

Sociedad Mexicana de Ciencia y Tecnología  
De Superficies y Materiales A.C.

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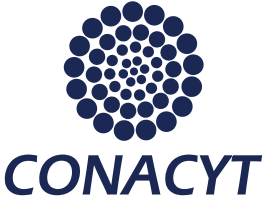


**IX *International Conference***  
*on Surface, Materials and Vacuum*



September 26-30, 2016, Mazatlán, Sinaloa, México

**PROGRAM**  
**BOOKLET**







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**Monday**





<b>Monday September 26th</b>			
9:00	9:30	INAUGURATION	
9:30	10:15	OPENING TALK: Foams : new promising materials <i>Dominique Langevin, Université Paris Sud, France</i> SALON EL DORADO	
10:15	10:30	COFFEE BREAK	
		<b>THIN FILMS SALON EL DORADO</b>	<b>AB-INITIO CALCULATION &amp; SUPERCOMPUTING SALON BUGAMBILIAS</b>
10:30	12:00	[501] Statistical analysis of the sputter parameters on the properties of ZnO thin films deposited by RF Sputtering, <i>Eneftali Flores Garcia</i>	INVITED TALK
10:45	11:00	[199] The relationship between the geometry of the race track and the magnetic field in a magnetron cathode, <i>Stephen Muhl</i>	[134] DFT vs. LEED for the determination of the surface structure: The case of the Induced Reconstruction by Oxygen of Cu <sub>311</sub> , <i>Morales de la Garza Leonardo</i>
11:00	11:15	[337] Study of the structure, composition and optical properties of Bi-Nb-O thin films prepared by co-sputtering, <i>Osmary Depablos-Rivera</i>	
11:15	11:30	INVITED TALK	[419] Organic functionalization of hydrogenated silicene with aldehydes, <i>Diego Morachis Galindo</i>
11:30	11:45	[206] Thin film design for complex microsystems, <i>Andreas Zeinert</i>	[338] Surface reactivity of Ge <sub>111</sub> for organic functionalization by means of a radical-initiated reaction: A DFT study, <i>Pamela Rubio-Pereda</i>
11:45	12:00	COFFEE BREAK	
12:00	12:15	[302] Deposition and Characterization of ZnS Thin Films by PLD at different temperatures, <i>Gibrán Guadalupe Martínez Falomir</i>	INVITED TALK
12:15	12:30	[3] Pressure induced morphological and directional transformations on closed space vapor transport deposited SnS thin films, <i>Jacob Antonio Andrade Arvizu</i>	Time-Dependent Density-Functional Theory with Dynamical Mean-Field Theory: towards ab initio tools for strongly correlated systems, <i>Talat Rahman</i>
12:30	12:45	[207] Bismuth based oxide semiconductors for water treatment, <i>Juan Carlos Medina</i>	
12:45	13:00	[285] Thin films of Ga <sub>2</sub> S <sub>3</sub> obtained by pulsed laser deposition, <i>Carlos Augusto Lopez Lazcano</i>	[189] Ultrafast charge dynamics in bilayer transition-metal dichalcogenides, <i>José Mario Galicia Hernández.</i>
13:00	13:15	[453] Spectroscopy Ellipsometry: beyond the thickness determination, <i>Sandra Elizabeth Rodil</i>	[444] Two-dimensional boron nitride structures functionalization: First principles studies, <i>Rodrigo Ponce Pérez</i>
13:15	15:30	LUNCH	

COURSE A: Physicochemical approach to nanomaterials for nanoscience and Nanotechnology, *Arturo Ponce, UTSA, USA, SALON GARZAS*



		<b>RENEWABLE ENERGY SALON EL DORADO</b>	<b>ADVANCED &amp; MULTIFUNCTIONAL CERAMICS SALON BUGAMBILIAS</b>	COURSE B: Atomic Layer Deposition (ALD) for Micro- and Nano-Electronics, <i>Jiyoung Kim, UT DALLAS,</i> SALON GARZAS
15:30	15:45	INVITED TALK [549] There are conditions in Mexico for a photovoltaic solar industry? CdTe case Review&, <i>Juan Luis Peña Chapas</i>	[252] Synthesis of Lithium Niobate-Silica ceramic fibers, <i>Gabriela Alejandra Peña-Bueno</i>	
15:45	16:00		[537] Second Harmonic Generation from Lithium Niobate powders Synthesized by a New Approach, <i>Rurik Farias</i>	
16:00	16:15	[421] GaN/Si solar cells, a first step towards high efficiency tandem solar cells, <i>Arturo Morales Acevedo</i>	[539] Influence of oxidation state in magnetic behavior of Fe doped LiNbO <sub>3</sub> particles, <i>José Trinidad Elizalde Galindo</i>	
16:15	16:30	[30] Investigation of CdS/CdTe photovoltaic structure for Hybrid Sun-tracking solar energy converting system, <i>Yuri Vorobiev</i>	INVITED TALK [456] Reactive Magnetron Sputtering: how it works and some important complications, <i>Stephen Muhl</i>	
16:30	16:45	[38] Ultrathin solar cells: application for transparent window PV, <i>Oswaldo Vigil Galan</i>		
16:45	17:00	COFFE BREAK		
17:00	17:15	INVITED TALK [50] Visible emission from silicon quantum dots and potential downshifting application for third generation solar cells, <i>Ateet Dutt</i>	[240] Fabrication of polymer-clay membranes for heavy metal removal in aqueous systems, <i>Jose Hafid Roque-Ruiz</i>	
17:15	17:30			
17:30	17:45	[355] Phosphorus spin on dopant used as n-type source in the emitter formation of c-Si solar cells, <i>Jesus Martínez</i>	[334] Obtaining Spheres of ALUMINA-NPSAG with Bactericidal Properties, <i>Daniela Castillo Ramírez</i>	
17:45	18:00	[175] Ek -012 Thermo-photovoltaics Solar System. Heat exchange with static fluid, <i>Yuri Gurevich</i>	[401] Synthesis of LaNiO <sub>3</sub> perovskite by the autocombustion method, <i>Luis Alberto Mendoza-de la Rosa</i>	
18:00	18:15	INVITED TALK [579] Photovoltaic effect in unipolar semiconductors, <i>Issis Claudette Romero-Ibarra</i>	[237] Contact resonance frequencies determination and their use in the scanning probe microscopy technique, <i>Ma. de la Paz Cruz Jáuregui</i>	
18:15	18:30	COFFE BREAK		
18:30	20:00	FORUM: SCIENCE AND TECHNOLOGY SALON EL DORADO		
20:15		WELCOME COCKTAIL SALON BUGAMBILIAS		



**Tuesday**



<b>Tuesday September 27th</b>			
09:00	09:45	PLENARY 1: Tailoring properties of two dimensional transition metal dichalcogenides: looking beyond grapheme, <i>Talat Rahman</i> , University of Central Florida, USA SALON EL DORADO	
09:45	10:30	PLENARY 2: Localized magnetometry of metallic nanowires using off-axis electron holography, <i>Arturo Ponce</i> , University of Texas at San Antonio, USA SALON EL DORADO	
10:30	10:45	COFFEE BREAK	
		<b>NANOSTRUCTURES SALON EL DORADO</b>	<b>CHARACTERIZATION &amp; METROLOGY SALON BUGAMBILIAS</b>
10:45	11:00	INVITED TALK [60] Graphene Nanohybrids Production by Ultrasonic Techniques, <i>Mildred Quintana</i>	INVITED TALK [531] Deposit and characterization of hydrogenated amorphous silicon carbide films for the fabrication to ultraviolet light sensors, <i>Fernando Mata Guadarrama</i>
11:00	11:15		
11:15	11:30	[312] Monitoring Raman spectrum of CVD graphene during transfer process, <i>Claudia Bautista Flores</i>	[223] Effects of Ar/CdS annealing on the optical properties of Cd <sub>2</sub> SnO <sub>4</sub> thin films deposited by sol-gel, <i>Carolina Janani Diliégros-Godines</i>
11:30	11:45	[280] Less-common carbon nanostructures: Nanobuds and nanotori, <i>Oxana Kharissova</i>	[241] Low thermal emissivity filters (Low-e) with Al deposited by magnetron sputtering technique, <i>Noemi Abundiz Cisneros</i>
11:45	12:00	[268] The activation and potentiation of the Sers-Raman signal of adsorbates in silver nanoparticles, <i>Hugo Ricardo Navarro-Contreras</i>	[352] Ellipsometric optical characterization of nanolaminates grown by atomic layer deposition, <i>Javier Lopez</i>
12:00	12:15	COFFEE BREAK	
12:15	12:30	INVITED TALK [424] The cathodoluminescence technique in the study of point defects in nanomaterials, <i>Manuel Herrera</i>	[379] Determination of thermal conductivity using the scanning thermal microscopy module (S <sub>Th</sub> M) in AFM, <i>Christian Mateo Frausto Avila</i>
12:30	12:45		[434] Synthesis of TiN hard coatings using magnetron sputtering and their characterization by surface analysis techniques, <i>Jose Manuel Juarez Garcia</i>
12:45	13:00	[179] Electric field imaging and carrier diffusion length measurement on ZnO nanowires, <i>Andres de Luna Bugallo</i>	[559] Improvement of resistance to mechanical compression in Portland cement mortars induced by the addition of poly-hydroxy-indole, <i>José Ernesto Domínguez-Herrera</i>
13:00	13:15	[239] Electronic response of nano-devices on conducting nano-cables, <i>Jose Carlos Gomez Mancilla</i>	[566] Cyclic voltammetric and first principles studies of ferrocene modified carbon paste electrodes, <i>Gururaj Kudur Jayaprakash</i>
13:15	13:30	[528] Cubic In <sub>x</sub> Ga <sub>1-x</sub> N/GaN nanostructures on GaAs(001) Substrates by RF-MBE, <i>Y. L. Casallas-Moreno</i>	[516] Study of the spectral behavior of a photoelectric converter and evaluation of performance-enhancing parameters, <i>José Guillermo Pérez-Luna</i>
13:30	15:30	LUNCH	

COURSE C: Polyelectrolyte aqueous solutions and mixtures with surfactants, *Dominique Langevin*, Université Paris Sud, France, SALON LAS GAARZAS



