
- 02PO-106 Effect of replacing vanadium by niobium and iron on the tribological behavior of HIPed biomaterials titanium alloys
M. Fellah¹, L. Aissani²
¹*Mechanical engineering department. Abbes Laghrour Univ., Khenchela (DZ)*
²*Physic department. Abbes Laghrour Univ., Khenchela (DZ)*
- 02PO-108 Structural, electronic, magnetic properties of Zn_{1-x}Fe_xO alloys: first-principles study
S. Labidi¹, M. Labidi², K. Klaa¹, J. Zeoual¹
¹*Département de Physique, Faculté des Sciences, Univ. Badji Mokhtar - Annaba (DZ)*
²*Ecole Préparatoire aux Sciences et Techniques - Annaba (DZ)*

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... Topic #2 Nanomaterials and nanostructured thin films

- 02PO-109 First-principles study of rock-salt Ca_{1-x}Sr_xO ternary alloys
M. Labidi¹, S. Labidi², A. Lakel²
¹ Ecole Supérieure des Technologies Industrielles - Annaba (DZ)
² Laboratoire des Nanomatériaux, Université Badji Mokhtar - Annaba (DZ)
- 02PO-110 Effect of anodizing potentials on corrosion behavior of anodic TiO₂ nanotubes grown on Ti₆Al₄V substrates
A. Boucheham¹, A. Karaali², A. Manseri³
¹ CRTSE, Algiers (DZ)
² Univ. des Frères Mentouri- Constantine1 - Constantin (DZ)
³ CRTSE, Constantin (DZ)
- 02PO-111 Theoretical study of the feasibility of ZnGeN₂-based LEDs
M. Rolles¹, B. Hyot², P. Miska³
¹ CEA LETI, Université de Lorraine, Nancy (FR)
² CEA LETI - Grenoble (FR)
³ Univ. Lorraine, IJL, Nancy (FR)
³ Université de Lorraine, IJL - Nancy (FR)
- 02PO-112 Towards the synthesis of homogeneous thin film NdFe₁₂N by magnetron sputtering
H. Johnson¹, A.F. Beker², J. Aarts²
¹ Toyota Motor Europe NV / SA - Zaventem (BE)
² Leiden Univ. - Leiden (NL)
- 02PO-113 Heterogeneous metal nanoparticles prepared by GAS
J. Hanus, O. Kylian, A. Choukourov, P. Solar, T. Kretkova, M. Vaidulych, H. Libenska, J. Kousal, H. Biederman
Charles University, Faculty of Mathematics and Physics - Prague (CZ)
- 02PO-114 RF Magnetron Sputtering Deposition of HfB₂ and HfBN Hard Coatings
H. Lin¹, M.A. Djouadi¹, C. Wang²
¹ Institut des Matériaux Jean Rouxel, Univ. Nantes (FR)
² School of Electromechanical Engineering, Guangdong Univ. of Technology - Guangzhou (PRC)

Topics #3 Health and life science

- 03PO-087 Synthesis, Characterization and antibacterial activity of nano metal oxide: ZnO and CuO
S. Bouledroua, A. Merah
Faculté de médecine - Annaba (DZ)
- 03PO-115 Design and construction of a biodevice coated with a precious metal thin film for in vivo storage of chimerized pancreatic islets of porcine biomodel
M. Correa¹, C. Ortega¹, J. Caicedo¹, O. Gutierrez²
¹ School of Materials Engineering - Faculty of Engineering, Universidad del Valle. - Cali (CO)
² Department of Pharmacology, Faculty of Health, Universidad del Valle. - Cali (CO)

Topic #5 Innovative characterization techniques

- 05PO-005 Numerical modelling and characterizing of the auxetic material
D. Djaffar, S.A. Kaoua
USTHB, LSGM, Algiers (DZ)
- 05PO-052 Nanoparticle quantum dots inclusion in a regenerated cellulose film: effect on physicochemical parameters
J. Benavente¹, A. Cuevas², B. Campos³, R. Romero¹, M.I. Vazquez¹, M. Algarra⁴
¹ Dpto. de Física Aplicada I. Facultad de Ciencias. Univ. Málaga (ES)
² Laboratorio de Nanotecnología. Univ. Málaga (ES)
³ Dpto. de Química e Bioquímica, Univ. Porto (PT)
⁴ Dpto. Química Inorgánica. Facultad de Ciencias. Univ. Málaga (ES)

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... **Topic #5 Innovative characterization techniques**

- 05PO-056 In situ investigation of microstructural thermal evolution of Zr-based TFMGs
A. Etienne¹, G.I. Nkou Bouala², C. Der Loughian², C. Langlois², S. Cardinal², J.M. Pelletier², A. Malchère², J.F. Pierson¹, P. Steyer²
¹ Institut Jean Lamour, Univ. Lorraine - Nancy (FR)
² Mateis, Insa-Lyon - Villeurbanne (FR)
- 05PO-080 Characteristics of CuGaS₂ thin films deposited by Brush electrodeposition
A. Panneerselvam¹, B. Kajamaideen², K.R. Murali³
¹ Department of Physics, Paavai Engineering College - Namakkal (IN)
² Department of Physics, Kalaingar Karunanidhi Institute of Technology - Coimbatore (IN)
³ Department of Theoretical Physics, Univ. Madras - Chennai (IN)
- 05PO-099 Application of a combined 3 omega-microscopy method to study the correlation between thermal properties and morphology of AlN thin films
M. Bogner¹, G. Benstetter¹, Y.Q. Fu²
¹ Deggendorf Institute of Technology - Deggendorf (DE)
² Northumbria Univ. - Newcastle (UK)
- 05PO-107 Elaboration and metallurgical characterization of the Metal/Metal multimaterials interface realized by thermal spraying
A. Harichane, A. Benmounah
Univ. M'hamed Bougara Boumerdes, Algérie - Boumerdes (DZ)

Topic 4 - Process control

- 04PO-117 LaVO₃ produced by magnetron co-sputtering deposition followed and by an external annealing in reductive atmosphere
C. Celindano¹, E. Hays², A. Boileau³, F. Capon¹, P. Miska¹
¹ Institut Jean Lamour - Nancy (France),
² Laboratoire Interdisciplinaire de Spectroscopie Electronique (LISE) - Namur (Belgium),
³ Laboratoire CRISMAT, (UMR CNRS 6508), Normandie Univ., ENSICAEN - Caen (France)
- 04PO-118 Lanthanum cobaltite LaCoO₃ produced by magnetron co-sputtering as selective layer for thermal solar collector
J. Antoine, J.F. Pierson, F. Capon
Institut Jean Lamour (UMR CNRS 7198), Université de Lorraine - Nancy (FR)

Topic #6 Industrial applications

- 06PO-008 Approximative model for predicting static recrystallization of ferritic stainless steel type 430
R. Benchouieb
URASM/CRTI - Annaba (DZ)
- 06PO-011 Elaboration and characterization of low alloyed sintered steels Fe₂Cu₂Ni_{0.7}MoXC types
S. Mechachti, S. Serrai, O. Benchiheub
¹ Department of Metallurgy and Materials Engineering, Univ. Annaba (DZ)
² Research Laboratory in Foundry. - Annaba (DZ)