		TECHNICAL TALK SALON EL DORADO	ATOMIC LAYER DEPOSITION SALON BUGAMBILIAS	COURSE D: Raman spectroscopy Workshop for chemical and material identification in materials research, Richard W. Borrmeth, Renishaw Incorporated, SALON LAS GARZAS	
15:30	15:45	TECHNICAL TALK Electrokinetic Surface Potential <i>Rosario Espinosa Melendez</i> Anton Paar México S.A. de C.V.	[233] Spectroscopic Ellipsometry as a Research tool in the study of ultrathin films deposited layer by layer, <i>Zeuz Montiel Gonzalez</i>		
15:45	16:00		[235] Growth of Hf-Ti-O by Atomic Layer Deposition and Atomic Submono-Layer Deposition, <i>Heber Hernandez Arriaga</i>		
16:00	16:15		[261] Electrical behavior of IGZO transistors and MIM structures using HfO <sub>2</sub> as dielectric layer by ALD, <i>Eduardo Martínez Guerra</i>		
16:15	16:30	TECHNICAL TALK II Nanomaterial análisis up to five scales using a single x-rays dispersión <i>Jorge Pablo Gonzalez Garibay</i> PANalytical México	[348] Determination of the characteristic times of surface coverage of HfO <sub>2</sub> on Si substrates by ALD, <i>Pierre Giovanni Mani Gonzalez</i>		
16:30	16:45		[371] Customizing properties of nanostructures by ALD, <i>Hugo Tizano</i>		
16:45	17:00	COFFE BREAK			
		SALON EL DORADO RENEWABLE ENERGY	ATOMIC LAYER DEPOSITION SALON BUGAMBILIAS		
17:00	17:15	[216] On the importance of the junction temperature on studying the charge transport properties of a solar cell: the n-ingap/p-gaas case, <i>Jaime Mimila-Arroyo</i>	[377] Comparative studies on electrical properties in nanolaminated films based on Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> and ZrO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> bilayers, <i>Jesús Martínez</i>		
17:15	17:30	[360] Electrical characterization in P <sub>3</sub> HT/CdS heterostructures and their potential applications, <i>Susana Meraz Dávila</i>	[439] Optical properties in Al <sub>2</sub> O <sub>3</sub> -Y <sub>2</sub> O <sub>3</sub> dielectric ultrathin multilayer films grown by atomic layer deposition, <i>Javier Alonso Lopez Medina</i>		
17:30	17:45	[527] Design and synthesis of ZnO transparent contacts for InGaN solar cells, <i>Dagoberto Cardona</i>	[141] Synthesis of Dielectric and Semiconductor Nanotubes, through Atomic Layer Deposition, using MWCNT as Template, <i>H.A. Borbón Nuñez</i>		
17:45	18:00	[469] Growth and characterization of c-GaN / GaAs solar cells, <i>C. A. Hernández</i>	[567] State of the art in new approaches in ALD: Large Area Spatial ALD, Rotary ALD and Particle Coating by ALD, <i>Israel Ayala</i>		
18:00	18:15	[57] Heterogeneous catalysts for more efficient biodiesel production, <i>José Luis Castillo Montesinos</i>	[363] Temperature effect of the substrate on the growth of Gallium Nitride by Atomic Layer Deposition, <i>Maria Magdalena Montserrat Contreras</i>		
18:15	18:30	COFFE BREAK			
18:30	19:15	PLENARY 3: In-situ Characterization of Atomic Layer Deposition, <i>Jiyoung Kim</i> , University of Texas at Dallas SALON EL DORADO			
19:15	20:00	PLENARY 4: Manganese nitride magnetic nanopramids: ab initio calculations, <i>Noboru Takeuchi</i> SALON EL DORADO			
20:00	22:00	POSTER SESION 1 SALON GAVIOTAS			



## Poster Session I Tuesday

### Ab-initio Calculations and Supercomputing

[ ACS-22 ] **Many electrons interacting by a Yukawa potential in a AlGaAs/GaAs Quantum Wire under an external electric field.**

*Reyna Méndez Camacho, Ramón Castañeda Priego, Esteban Cruz Hernández*

[ ACS-28 ] **Effect of doping on the electronic properties of diamond nanowires: a first-principles study**

*Jesus Ramirez Solano, Fernando Adan Serrano Orozco, Miguel Ojeda Martinez, Alejandro Trejo Baños, Alvaro Miranda Duran, Miguel Cruz Irisson*

[ ACS-324 ] **First-principles study of aluminum-phosphorus co-doped monolayer graphene**

*Victor Eduardo Comparán Padilla, María Teresa Romero de la Cruz, Gregorio Hernández Cocoltzi, Carlos Eduardo Rodríguez García*

[ ACS-380 ] **First principles study of oxygen adsorption on graphene sheets.**

*Blanca Elizabeth Luna Contreras, Yuliana Elizabeth Avila Alvarado, Gregorio Hernández Cocoltzi, Carlos Eduardo Rodríguez García, María Teresa Romero de la Cruz*

[ ACS-572 ] **Ab initio investigation of CsCl, B<sub>27</sub>(FeB) and B<sub>33</sub>(CrB/TII) phases of PbS**

*A. Badillo, A. Sanchez-Castillo, G. Hernandez Cocoltzi*

[ ACS-574 ] **First principles study of structural and electronic properties of Zn<sub>1-x</sub>MnxS**

*J.A. Flores-Jiménez, A. Ortiz-Trejo 1, M.P. Gutiérrez, A. Sanchez-Castillo*

### Atomic Layer Deposition

[ ALD-64 ] **Growth and Characterization of TiO<sub>2</sub> Films Grown by Atomic Layer Deposition for photocatalytic applications**

*Maria Magdalena Montserrat Contreras Turrubiartes, Aura Pedroza Rodriguez, Juan Carlos Salcedo Reyes, Pierre Giovanni Mani Gonzalez, Edgar Lopez Luna*

[ ALD-88 ] **Influence of the bilayer thickness on the optical properties of Al<sub>2</sub>O<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub> dielectric nanolaminated films grown by thermal atomic layer deposition**

*Javier Alonso Lopez Medina, Armando Sotelo Felipe Castillon, Roberto Machorro, Nicola Nedev, Mario Humberto Farias Sanchez, Hugo Tiznado*

[ ALD-214 ] **Fabrication of Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> Nanotubes, through Atomic Layer Deposition, using MWCNT as Template**

*H.A. Borbón-Nuñez, O. Romo-Jimenez D. Dominguez, F. Muñoz-Muñoz, J.M Romo-Herrera, J. Lopez G. Soto, H. Tiznado*

[ ALD-376 ] **Comparative studies on electrical properties in nanolaminated films base on Y<sub>2</sub>O<sub>3</sub>/ZrO<sub>2</sub> and YSZ bilayers**

*Jesús Martínez Javier López Roberto Machorro David Domínguez Eduardo Murillo Mario Curiel Nikola Radnev Mario Farias Hugo Tiznado (tiznado@cyn.unam.mx)*



[ ALD-415 ] **Synthesis and characterization of TiO<sub>2</sub> and HfO<sub>2</sub> nanofilm compounds by ALD**  
*Heber Hernandez-Arriaga, Eliseo Garcia-Ramirez, Pierre Giovanni Mani-Gonzalez, Joel Molina-Reyes, Eduardo Martinez-Guerra, Edgar Lopez-Luna, Miguel Angel Vidal-Borbolla*

[ ALD-438 ] **Thickness effect on the optical and morphological properties in Al<sub>2</sub>O<sub>3</sub>/ZnO nanolaminate thin films prepared by atomic layer deposition**

*Javier Alonso Lopez Medina, Jesus Martinez Noemi Abundiz, David Dominguez, Eduardo Murillo, Felipe Castillon, Roberto Machorro, Mario Farias, Hugo Tiznado*

[ ALD-509 ] **Doped ZnO Nanorods grown by Solvothermal-ALD method**

*José Luis Cervantes, Ricardo Rangel, Eduardo Martínez Guerra*

## Advanced and Multifunctional Ceramics

[ AMC-125 ] **Effect of Sb addition in a Bi/Pb-based superconductor prepared by solid state reaction**

*T. Sanchez-Mera, J. Coronel-Hernández, E. Diaz, G. S Contreras-Puente, F. de Moure-Flores*

[ AMC-238 ] **Alternative method to study the local strain in ferroelectric materials by contact atomic force microscopy**

*José Juan Gervacio Arciniaga, Eduardo A Murillo Bracamontes, C.I. Enríquez Flores, H. H' Mok, E. Martínez Aguilar, E. Cruz Valeriano, E. León Sarabia, Jesús M. Siqueiros Beltrones, Ma. de la Paz Cruz Jáuregui 2*

[ AMC-349 ] **Molecular oxygen generation in the glass system ZnO-CdO-TeO<sub>2</sub> doped with Eu<sub>3+</sub>**

*Iveth Viridiana García Amaya, Carlos Guadalupe Pérez Hernández, María Elena Zayas Saucedo, Josefina Alvarado Rivera, Mario Enrique Álvarez Ramos, Rosendo Lozada Morales*

[ AMC-361 ] **Chromia and alumina oxide scales formation in high entropy alloys**

*Cynthia Deisy Gómez-Esparza, Francisco Javier Baldenebro-López, Francisco Javier Baldenebro-López, Maria Cristina Maldonado-Orozco, Héctor Camacho-Montes, Claudia Alejandra Rodríguez-González, Roberto Martínez-Sánchez*

[ AMC-457 ] **Synthesis of TiO<sub>2</sub>-ZnO system by the combustion method**

*José de Jesús Pulido Castellanos, Adan Luna-Flores, Daniel Cruz, Genoveva Rosano-Ortega, Nancy Tepale-Ochoa*

[ AMC-537 ] **Second Harmonic Generation from Lithium Niobate powders Synthetized by a New Approach**

*Oswaldo Sánchez-Dena, Isis María Cota-Martínez, Karina Patricia De La Torre-Sáenz, Cesar David Fierro-Ruiz, Rurik Farias, Jorge Alejandro Reyes Esqueda*

[ AMC-547 ] **Size effects in ferroelectric BaTiO<sub>3</sub> nanometric powders**

*Oscar Blanco, Armando Pérez, Carlos A. Rodriguez*





## Advanced Materials Synthesized by Chemical Routes

### [ AMSCR-41 ] In situ growth of ZnO using a biopolymeric matrix of galactomannan

*Diego Carlos Bouttier-Figueroa, Manuel Angel Quevedo-Lopez, Aarón Rosas-Durazo, Merida Sotelo-Lerma*

### [ AMSCR-101 ] SBA-15 with varying magnesium content in Oxidative Dehydrogenation of n-octane

*Elienai Gaxiola Mejia, Felipe Francisco Castellón Barraza, Brenda Acosta Ruelas, Trino Zepeda Partida*

### [ AMSCR-198 ] Synthesis and characterization of Tb-substituted hydroxyapatite powders for 2,4-dichlorophenoxyacetic acid photodegradation applications

*Montserrat Suarez Quezada, Yolanda Jimenez Flores, Guadalupe Romero Ortiz, Victor Manuel Suarez Quezada, Victor Manuel Suarez Quezada, Jose Bruno Rojas Trigos, Maria De Los Angeles Mantilla Ramirez, Joel Hernandez Wong*

### [ AMSCR-221 ] “Comparative study of the synthesis of NiFe<sub>2</sub>O<sub>4</sub> by coprecipitation and electrospinning”

*Manuel Morales, Manuel Morales, S. P. García-Rodríguez, B. A. Puente-Urbina, M. Rosario Rangel, J. Romero-García, Sagrario M. Montemayor*

### [ AMSCR-245 ] Synthesis of Pt-TiO<sub>2</sub> by microwave assisted sol-gel method for hydrogen photo-electrogeneration.

*Luis Alejandro Martínez Chávez, Carlos Guzmán Martínez, Karen Esquivel Escalante, Eduardo Arturo Elizalde Peña, Rafael Hernández Rangel*

### [ AMSCR-262 ] Microwave assisted sol-gel synthesis and characterization of Cu/Fe TiO<sub>2</sub>

*A. Rosales, K. Escalante, C. Guzmán*

### [ AMSCR-269 ] Synthesis of ZnO:Eu<sup>3+</sup> nanoparticles by hydrothermal method

*Jasso-Jasso M.F., Pérez-Arrieta L., Ortega Sigala J.J., Puch Ceballos F., Puga A., Guzmán Mendoza J.*

### [ AMSCR-353 ] High crystallinity copper sulfide thin films deposited at room temperature by SILAR

*Obed Yamín Ramírez Esquivel, Dalia Alejandra Mazón Montijo, Zeuz Montiel González, Francisco Servando Aguirre Tostado*

### [ AMSCR-461 ] Synthesis and NLO properties of L- Histidine HCl-[Er(NO<sub>3</sub>)<sub>5</sub>H<sub>2</sub>O] crystals

*Jose Alberto Duarte Moller, Erasmo Orrantia Borunda, Javier Eliel Morale Mendoza*

### [ AMSCR-575 ] Cu-Ag/Mordenite catalysts for NO reduction: effect of silver on catalytic activity and hydrothermal stability

*R. E. Ramírez-Garza, R. E. Ramírez-Garza, I. Rodríguez-Iznaga, A. Simakov, M.H. Fariás, F.F. Castellón-Barraza*



## Biomaterials and Polymers

### [ BIO-15 ] Glucose sensors based on carbon nanotubes

*K. Pamela López-Medina, Gerardo Ortega-Cervantez, Ramón Gómez-Aguilar, Adrian A. Catañeda-Galván*

### [ BIO-192 ] Determination of loss of Ca<sup>+</sup> in fluorotic dentin and its effect on the microhardness, with pretreatment of NaOCl and self-etching techniques with silver nanoparticles incorporated.

*Ana Josefina Monjarás Ávila, Norma Verónica Zavala Alonso, Gabriel Alejandro Martínez Castañón, Facundo Ruiz, Nuria Patiño Marín*

### [ BIO-278 ] Chemical characterization of Agave tequilana leaves as alternative of biomass for second generation biofuels production

*Jorge Carlos Avila Gaxiola, Oscar Jesús Velarde Escobar, Francisco Ramos Brito, Gelacio Atondo Rubio, Cristo Manuel Yee Rendón, Maria Elisa Evangelina Avila Gaxiola*

### [ BIO-310 ] Development extrusion method for encapsulation of spermatozoa

*Lugo García Oscar Adrián, Reyes López Simón Yobanny*

### [ BIO-332 ] Layer-by-Layer Self-Assembled polyelectrolyte multilayer on maghemite nanoparticles

*Abraham Francisco Palomec Garfias, César Márquez Béltran, Marcelo Henrique Sousa*

### [ BIO-431 ] Extracellular matrix, Chitosan and PRP in tissue regeneration

*Mirna López-Fuentes, Jesús Reyes Fernandez, Elizabeth León Cruz, Monserrat Alejandra Herrera Pérez, B. Zenteno-Mateo, J. A Rivera-Márquez, M. C. Mendoza-Herrera, M.P. Sampedro, M. Cárdenas García*

### [ BIO-475 ] Synthesis, characterization and cytotoxic activity of europium-doped nanohydroxyapatite

*Paulina Guadalupe Miranda Meléndez, Gabriel Alejandro Martínez Castañón, Nereyda Niño Martínez, Nuria Patiño Marín, Norma Verónica Zavala Alonso, Facundo Ruiz*

### [BIO-590] Synthesis and characterization of magnetic PEGylated or Ascorbic Acid functionalized zero valent iron @ gold (Feo@Au) nanoparticles

*José de Jesús Olivares Trejo, Geonel Rodríguez Gattorno, Josué Romero Ibarra, María Ana Rivera Soto*

## Characterization and Metrology

### [ CHM-25 ] CNTs-TiO<sub>2</sub> nanotubes via ALD: influence of sidewall functionalization and nitrogen doping.

*D. Domínguez, D. Domínguez, H. A Borbón-Núñez, José Romo Herrera, G. Soto, Franklin Muñoz-Muñoz, Edgar Reynoso Soto, H. H. Tiznado*

### [ CHM-290 ] Kinetics and mechanical characterization of AISI 4340 steel borided by using a mixture of own formulation

*Ana Laura García Cervantes, Rafael Carrera Espinoza, Enrique Hernández Sánchez, Ulises Figueroa López, J. Antonio García Macedo, Ignacio Mendoza Vázquez, Alexis Chino Ulloa*



**[ CHM-313 ] Study on patents of surface treatment gasoline injectors**

*Marina Lizardi Vega, Noe López Perrusquia, Marco Antonio Doñu Ruiz, Jorge Víctor Cortés Suárez, José Antonio Juanico Lorán, Jorge Noriega Zenteno*

**[ CHM-423 ] Piezoresponse Force Microscopy: A simple method to obtain phase switching and amplitude butterfly loops**

*Francisco J. Flores-Ruiz, J. J. Gervacio-Arciniega, E. Murillo-Bracamontes, M. P. Cruz, J. M. Yáñez-Limón, J. M. Siqueiros*

**[ CHM-467 ] Synthesis and characterization of three-dimensional opal/Fe<sub>3</sub>O<sub>4</sub> magnetic photonic crystals**

*M. Toledo-Solano, A. J. Carmona, M. A. Palomino, E. Sánchez*

**[ CHM-541 ] Microstructural properties of alpha-amylase enzyme immobilized on mesoporous SBA15.**

*Martha Chico Vázquez, Mónica Rosalía Jaime Fonseca, Patricia Rayo Mayoral*

**[ CHM-576 ] Terahertz transmission spectroscopy of tequila and red wine fingerprints**

*Felipe Eduardo Perea-Parrales, Leticia-Ithmel Espinosa-Vega, Víctor Hugo Mendez-García*

## **Luminescence Phenomena: Materials and Applications**

**[ LPM-218 ] Synthesis and characterization of microwave assisted Eu<sup>3+</sup>:Y<sub>2</sub>O<sub>3</sub> nanophosphors prepared by the benzyl alcohol route**

*José Antonio Luna Guzmán, Gilberto Alarcón Flores, Miguel Ángel Aguilar Fruti, Salvador Carmona Tellez, Ciro Falcony Guajardo, Manuel García Hipólito*

**[ LPM-381 ] Effect of the Fe<sub>3</sub>O<sub>4</sub> nanoparticles on the photoluminescent properties of SiO<sub>2</sub> thin films**

*Ernesto Abraham Salazar Valenzuela, Josefina Alvarado Rivera, Gerardo Saavedra Rodríguez, Hiram Jesús Higuera Valenzuela, Dainet Berman Mendoza*

**[ LPM-584 ] Luminescence in clay nanotubes doped with europium**

*J.U. Balderas, G.L. Giménez, C. Falcony*

**[ LPM-564 ] The photoluminescence properties of Al<sub>2</sub>O<sub>3</sub>: Eu<sup>3+</sup> powders synthesized by the microwave assisted solvothermal technique**

*Icela Padilla Rosales, Miguel Ángel Aguilar Frutis, Gilberto Alarcón Flores, José Gerardo Cabañas Moreno, Ciro Falcony*

**[ LPM-257 ] Microwave assisted synthesis and luminescent properties of Sm<sup>3+</sup> doped Ytria powders**

*Raúl Ivan Sánchez Alarcón, Gilberto Alarcón Flores, Miguel Aguilar Frutis, Salvador Carmona, Tellez, Manuel Garcia Hipólito, Ciro Falcony Guajardo*



## Microelectronics and MEMS

### [ MEM-54 ] Electrochemical batteries made of textiles.

*Ricardo Elizalde-Sandoval, Norberto Hernandez-Como, Francisco Javier Hernandez-Cuevas, Jacobo Munguia, Carlos Alberto Lopez-Gomez, Miguel Aleman*

### [ MEM-322 ] A ring based micromachined thermal accelerometer design for high shock applications

*Rodolfo Sanchez, Jessica De Anda, Germán Quiroz, Edgar Gonzalez, Aldo Bravo, Salvador Mendoza, Héctor Báez, Victor Ponce*

### [ MEM-366 ] Design and Simulation of a Vibrating Diaphragm Micro Pump With No Moving Parts

*Germán Quiroz, Aldo Bravo, Edgar González, Rodolfo Sánchez, Jessica De Anda, Héctor Báez, Salvador Mendoza*

### [ MEM-445 ] Thermomagnetic instabilities in anisotropic type-II superconductors

*Carolina Romero-Salazar, Omar Augusto Hernández-Flores, Elvis Anyel García-Cortés*

### [ MEM-505 ] Surface states based field-effect transistor analyzed by TCAD-simulations

*Irving Eduardo Cortes Mestizo, Christian A. Mercado, Edgar Briones, Víctor-Hugo Méndez*

### [ MEM-556 ] Deposition of LiNbO<sub>3</sub>/PCL films on silicon photonics chip

*Eva Maria Cabral-Larquier, Cesar David Fierro-Ruiz, Simon Yobanny Reyes-Lopez, Newton Cesario Frateschi, Jose Rurik Farias Mancilla*

## Nanostructures

### [ NSN-12 ] Magnetic properties of CoCu nanostructures

*Pedro Gilberto Alvarado Leyva, Juan Martín Montejano Carrizales, Andrés Vega Hierro*

### [ NSN-36 ] Electronic and magnetic properties of lowest energy structures of NiAg nanoalloys.

*R.H. Aguilera-del-Toro, R. H. Aguilera-del-Toro, P.G. Alvarado-Leyva*

### [ NSN-68 ] Controlled coating of magnetite nanocubes with SiO<sub>2</sub>

*Jesús Antonio Fuentes García, Aarón Israel Díaz Cano, Jaime Santoyo Salazar, Janna Douda*

### [ NSN-97 ] NANOSTRUCTURED CuO and ZnO ADSORBENTS FOR BIOGAS DESULFURIZATION

*Francisco Pola-Albores, Karla Zambrano-Solís, Edna Ríos-Valdovinos 1*

### [ NSN-124 ] Study of the Electrical Properties of Trirutile-Type Zinc Oxide in CO and C<sub>3</sub>H<sub>8</sub> Atmospheres

*Alex Guillén Bonilla, Luis Daniel González Tovar, Héctor Guillén Bonilla, Verónica María Rodríguez Betancourt, José Trinidad Guillén Bonilla, Martín Flores Martínez, Juan Juan Reyes Gómez*

### [ NSN-181 ] Analysis of negative refraction in a bimetallic-dielectric superlattice

*Silvia Cortés-López, Felipe Pérez-Rodríguez*



**[ NSN-185 ] Thin films of CdS:Cu, morphological, optical, structural and electrical properties**

*Fernando J. Sánchez Rodríguez, Jorge Noé Angulo Rocha, Cristo M. Yee Rendón, Manuel García Hipólito, Miguel Aguilar Frutis, Santos J. Castillo, Francisco Ramos Brito*

**[ NSN-211 ] Coupling between graphene and intersubband collective excitations in quantum wells**

*Gerardo Gonzalez De La Cruz*

**[ NSN-220 ] Quantum transport in self-affine graphene-based structures**

*Miguel Ángel Sandoval-Puentes, Dan Sidney Díaz-Guerrero, Luis Manuel Gaggero-Sager, Oscar Sotolongo-Costa, Isaac Rodríguez-Vargas*

**[ NSN-229 ] Is microwave treatment the better way for exchange? A comprehensive analysis of copper-exchanged sodium mordenites prepared by the routine and microwave methods**

*Y. M. Zhukov, A. Yu. Efimov, E. A. Krylova, M. G. Shelyapina, V. Petranovskii, E. V. Zhizhin, A. Burovikhina, I. A. Zvereva, S. Fuentes*

**[ NSN-232 ] Hexagonal single-crystal domains of single and few layer graphene grown from pencil graphite**

*Juan Jesús Vivas Castro, Gabriela Lourdes Rueda Morales, Gerardo Ortega Cervantez, Jaime Ortiz Lopez*

**[ NSN-258 ] Growth and Characterization of MoS<sub>2</sub> Monolayers**

*Miguel Ángel Hernández Vázquez, Mario Flores Salazar, Claudia Baeza Chavez, Andrés De Luna Bugallo*

**[ NSN-277 ] Synthesis of SrAl<sub>12</sub>O<sub>19</sub> activated with La<sup>3+</sup>, Eu<sup>2+</sup>, Nd<sup>3+</sup> ions and decorated with carbon nanoparticles.**

*Oxana Kharissova, Patsy Arquieta, Beatriz Ortega, Hugo Galindo*

**[ NSN-281 ] Magnetic forest-like carbon nanostructures doped with silver nanoparticles as antibacterial materials for water filters.**

*Beatriz Ortega, Oxana Kharissova, Servando Aguirre T.*

**[ NSN-283 ] Non-conventional synthesis of carbon nano-ribbons by the low-temperature unfolding of MWCNTs via interaction with teraphthal and ascorbic acid.**

*Andrés Solís, José Sánchez de la Rosa, Alberto Castillo, Oxana Kharissova*

**[ NSN-304 ] Methylene Blue degradation using nanocomposites of TiO<sub>2</sub>-Reduced Graphene oxide as photocatalyst material synthesized by solvothermal method**

*Horacio Edgardo Garrafa Gálvez, Clemente Guadalupe Alvarado Beltrán, Jorge Luis Almaral Sánchez, Ramón Alvaro Vargas Ortiz, Priscy Alfredo Luque Morales, Abel Hurtado Macías, Andrés Castro Beltrán*

**[ NSN-307 ] CVD Growth and characterization of MoSe<sub>2</sub> monolayers**

*Mario Flores Salazar, Miguel Hernández Vazquez, Claudia Baeza Chavez, Andrés de Luna Bugallo*

**[ NSN-330 ] Electronic structure and proton dynamics in layered perovskite-type M<sub>2</sub>La<sub>2</sub>Ti<sub>3</sub>O<sub>10</sub> (with M = H, Li, Na, K, Rb and Cs)**

*M. G. Shelyapina, A. Kostromin, I. A. Zvereva*

**[ NSN-342 ] Transport properties of ZnO based p-n homojunction**

*F. Avelar Muñoz, J. J. Ortega, M. L. Pérez Arrieta, H. Tototzintle Huitle, V. H. Méndez García, J. J. Araiza*



[ NSN-367 ] **Magnetic behavior of SiO<sub>2</sub> opals with embedded Fe and Ni nanoparticles**

*Carlos Ernesto Ávila Crisóstomo, Enrique Sánchez Mora, Valentín García Vázquez, Felipe Pérez Rodríguez*

[ NSN-373 ] **Electrocoagulation system used as an electrochemical methodology to obtain Zn nanostructures of wastewater**

*Victor Nolasco Arizmendi, Lizeth Janeth Beltrán Ontiveros, María del Rosario Valencia Romero, Karla Edith Vega Chavez, Maricruz Rocha Rubio, Carlos Iván Rodríguez Rodríguez*

[ NSN-397 ] **Physicochemical parameters for the synthesis of nanocrystalline calcium phosphate from tooth root**

*Manuel Alejandro Valdes Madrigal, Maria Magdalena Mendez-Gonzalez, Miguel García Rocha*

[ NSN-403 ] **Synthesis calcium phosphate coatings Ti6Al4V**

*Fernando Francisco Ríos Pimentel, María Magdalena Mendez-Gonzalez, Miguel García Rocha*

[ NSN-410 ] **Light localization in aperiodically modulated one-dimensional photonic crystals**

*Carlos Antonio Corona García, Xóchitl Ines Saldaña Saldaña, Elías López Cruz*

[ NSN-416 ] **New High-index Orientations in the Stereographic Triangle for Self-assembled Faceting**

*Reyna Méndez Camacho, Victor Hugo Méndez García, Máximo López López, Esteban Cruz Hernández*

[ NSN-435 ] **Application of Nanoparticles in Agricultural Crops and Study of Their Synergetic Effect.**

*Cesar Adrian Limon Luna, Ana V. Coria Tellez, Dhirendra Kumar Tiwari*

[ NSN-440 ] **Fabrication of a mis structure based on two-dimensional ZnO nanostructures by chemical routes**

*Rubén Jonatan Aranda García, Alejandro Escobedo Morales, José Alberto Luna López, José Antonio Rivera Márquez*

[ NSN-446 ] **Supercapacitors based on carbon nanostructures**

*Ayrton Sierra, Jesús Tapia, Luis Felipe Chazaro, Mildred Quintana*

[ NSN-455 ] **Theoretical comparison of the luminiscent phenomenon between cylindrical Single Wall Carbon Nanotubes (SWCNTs) and oval SWCNTs.**

*A.P. Rodríguez Victoria, A.D. Hernández de la Luz, N.D. Torres Espinoza, J. Martínez Juárez*

[ NSN-465 ] **Photocatalysis in mezcal vinasse with nanostructures ZnO**

*Elizabeth Concepción Sánchez Esperanza, Evaristo Isac Velázquez Cruz, Guillermo Juárez López, Rafael Martínez Martínez, Edgardo Yescas Mendoza, Leticia Pérez Arrieta, Ciro Falcony Guajardo*

[ NSN-476 ] **Influence of the confining liquid medium on laser ablation of CdTe Targets**

*P.E. Orozco Ortega, G. Gómez Rosas, A. Pérez Centeno, M.A. Santana Aranda, J.G. Quiñonez Galván*

[ NSN-481 ] **Effect of laser output energy on the pulsed laser ablation of CdTe in sulfur containing solutions**

*Jose Humberto Vazquez Cazares, Regino Sanchez Uriarte, M.A. Santana Aranda, G. Gómez Rosas, A. Chávez Chávez, A. Perez Centeno, J. G. Quiñonez Galván*



[NSN-486] **Green synthesis of silver and gold nanoparticles and their antimicrobial activity**  
*María del Carmen Sánchez Navarro, Nereyda Niño Martínez, Gabriel Alejandro Martínez Castañón, Osvelia Rodríguez Luis, Martha Eugenia Compeán Jasso, Claudio Cabral Romero, Facundo Ruiz*

[NSN-497] **Preparation of filters based on chitosan and graphene oxide**  
*Verónica Arellano Cerda, Mildred Quintana*

[NSN-512] **Tailoring strain and nucleation of MBE grown InAs-InGaAs quantum dots.**  
*Luis Eduardo Rios Saldaña, Monica Colunga Saucedo, Eric López, José Angel Espinoza Figueroa, Irving Eduardo Cortes Mestizo, Christian Mercado, Andrei Yu Gorbachev, Victor Hugo Méndez García*

[NSN-522] **Preparation recycled PET nanofiber from post-consumer bottles by electrospinning technique**  
*Manuel Chinchillas Chinchillas, Manuel Gallardo Sánchez, Selene Sepúlveda Guzmán, Luis Jasso Ramos, Ramón Corral Higuera, Andrés Castro Beltrán*

[NSN-540] **Synthesis, characterization, and functionalization of  $\text{La}_{1-x}(\text{SrCa})_x\text{MnO}_3$  nanoparticles for hyperthermia in cancer treatment**  
*Jose Santos Arellano Fierro, Amanda Carrillo Castillo, Patricia de la Presa, Ángeles Villanueva, Pierre Giovanni Mani González*

[NSN-552] **Synthesis of Metallic Nanoparticles through a Pulsed Arc Submerged System**  
*Celia Luz Rojo Blanco, Stephen Muhl*

[NSN-563] **Stability of the as-milled reaction products: phase transition from  $\text{PbSeO}_3$  to  $\text{PbSe}$**   
*H Rojas-Chávez, J. Santoyo-Salazar, S. J. Jiménez-Sandoval, M. A. Hernández-Landaverde, O. Ovalle-Encinia*

[NSN-570] **PVP electrospun nanofiber: effect of voltage and working distance**  
*Oscar Secundino Sánchez, Joel Díaz Reyes, Froylan Angel Huerta, José Francisco Sánchez Ramírez*

[NSN-577] **Study of Strained InGaAs quantum wells through stressed InAs/GaAs upper barriers**  
*C. Mercado, E. Eugenio-López, J. A. Espinoza-Figueroa, I. E. Cortes-Mestizo, A. Yu. Gorbachev, L.I. Espinosa-Vega, V. H. Méndez-García*

[NSN-588] **Deep Level Transient Spectroscopy study of  $\text{Si/Si}_{1-x}\text{Sn}_x/\text{Si}$  Quantum Wells. Valence Band Offset determination**  
*Victor-Tapio Rangel-Kuoppa, Alexander Tonkikh, Nikolay Zakharov, Christian Eisenschmidt, Peter Werner*

## Plasma and Vacuum

[PLV-267] **Optical characterization of CdTe nanoparticles embedded in a nanoparticulate  $\text{SnO}_2$  matrix**  
*Enrique Campos, Marcelino Becerril, Jaime Santoyo, Orlando Zelaya, Francisco de Demoure*



**[ PLV-318 ] Development of a computational algorithm for spectra analysis oriented to the construction of a portable and self-calibrated LIBS system**

*Walther Eduardo Lee Cárdenas, Alan Preciado Grijalva, Roberto Sanginés de Castro, Roberto Machorro Mejía*

**[ PLV-398 ] Analysis of electrical and optical stability of p type ZNO:Ag,N thin films.**

*I. I. Cazarez Aguilar, J. J. Ortega, F. R. Puch Ceballos, C. Falcony, V. H. Méndez García, J. J. Araiza*

**[ PLV-422 ] Influence of laser ablation plasma parameters in the synthesis of nanostructured Al-Si-N thin films**

*Laura Patricia Rivera Resendiz, Edgar Erique Camps Carvajal, Rafael Basurto, Stephen Muh Saunders*

**[ PLV-493 ] Effect of plasma parameters variation on the physical properties of Cu-Ag thin films deposited by the simultaneous ablation of Cu and Ag targets**

*Jiaming Huang, A. Pérez-Centeno, M.A. Santana Aranda, G. Gómez-Rosas, Enrique Camps, L.P. Rivera Reséndiz, J.G. Quiñones-Galván*

**[ PLV-518 ] Gallium indium nitride growth by close space sublimation (CsS) into tube furnace**

*Luis Alberto Hernández-Hernández, Gerardo Contreras-Puente, Francisco de Moure-Flores, Jorge Ricardo Aguilar-Hernández, Osvaldo de Melo-Pereira, Máximo López-López, Guillermo Santana-Rodríguez*

## **Photothermal Phenomena**

**[ PTP-5 ] Phase separation technique of photoacoustic spectroscopy for the photosynthesis study in aquatic liriium**

*Jeniffer Calderón Duarte, Antonio Calderón Arenas, José Bruno Rojas, Gabriel Peña Rodríguez*

**[ PTP-317 ] Characterization of aromatic oils thermal parameters using photothermal techniques**

*Jose Luis Jimenez Perez, Rigoberto Carbajal Valdez, Genaro Lopez Gamboa, Alfredo Cruz Orea, Zormy Nacary Correa Pacheco, Elizabeth Diaz Torres*

**[ PTP-450 ] Thermal Diffusivity Measurement by Lock-in Photothermal Shadowgraph**

*Angel Cifuentes, Salvador Alvarado, Ernesto Marín, Humberto Cabrera, Antonio Calderón*

## **Renewable Energy: Solar Cells and Materials**

**[ RWE-96 ] CdS thin films grown on flexible PET-substrates by CBD**

*Karen Rodríguez-Rosales, J.G. Quiñones-Galván, A. Guillén-Cervantes, E. Campos-González, J. Santos-Cruz, S.A. Mayén-Hernández, S.J. Arias-Cerón, M. de la L. Olvera, A. Zelaya-Angel, G. Contreras-Puente, F. de Moure-Flores*





**[ RWE-108 ] Comparison of enthalpies of  $MgxM_{1-x}H_2$  alloys (M= Al, Ni, Zn;  $1.0 \leq x \leq 0.8$ )**

*G. Ramirez-Damaso, G. Ramirez-Damaso, I. E. Ramirez-Platon, F. L. Castillo-Alvarado, F. L. Castillo-Alvarado, E. Rojas-Hernandez, O. Ramirez-Rodriguez, C. E. Gonzalez-Olguin*

**[ RWE-173 ] Properties of indium sulfide thin films onto flexible substrates by chemical bath deposition**

*Paola Elideth Rodríguez Hernández, F. de Moure Flores (fcomoure@hotmail.com), E. Campos González, J. Santos Cruz, O. Zelaya Angel, G. Contreras Puente*

**[ RWE-193 ] Toward an improvement of CdCl<sub>2</sub> thermal treatment for CdTe thin films**

*Ana María Salomon Preciado, Karla Gutierrez Zayas Bazán, Francisco de Moure Flores, Miguel Tufiño Velazquez, Javier Edmundo Hernández Montes, Jorge Ricardo Aguilar Hernández, Gerardo Silverio Contreras Puente*

**[ RWE-212 ] Photocatalytic hydrogen production by water/methanol decomposition using Au/TiO<sub>2</sub> and RGO/TiO<sub>2</sub>**

*Oscar Quiroz Cardoso, Socorro Oros Ruiz, Ricardo Gómez Romero*

**[ RWE-286 ] Theoretical study of TiO<sub>2</sub> films as buffer layer on CdS/CdTe solar cells.**

*Eric Noé Hernández Rodríguez, Antonio de Jesús Balvantín García, José Ángel Diosdado de la Peña, Alfredo Márquez Herrera, Víctor Rejón Moo, Juan Luis Peña Chapa, Martín Guadalupe Zapata Torres*

**[ RWE-327 ] pH Influence on the Physical and Chemical Properties of SnS Thin Films Prepared by CBD.**

*R. Mis-Fernández, Andrea Higadera, Ivan Rimmaudo, V. Rejon, J. L. Peña*

**[ RWE-383 ] Design for an electricity generation pilot facility from microbial fuel cell hybrid based systems**

*Mariejosely Acosta Andrade, Mariejosely Acosta Andrade, Oscar Fernando Rios Medina, Oscar Fernando Rios Medina, Guadalupe Sanchez Matias, Guadalupe Sanchez Matias, Edgar Adrian Santiago Del Angel, Edgar Adrian Santiago Del Angel, Sandra Soledad Morales Garcia, Sathish-Kumar Kamaraj, Fabio Felipe Chalé Lara, Felipe Caballero Briones*

**[ RWE-395 ] Influence of laser scribing of ITO in CdS/CdTe PV mini-modules**

*Victor Rejon, J.L. Peña, Ivan Rimmaudo, Ricardo Mis-Fernandez, Marco Koh, Ines Riech*

**[ RWE-466 ] Synthesis and characterization of hafnium carbide using concentrated solar energy**

*Eric Manzanarez, Laura Guadalupe Ceballos Mendivil, Judith Celina Tanori Cordoba, Rafael Enrique Cabanillas López, Heidi Isabel Villafán Vidales, Camilo Alberto Arancibia Bulnes, Claudio Alejandro Estrada Gasca*

**[ RWE-492 ] Characterization of CdS/CdTe solar cells as a function of the CdTe thickness and back contact deposited by laser ablation**

*Jiaming Huang (, K. Rodríguez Rosales, F. de Moure-Flores, A. Pérez-Centeno, G. Gómez-Rosas, Enrique Camps, A. Martínez-Benítez, M.A. Santana Aranda, J.G. Quiñones-Galván*

**[ RWE-504 ] Hydrophilic Coating of TiO<sub>2</sub>-SiO<sub>2</sub> with Self Cleaning Properties and its possible application on Solar Panels**

*Pavel Vorobiev, Liliana Licea Jimenez, Arturo Roman Vázquez Velázquez, Sergio Alfonso Pérez García*



**[ RWE-524 ] Processing and characterization of the back contact Mo in 100 CM<sup>2</sup> for photovoltaic applications**

*Rogelio Mendoza Pérez, Daniel Hernández Pitalua, Jorge Sastre Hernández, Jorge Arenas Del Angel, Gerardo Contreras Puente, Guillermo Santana*

**[ RWE-568 ] Effect of the TiO<sub>2</sub> crystalline structure on the CdTe-based solar cell performance.**

*Jazzia Michelle Sánchez Avalos, Mayra Graciela Aranda Moreno, Antonio de Jesús Balvantín García, José Ángel Diosdado de la Peña, Alfredo Márquez Herrera, Martín Guadalupe Zapata Torres, Eric Noé Hernández Rodríguez*

**[ RWE-591 ] Synthesis and characterization of lanthanum nanoparticles by a reverse micellar method**

*Josué Romero Ibarra, Pablo Schabes Retchkiman*

## Semiconductors

**[ SEM-6 ] Destruction of Fano Resonances in bilayer graphene-based systems: The role of the bandgap induced by an applied electric field**

*Fátima Reyna Sandoval Jiménez, José Alberto Briones Torres, Isaac Rodríguez Vargas, Isaac Rodríguez Vargas*

**[ SEM-40 ] GaN buffer layer obtained from GaAs nitridation used in GaN epitaxial growth by OMVPE**

*Francisco Sebastian Ramírez González, Godofredo García Salgado, Crisóforo Morales, Tomás Díaz, Enrique Rosendo, Fabiola Gabriela Nieto, Reina Galeazzi, Roman Romano*

**[ SEM-146 ] Obtaining of Te semiconductor films by sputtering technique and its application as p+ type layer in photovoltaic cells**

*M. Ledesma-Moliner, E. Campos-González, J. Santos-Cruz, O. Zelaya-Ángel, M. de la L. Olvera, G. Contreras-Puente, F. de Moure-Flores*

**[ SEM-177 ] Studies on the Resistivity of transparent ZnO Thin Films prepared by Sol Gel, doped and co-doped with Aluminum, Indium and Boron.**

*Manuel Alfredo Hernández-Ochoa, Humberto Arizpe-Chávez, Rafael Ramírez-Bon, Mario Flores-Acosta, Manuel Cortez-Valadez*

**[ SEM-249 ] Synthesis and characterization of Zn/ZnO core-shell structures obtained by thermal evaporation and condensation technique, Bertha Luisa Rivera Flores, Tomás Díaz Becerril, Reina Galeazzi Isasmendi, Ramón Peña Sierra**

**[ SEM-288 ] Energy flux in a semiconductor sandwiched between two thermostats with different temperatures**

*Igor Lashkevych*

**[ SEM-293 ] Growth and Characterization of Tungsten Disulfide (WS<sub>2</sub>) Monolayers**

*Claudia Beatriz Baeza Chávez, Andrés de Luna Bugallo*



[ SEM-336 ] **Effect of annealing temperature on co-sputtered p type ZnO:Ag,N thin films**

*S. F. Ocón Trejo, J. J. Ortega, M. L. Pérez Arrieta, F. R. Puch Ceballos, V. H. Méndez García, J. J. Araiza*

[ SEM-344 ] **Synthesis and structural, thermal and electrical characterization of CuAlO<sub>2</sub>**

*Carolina Estrada Moreno, Cesia Guarneros Aguilar, Juan Jesús Reyes Valdez, Mauricio Pacio Castillo, Felipe Caballero Briones*

[ SEM-364 ] **P type impurification (doping) of  $\beta$ -GaN grown by PAMBE**

*Héctor Perez Ladrón de Guevara, Harumi Moreno García, Edgar Lopez Luna, Miguel Angel Vidal Borbolla*

[ SEM-375 ] **Optical and Morpho-structural Properties of ZnO Nanoparticles Synthesized from Aqueous Solutions at Low Temperature by Air-assisted-USP Method**

*G. Flores-Carrasco, G. Flores-Carrasco, S. Alcántara-Iniesta, B.S. Soto-Cruz, J. Chávez-Galán, L. Muñoz-Fernandez, O. Milosevic, M.E. Rabanal*

[ SEM-389 ] **Carbon quantum dots into graphene oxide matrix prepared by low vacuum pulsed laser deposition**

*Carolina Zafiro Ortega, Felipe Caballero Briones, Guillermo Santana Rodriguez, Teresa Flores Reyes, Luis Ponce Cabrera, Wendy Guerra Valdéz*

[ SEM-442 ] **Photoluminescent and electrical properties of novel Nd<sup>3+</sup> doped ZnV<sub>2</sub>O<sub>6</sub> and Zn<sub>2</sub>V<sub>2</sub>O<sub>7</sub>**

*R. Lozada-Morales, Y. A. González-Rivera, A.N. Meza-Rochab, E. Cervantes-Juárez*

[ SEM-472 ] **A Raman spectroscopy study of graphene oxide modified by reducing and heat treatment processes**

*Francisco Rodríguez Melgarejo, Liliana Arvizu Rodríguez, Ulises Páramo García, Felipe Caballero Briones, Martín Hernández Landaverde, Luis Manuel Aquino Meneses, Sergio Jiménez Sandoval*

[ SEM-534 ] **Study of low dimensional epitaxial layer growth using LPE in GaSb-GaAs system**

*Ken Axxel Castillo Arvizu, Carlos Santamaría Covarrubias, Andrei Yu. Gorbachev, Edith Castillo Baldivia, Viatcheslav Andreevich Michournyi, Francisco De Anda Salazar*

[ SEM-557 ] **A study of the structural and electronic properties of SiO<sub>2</sub>/ZnO/SiO<sub>2</sub> heterostructure deposited by reactive RF sputtering**

*Roberto Escobedo-Alcaraz, Cesar Atzin-Mondragon, Arturo Hernández-Hernández, Mario Cervantes-Contreras, Alejandra García-Sotelo, Miguel Angel Meléndez-Lira*

[SEM-592] **Imaging of biased microelectronic integrated circuits using a combined modulated photorefectance and thermoacoustic microscope**

*Ernesto Rosales, A.M. Mansanares*

## Thin Films

[ THF-67 ] **Blue and red Photoluminescence emission from nanocrystalline CdTe thin films grown by radio frequency sputtering.**

*Marcelino Becerril-Silva, Héctor Silva-López, Saúl Arias-Cerón, Angel Guillén-Cervantes, Orlando Zelaya-Angel*



**[ THF-93 ] Synthesis by SILAR Method of Cadmium Sulfide Thin Films and Evaluation as Window Layer for Solar Cells**

*Janelle Zuñiga-Zendejo, Luis Alfonso Garcia-Cerda, Eduardo Martinez-Guerra, Manuel Angel Quevedo-Lopez, Victor Hugo Martinez-Landeros*

**[ THF-196 ] Synthesis and characterization of In<sub>2</sub>S<sub>3</sub> microspheres grown on thin films elaborated by electrodeposition**

*María del Carmen Sosa Muñiz, Marciano Sánchez Tizapa, Rocio Castañeda Valderrama, María Alejandra Carreón Alvarez, Amaury Suárez Gómez, Juan Pablo Morán Lázaro, Martín Flores Martínez*

**[ THF-228 ] Mathematical model that describes the behavior of stoichiometric BST solid solution**

*Juan Reséndiz Muñoz, José Luis Fernández Muñoz, Miguel Ángel Corona Rivera, Martín Zapata Torres, Alfredo Márquez Herrera, Enrique Valaguez Velázquez, Dolly Yntner Ibarra*

**[ THF-255 ] I vs V characteristics in InGaAsSb/GaSb junctions grown by Liquid Phase Epitaxy**  
*Victor Hugo Compeán Jasso, Francisco Javier de Anda Salazar, Francisco Sánchez Niño, Viatcheslav Andreevich Mishurnyi*

**[ THF-272 ] Design of calcium phosphate coating for biomedical applications using a base dual layer of TiN/TiO<sub>2</sub> to improve the substrate adherence**

*Alix Quirama, Gilberto Bejarano, Jaime Osorio, Juan Manuel Meza*

**[ THF-294 ] Variation microwave irradiation time in the synthesis of films ZnO:Mn, obtained by MWCBD**

*Elia Viridiana Reyes Cervantes, Reina Galeazzi Issasmendi, Enrique Rosendo Andrés, Tomas Díaz Becerril, Godofredo García Salgado*

**[ THF-315 ] The effect of the substrates (Si and quartz) on the properties of fluorine-doped zinc oxide prepared by sol-gel spin-coating**

*Gonzalo Alonso Velázquez-Nevárez, Jorge Roberto Vargas-García*

**[ THF-329 ] Structural Characterization of TiN and CN coatings synthesized on glasses and silicon substrates by DC pulse magnetron sputtering**

*Ingrid Marcela Mendoza Mendoza, José Martín Yañez Limón, Rafael Ramírez Bon, José Manuel Juárez García, José Arturo Toscano Giles, Oscar Gómez Guzmán*

**[ THF-378 ] Structural and Functional Properties of ZnO/Si heterojunction structures fabricated by USP technique from non-aqueous solutions**

*G. Flores-Carrasco, G. Flores-Carrasco, S. Alcántara-Iniesta, B.S. Soto-Cruz, J. Chávez-Galán, L. Muñoz-Fernandez, O. Milosevic, M.E. Rabanal*

**[ THF-386 ] Optical and structural analysis of p-type ZnO:Ag,N thin films**

*R. Gómez Rosales, J. J. Ortega, M. L. Pérez Arrieta, V. H. Méndez García, O Sanchez Garrido, J. J. Araiza*

**[ THF-402 ] Optical, structural and electrical characterization of sol-gel spin coated M: ZnO (M= Al, Al-N y Ag-N) thin films**

*Raúl Ivan Sánchez Alarcón, Pedro Rodriguez Canto, Juan Martinez Pastor, Miguel Aguilar Frutis, Gilberto Alarcón Flores, Ciro Falcony Guajardo*



**[ THF-458 ] Annealing Effect on the structural and morphological properties of Pro.7Ca<sub>0.3</sub>MnO<sub>3</sub> Thin Films growth on substrates of SrTiO<sub>3</sub> (100)**

*Carlos William Sánchez, Pedro Antonio Prieto Pulido, María Elena Gómez de Prieto, Wilson Lopera Muñoz*

**[ THF-460 ] Synthesis and Characterization of AZO thin films grown by balanced DC-sputtering**

*Javier Eliel Morales Mendoza, Alma Rocio Rivera Gómez, Jose Alberto Duarte Moller*

**[ THF-470 ] Rietveld analysis of lattice parameters zinc oxide films grown by PLD**

*José Alfredo Marín Romero, Román Ernesto Castro Rodríguez, Patricia Quintana Owen, Jorge Marín Romero*

**[ THF-495 ] ZnO thin films deposited by Sol-Gel from precursor solutions containing different concentrations of graphene.**

*Laura Lizeth Barajas Perez, Jiaming Huang, A. Zamudio Ojeda, A. Pérez Centeno, M. A. Santana Aranda, Enrique Camps, J.G. Quiñones Galván*

**[ THF-526 ] A comparison of the properties titanium nitride films produced by dc and pulsed dc magnetron sputtering**

*Yuri Lizbeth Chipatecua Godoy, Jhon Jairo Olaya Flórez, Oscar Ceballos Sánchez, Zeuz Montiel González, Wencel De La Cruz, Edgar Cruz Valeriano, Alejandro Torres Ochoa, Alberto Herrera Gomez*

**[ THF-553 ] Fabrication and characterization of zinc oxide double layer anti-reflective coating**

*J. Vazquez Bañuelos, M. L. Pérez Arrieta, H. Tototzintle Huittle, C. Falcony, J. J. Araiza, J. J. Ortega*

## **Tribology**

**[ TRB-79 ] Tribological behavior of a martensitic stainless steel 420 ESR hardened by means of a thermochemical treatment using a national boriding mixture.**

*Sarai del Ángel Cruz, Rafael Carrera Espinoza, Ulises Figueroa López, J. Antonio García Macedo, Germán Palacios Quintas, Héctor Adrián de León Olarte, Rafael Carrera Espinoza*

**[ TRB-202 ] Comparison of the tribological behavior of a tool steel: coated with AlCrN versus conventional quenching & tempering treatment, under dry sliding conditions.**

*Rafael Carrera Espinoza, Rafael Carrera Espinoza, Ulises Figueroa López, Ricardo Diego Torres, J. Antonio García Macedo, Oscar Armando Gómez Vargas*

**[ TRB-448 ] Fabrication and wear properties of co-deposited Ni-Cr and Ni-Cr-B nanocomposites coatings**

*Jorge Morales Hernández, Araceli Mandujano Ruíz, Jaime Camargo González, Viviana Leyva Hernández*

**Wednesday**



		<b>Wednesday September 28th</b>	
09:00	09:45	PLENARY 5: Straightforward synthesis of ZnO nanostructures compatible with silicon technology, <i>Miguel Melendez</i> , Cinvestav-IPN, México SALON EL DORADO	
09:45	10:30	PLENARY 6: Production of refractive structures and waveguide integrated optical devices by femtosecond laser structuring, <i>Javier Solis</i> , Instituto de Óptica, CSIC, Spain SALON EL DORADO	
10:30	10:45	COFFEE BREAK	
		<b>NANOSTRUCTURES SALON EL DORADO</b>	<b>BIOMATERIALS AND POLYMERS SALON BUGAMBILIAS</b>
10:45	11:00	INVITED TALK [299] Persistent nanophosphors for solar hydrogen generation, <i>Luis Armando Diaz-Torres</i>	INVITED TALK [589] Combination of magnetic nanoparticles with polymers: examples of magnetic responsive materials for drug delivery and water remediation, <i>Marcelo Henrique Sousa</i>
11:00	11:15		
11:15	11:30	[299] Synthesis, characterization and photocatalytic studies of nanoparticles stabilized in/on zeolite hosts, <i>Vitalii Petranovskii</i>	[90] Polycarbonate Material to Detect Gas Radon in the Ancient Cuexcomate Geysers in Puebla City, Mexico, <i>Blanca Estela Zendejas Leal</i>
11:30	11:45	[21] Development of novel materials for nanotechnology-based remediation of petroleum impurities from water, <i>Boris Kharisov</i>	[201] Polymer nanocomposites for heat exchangers properties evaluation, <i>Victor Cruz-Delgado</i>
11:45	12:00	[296] Synthesis and Characterization of $MnxZn_{1-x}Fe_2O_4$ : An Optimization of Structural and Magnetic Property for Possible Applications, <i>Samuel Ezequiel Almanza Morales</i>	[215] Synthesis and characterization of alumina/hydroxyapatite spheres, <i>Valeria Guillen Valdez</i>
12:00	12:15	COFFEE BREAK	
12:15	12:30	INVITED TALK [208] Hydrogen diffusion in disordered Ti-V-Cr hydrogen storage alloys: NMR and DFT studies, <i>M. G. Shelyapina</i>	[234] Development of hydroxyapatite and bio-glass composite through the electrospinning, <i>Jesús Alberto Garibay Alvarado</i>
12:30	12:45		[273] Synthesis and characterization of a chitosan-cholesterol composite projected to tissue engineering application, <i>Alma Jahel Carmona Alanís</i>
12:45	13:00	INVITED TALK [13] Control of Adsorption Properties of Deposited Nanoparticles by Electric Potential, <i>Maksim Grishin</i>	[391] Synthesis of a resin recycled polyethylene terephthalate and evaluation of their influence on the mechanical properties of a particular modified, <i>José Miguel Mendivil Escalante</i>
13:00	13:15		[515] In vitro Comparative Study of Adhesion Force in Dentin of Three Cement Sealers BC-Sealer, AH-Plus and MTA Fillapex, <i>Benjamin González Vizcarra</i>
13:15	13:30	[53] Determination of optimum concentration of conductivity nanoparticles in chitosan nanocomposites, <i>Evgen Prokhorov</i>	[545] Analysis of Mechanical Properties of RBC Membrane Obtained by RT-AFAM, <i>Eleazar Leon Sarabia</i>
13:30	15:30	LUNCH	

COURSE E: Pulsed laser ablation synthesis of clusters and nanostructured materials, *Alexander V. Bulgakov*, Institute of Thermophysics, Russia, SALON LAS GARZAS



		SEMICONDUCTORS SALON EL DORADO	ADVANCED MATERIALS SYNTHESIZED BY CHEMICAL ROUTES SALON BUGAMBILIAS	TECHNICAL TALK: Atomic Layer Deposition and Self Assembled Monolayers – From Superconductivity to Selective Area Deposition, Adam Bertuch, Ultratech-CN, SALON LAS GARZAS
15:30	15:45	INVITED TALK [451] What 's up Mr. Schottky?, <i>Jesús Leonardo Heiras Aguirre</i>	INVITED TALK [406] The Sol-Gel Method as a Chemical Alternative for Design New Hybrid Materials, <i>Miguel Angel Garcia Sanchez</i>	
15:45	16:00			
16:00	16:15	[195] Temperature dependence of electrical parameters of PEDOT:PSS/ZnO Schottky barrier diodes, <i>Norberto Hernandez- Como</i>	[236] Cytotoxicity studies of poly-ε-caprolactone/silver nanoparticles, <i>Cristian Alfonso Gonzalez-Torres</i>	
16:15	16:30	[323] Optical constants of ZnO and ZnO:Zr thin films grown by rf sputtering technique, <i>Irving Gazga- Gurrion</i>	[243] Dyes removal by photo and photo-electrocatalysis using TiO <sub>2</sub> doped with Ag and Au, <i>I. Olvera-Rodriguez</i>	
16:30	16:45	[61] Nature of the thermoelectric power in bipolar semiconductors, <i>Yuri Gurevich</i>		
16:45	17:00	COFFE BREAK		
17:00	17:15	[178] Nonlinear charge transport in bipolar semiconductors due to electron heating, <i>Sergio Molina Valdovinos</i>	[393] Preparation of composites based on polymethylmethacrylate (PMMA) / 3-trimethoxysilyl propyl methacrylate (TMSPM) / aluminum trioxide (Al <sub>2</sub> O <sub>3</sub> ) sol gel route. Influence of the concentration of Al <sub>2</sub> O <sub>3</sub> , <i>Julia Maria Ortiz Reyes, Aidé Sáenz Galindo</i>	
17:15	17:30	[186] Effect of synthesis temperature in the properties of TiO <sub>2</sub> obtained by molten salt method, <i>Constanza Ibeth Koop Santa</i>	[246] An infrared and <sup>27</sup> Al NMR study of porous α-alumina support from aluminum formate, <i>Ivette Giovana Araiza Sáenz</i>	
17:30	17:45	[274] Properties of TiO <sub>2</sub> :Eu <sup>3+</sup> nanofibers, <i>M. Zapata Torres</i>	[24] Development of Si/PbTe photodiode by combination of Photo Chemical Bath Deposition and Chemical Vapor Deposition techniques, <i>Yuri Vorobiev</i>	
17:45	18:00	[396] Structural, nanoelectrical and optoelectronic characterization of ZnO/Al films prepared by spray pyrolysis, <i>Javier Armando Baron Miranda</i>	[210] Photoelectrocatalytic reactor for degradation of Methyl Red dye in aqueous solution using Au doped TiO <sub>2</sub> , <i>R. Hernandez</i>	
18:00	18:15	[242] Impact of the stacking sequence in the atomic content of CZTS deposited by chemical bath, <i>JJ Esquivel-Marin</i>	[468] Thermal and Mechanical Properties of Zr <sub>57.19</sub> Al <sub>10.7</sub> Ni <sub>10.7</sub> Cu <sub>21.41</sub> - Zr <sub>52.23</sub> Ni <sub>11.94</sub> Al <sub>11.94</sub> Cu <sub>23.88</sub> Bulk Metallic Glasses, <i>Carlos Ernesto Borja Soto</i>	
18:15	18:30	COFFE BREAK		
18:30	19:15	PLENARY 7: Adsorption on Pore Cavities of assorted geometries: Design of Metal-organic frameworks: Applications from catalysis to gas adsorption, <i>Berenice González</i> SALON EL DORADO		
19:15	20:00	PLENARY 8: Second harmonic generation in nanostructured metamaterials, <i>Luis Mochan, UNAM, México</i> SALON EL DORADO		
20:00	22:00	POSTER SESION 2 SALON GAVIOTAS		





## Poster Session II Wednesday

### Ab-initio Calculations and Supercomputing

[ ACS-27 ] **DFT Study of surface F and Cl bonds effects on the electronic states of Si terminated porous SiC,**

*Karina Gabriela Madrigal Carrillo, Marbella Calvino Gallardo, Alejandro Trejo Baños, Margarita Clarisaila Crisóstomo Reyes, Norma Elizabeth Pérez Tejada Rojas, Miguel Cruz Irisson*

[ ACS-227 ] **First principles calculations on strained BiFeO<sub>3</sub> using Quantum Espresso**

*H'Linh H'Mok, Jordi Ribas Ariño, Espiridión Martínez Aguilar, Lourdes Mestres, Oscar Raymond*

[ ACS-326 ] **Study of structural and electronic properties of a PbS quantum dot supported to TiO<sub>2</sub> nano-particle**

*Tania G. Diaz Rodriguez, Jesus Muñoz Soria, Mauricio Pacio Castillo, Hector Juarez Santiesteban*

[ ACS-511 ] **theoretical study of the novel nitride cluster quasi-fullerenes**

*Christian A. Celaya, Luis E. Sansores*

[ ACS-573 ] **Sulfur dioxide adsorption on silicane: First principles studies**

*S. Torres-Morales, J. Castro-Medina, A. Sanchez-Castillo, L. Morales de la Garza, G H. Cicoletzi*

### Atomic Layer Deposition

[ ALD-87 ] **Refractive index and bandgap variation in Al<sub>2</sub>O<sub>3</sub>-ZnO Ultrathin Multilayers Prepared by Atomic Layer Deposition**

*Javier Alonso Lopez Medina, Eduardo Solorio, Hugo Borbon Nuñez, Felipe Castillon, Roberto Machorro Nicola Nedeu, Mario Farías Sánchez Hugo Tiznado*

[ ALD-203 ] **Analysis of Al<sub>2</sub>O<sub>3</sub> as coating for solar cells by ALD**

*Jesus Alfredo Hernández-Marquez, Jose Luis Enriquez-Carrejo, Manuel Antonio Ramos-Murillo, Pierre Giovanni Mani-González*

[ ALD-374 ] **Electrical characterization of ALD Al<sub>2</sub>O<sub>3</sub>/ Y<sub>2</sub>O<sub>3</sub> nanolaminates**

*Jesús Martínez Javier López, Roberto Machorro, David Domínguez, Eduardo Murillo, Mario Curriel, Nikola Radnev, Mario Farías, Hugo Tiznado*

[ ALD-390 ] **Enhancing the Oxidation resistance of diamond powder by the application of Al<sub>2</sub>O<sub>3</sub> conformal coat by atomic layer deposition**

*D. Dominguez, H. Tiznado, H.A. Borbón-Nuñez, F. Muñoz-Muñoz, J.M. Romo-Herrera, G. Soto*

[ ALD-417 ] **Design, assembly and control of an Atomic Layer Deposition System (ALD)**

*Hugo Leos-Mendez, Jesus Alfredo Hernández-Marquez, Jose Luis Enriquez-Carrejo, Edgar López-Luna, Manuel Antonio Ramos-Murillo, Pierre Giovanni Mani-González*

[ ALD-508 ] **Flexible dye sensitized solar cells using Atomic Layer Deposition**

*Manuel Meléndrez, Francisco Solís Pomar, Eduardo Pérez Tijerina, Miguel José Yacamán, Álvaro Mayoral García, Eduardo Martínez Guerra*



## Advanced and Multifunctional Ceramics

### [ AMC-191 ] Synthesis and characterization of glasses and glass-ceramics in the $K_2O$ -BaO-PbO- $B_2O_3$ - $Al_2O_3$ -TiO<sub>2</sub> SYSTEM

María Azucena González Lozano, Patricia Ponce Peña, Miguel Ángel Escobedo Bretado, René Homero Lara Castro, Alicia Rodríguez Pulido, Diola Marina Núñez Rodríguez, Adriana Tejada, Omar Novelo Peralta

### [ AMC-265 ] Study of the structural stability on polycrystalline superconducting phases of RE<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>18</sub> (RE = Y+3, Sm+3) systems

F.P. Reyes-Ixta, L. Pérez-Arrieta, F. Puch-Ceballos, J. Ortíz-Saavedra, A. Puga-Candelas

### [ AMC-359 ] Synthesis of Aluminum Alloys 2024-Cerium Oxide Composite by Mechanical Alloying

Francisco Javier Baldenebro-Lopez, Hector Camacho-Montes, María Cristina Maldonado-Orozco, Claudia Rodríguez-Gonzalez, Cynthia Deisy Gomez-Esparza, Roberto Martínez-Sanchez

### [ AMC-409 ] Fabrication and structural characterization of lead-free ferroelectric ceramics of BCTZ-BFN system by alternative route

Noe Daniel Ruiz Araujo, Ramon Alvaro Vargas Ortíz, Juan Muñoz Saldaña, Francisco Javier Baldenebro López, Laura Guadalupe Ceballos Mendivil, Rody Abraham Soto Rojo, Clemente Guadalupe Alvarado Beltrán

### [ AMC-521 ] Effect of MoO<sub>3</sub> on cordierite ceramics sintering and crystallization

Manuela Alejandra Zalapa Garibay, Ana María Arizmendi Morquecho, Simón Yobanny Reyes López, Manuela Alejandra Zalapa Garibay

### [ AMC-538 ] Temperature dependence of Raman scattering in LiNbO<sub>3</sub> powders

Eva María Cabral-Larquier, Cesar David Fierro-Ruiz, Juan Francisco Hernandez-Paz, Enrique Viguera-Santiago, Bárbara Farias, Erasto Armando Zaragoza-Contreras, Rurik Farias

### [ AMC-562 ] Synthesis of silicon carbide using the IER-UNAM solar furnace

Laura G. Ceballos-Mendivil, Rafael E. Cabanillas-Lopez, Judith C. Tanori-Cordova, Heidi I. Villafan-Vidales, Camilo A. Arancibia-Bulnes, Claudio A. Estrada

## Advanced Materials Synthesized by Chemical Routes

### [ AMSCR-55 ] Synthesis and characterization of zeolites from fly ash obtained from the combustion of coal

Lorena Martínez Maldonado, Jose Antonio Calderon Arenas, Gabriel Peña Rodríguez

### [ AMSCR-197 ] BaTiO<sub>3</sub>-Co<sub>1-x</sub>Gd<sub>x</sub>Fe<sub>2</sub>O<sub>4+d</sub>: Synthesis, characterization and properties

A. Tijerina-Rosa, A. Tijerina-Rosa, G. F. Hurtado-López, B. A. Puente-Urbina, A. Martínez-Luévanos, Sagrario M. Montemayor



**[ AMSCR-204 ] Study on grow process and optical properties of ZnO microrods synthesized by hydrothermal method**

*Héctor Aníbal Felix Quintero, Jorge Noé Angulo Rocha, Héctor Octavio Murrieta Sanchez, José Manuel Hernández Alcántara, Enrique Camarillo García, María Cristina Flores Jiménez, Cástulo Anselmo Alejo Armenta, Manuel García Hipólito, Francisco Ramos Brito*

**[ AMSCR-244 ] Synthesis and characterization of core-shell structures based on Fe<sub>3</sub>O<sub>4</sub>@TiO<sub>2</sub>**

*Diego De Santiago, Carlos Guzman, Eduardo A. Elizalde-Peña, Marina Vega, Karen Esquivel*

**[ AMSCR-260 ] Structural and luminescence analysis of ZnS:Mn nanoparticles obtained by the hydrothermal method**

*M. C. Muñoz-Ramírez, L. Pérez-Arrieta, F. Puch-Ceballos, A. Puga, J. Mendoza-Guzman*

**[ AMSCR-266 ] Synthesis of mesoporous TiO<sub>2</sub> using a biological template**

*Armin Hernández-Gordillo, Antonio Campero, Andrés Hernández-Arana, L. Irais Vera-Robles*

**[ AMSCR-316 ] Use of UV-VIS and partial least square method to determine the Al concentration in ZnO:Al thin films**

*Christian Alejandro Mercado Ornelas, José de Jesús Araiza Ibarra, José Juan Ortega Cigala, Cuauhtemoc Araujo Andrade, Felipe Roman Puch Ceballos, Hugo Tototzintle Huitle*

**[ AMSCR-449 ] Preparation and characterization of TiO<sub>2</sub> nanoparticles in rutile phase.**

*Ernesto Cubillas, Karin Monserrat Alvarez, Jose Joaquin Alvarado, Blanca Susana Soto, Jose Miguel Angel Espinosa, Salvador Alcantara*

**[ AMSCR-533 ] Preparation and study of optical properties of ZnO:Eu<sup>+3</sup> nanoparticles by the polyol method**

*V.L. Medina-Llamas, L. Pérez-Arrieta, J.J. Ortega Sigala, F. Puch Ceballos, A. Puga*

**[ AMSCR-591 ] XPS study of Cu<sub>2</sub>ZnSnS<sub>4</sub>/ CdS interface deposited by SILAR method**

*Raquel Garza-Hernández, Shadai Loredo-Lugo, F. Servando Aguirre-Tostado*

## **Biomaterials and Polymers**

**[ BIO-63 ] Biological and mechanical properties evaluation of glass ionomer cement added with quaternary ammonium compounds and silver nanoparticles.**

*Silvia Munguía Moreno, Norma Verónica Zavala Alonso, Nuria Patiño Marín, Gabriel Alejandro Martínez Castañón, Claudio Cabral Romero*

**[ BIO-219 ] Weathering studies of polypropylene carbon nanoparticles nanocomposites for solar water heaters**

*Janett A. Valdez-Garza, Víctor J. Cruz-Delgado, Jose M. Mata-Padilla, Juan G. Martínez-Colunga, Carlos A. Ávila-Orta*

**[ BIO-284 ] Synthesis and thermal characterization of hydroxyapatite-collagen composite powders obtained by sol-gel technique**



**[ BIO-320 ] Effect of drying temperature on Agave tequilana leaves: A pretreatment for releasing reducing sugars for biofuel production**

*Jorge Carlos Ávila Gaxiola, Oscar Jesus Velarde Escobar, Francisco Ramos Brito, Gelacio Atondo Rubio, Cristo Manuel Yee Rendon, María Elisa Evangelina Ávila Gaxiola,*

**[ BIO-368 ] Modified zinc nanoparticles encapsulated in a polymeric matrix**

*Rebeca Betancourt-Galindo, Sandra Cecilia Esparza-González, Bertha Puente-Urbina*

**[ BIO-433 ] Proposed treatment in wound healing in diabetes patient using activating growth factors and chitosan**

*Mirna López-Fuentes, Jesús Reyes Fernández, Monserrat Alejandra Herrera Pérez, Elizabeth León- Cruz, Pamela Salvador, B. Zenteno-Mateo, J. A. Rivera-Márquez, M. C. Mendoza-Herrera, M. P. Sampedro, M. Cárdenas-García*

## **Characterization and Metrology**

**[ CHM-180 ] Optical characterization of Titanium Dioxide TiO<sub>2</sub> by Spectral Correlation technique in transmission and Backscattering configuration**

*Angel Adalberto Duran Ledezma, Miguel García Rocha, Luis Fernando Rojas Ochoa*

**[ CHM-254 ] Mechanical properties of TaN<sub>x</sub>/TaC<sub>y</sub> stack coatings**

*Karla Paola Valdez Núñez, Karla Paola Valdez Núñez, Diego Espinosa-Arbeláez, Juan Muñoz-Saldaña, Wencel De la Cruz*

**[ CHM-292 ] Characterization of hard layers FeB/Fe<sub>2</sub>B type obtained on the surface of a AISI H13 steel by using a mixture of own formulation**

*Ignacio Mendoza Vázquez, Rafael Carrera Espinoza, Enrique Hernández Sánchez, Ulises Figueroa López, J. Antonio García Macedo, Ana Laura García Cervantes, Alexis Chino Ulloa*

**[ CHM-321 ] Thermal characterization on porous silicon**

*José Antonio Calderón Arenas, Uriel Nogal Luis, Ernesto Marín Moares, Mónica Rosalía Jaime Fonseca, Antonio Gustavo Juárez Gracia, José Bruno Rojas Trigos, Rocío Alejandra Muñoz Hernández*

**[ CHM-425 ] Electrical measurement for Schottky junction of n-ZnO:Al by means of Atomic Force Microscopy**

*J. Eduardo Rivera López, L. Alejandro Álvarez Zapata, P. Alejandro Tamayo Meza, G. Esmeralda Orozco Durán*

**[ CHM-496 ] Mechanical and Optical Properties of Coatings obtained from Funtionalized Nanoparticles for Self Cleaning Applications,** *Miguel Angel Esneider Alcalá, Arturo Roman Vázquez Velázquez, Jaime Alvarez Quintana, Sergio Alfonso Pérez García, Liliana Licea Jiménez*

**[ CHM-550 ] Remote-plasma nitridation of hafnium oxide thin films grown by ALD**

*Jorge Alejandro Torres-Ochoa, Yuri Lizbeth Chipatecua-Godoy, Zeuz Montiel-Gonzalez, Orlando Cortazar-Martinez, Eleazar Leon-Sarabia, Alberto Herrera-Gomez*



## Luminescence Phenomena: Materials and Applications

### [ LPM-298 ] Phosphors photoluminescence of $Y_2O_3$ : Er, Yb, Li and composites films with PMMA

*E. F. Huerta, S. Carmona-Téllez, J.G. Cabañas-Moreno, C. Falcony*

### [ LPM-578 ] Rare earth ions and Ag nanoaggregates in silica-hafnia sol gel films: broadband downshifting materials for solar cells, F. Enrichi, F. Enrichi, F. Enrichi, C. Armellini, G. Battaglin, E. Cattaruzza, F. Coccetti, M. Ferrari, M. Ferrari, F. Gonella, F. Gonella, M. Mardegan, A. Martucci, A. Quandt, G. C. Righini, E. Trave, L. Zur, L. Zur

### [ LPM-585 ] Enhancement of the photoluminescence of succinimide – Eu(III) complexes by acid treatment

*G. Lesly-Jiménez, J. U. Balderas, Ciro Falcony Guajardo*

### [ LPM-532 ] Comparing kinetic parameters values of nano-structures using interactive multi-trap system model(IMTS) and non-interactive multi trap system(NMTS)

*Alejandro Ortiz Morales*

## Microelectronics and MEMS

### [ MEM-33 ] I-V characteristic of OPFETs devices in presence of carbon nanotubes into the channel

*Juan Pablo Aguilar González, Ramón Gómez Aguilar, Gerardo Ortega Cervantes, Adrián Antonio Castañeda Galván*

### [ MEM-276 ] Design of an Electroactive Textile Fiber for Thermoregulation

*Edgar González Flores, Héctor Báez Medina, Germán Quiroz Merino*

### [ MEM-357 ] Dielectric constant determination of $CO_3O_4$ phase produced by thermal decomposition

*Georgina Garcia Pacheco, Mayahuel Ortega Aviles, Salvador Mendoza Acevedo*

### [ MEM-372 ] Flexible electronics for medical applications

*Natiely Hernandez, Wilfrido Calleja, Francisco Renero, Daniela Díaz, Armando Hernández, Ignacio Juárez, Víctor Aca, Pablo Alarcón*

### [ MEM-488 ] Anisotropic silicon etch to house CMOS compatible mechanical microstructures

*Carlos Ramón Báez Álvarez, Mónico Linares Aranda, Wilfrido Calleja Arriaga, Alfonso Torres Jacome, Luis Hernández Martínez*

### [ MEM-551 ] Comparison in the electric characteristics of $TiN/HfO_2/Si(100)$ and $TiN/HfO_2-xNx/Si(100)$ structures in MOS like devices before and after a nitridation process

*Orlando Cortazar-Martínez, Jorge Alejandro Torres-Ochoa, Yuri Lizbeth Chipatecua-Godoy, Edgar Cruz-Valeriano, Andres de Luna-Bugallo, Gabriela Molar-Velazquez, Alberto Herrera-Gomez*



## Nanostructures

[ NSN-2 ] **Self-assembled InAs Quantum Dashes on GaAs(221) and GaAs(775) High-Index Substrates**  
*Eric Eugenio López, José Ángel Espinoza Figueroa, Irving Eduardo Cortes Mestizo, Leticia Ithsmel Espinosa Vega, Andrei Yu Gorbachev, Satoshi Shimomura, Víctor Hugo Méndez García*

[ NSN-29 ] **The effect of metal deposition order on the synergistic activity of bimetallic gold catalysts for oxidation of carbon monoxide**

*Sergey Nikolaev, Irina Krotova, Marina Shilina*

[ NSN-49 ] **Mono and bi-metallic nanoparticles of Au and Au@Ag at room temperature - Optical properties and application**

*R. Britto Hurtado, M. Cortez-Valadez, M. Flores-Acosta, H. Arizpe-Chávez, Ramón A. B. Alvarez*

[ NSN-77 ] **Vibrational properties of Ag and Au Nanoparticles obtained by green synthesis**

*Ramón A.B. Alvarez, M. Cortez-Valadez, R. Britto Hurtado, H. Arizpe-Chávez, M. Flores-Acosta*

[ NSN-123 ] **Preparation of Trirutile-Type Magnesium Oxide Nanostructures for their Potential Application as Gas Sensors**

*Luis Daniel González Tovar, Alex Guillén Bonilla, Héctor Guillén Bonilla, Verónica María Rodríguez Betancourt, José Trinidad Guillén Bonilla, Martín Flores Martínez, Juan Reyes Gómez*

[ NSN-151 ] **Synthesis of copper oxide nanoparticles via laser ablation in liquids**

*Mariana Arreguín Campos, E Campos Gonzalez, A Guillen Cervantes, J Santoyo Salazar, O Zelaya Angel, G Contreras Puente, F de Moure Flores*

[ NSN-184 ] **Morphological, structural and optical properties of ZnO thin solid films conformed by nanoleafs or micron/submicron cauliflowers.**

*Jorge Noé Angulo, Oscar Velarde Escobar, Cristo Yee Rendón, Gelacio Atondo Rubio, Manuel García Hipólito, Enrique Camarillo García, Francisco Ramos Brito*

[ NSN-205 ] **Growth of alumina oxide nanowires**

*Jose Francisco J. Flores Gracia, Jose Alberto Luna Lopez, Rodrigo Rodolfo Gonzalez Jimenez, Miguel Dominguez, Javier Martinez Juarez*

[ NSN-213 ] **Surface structure formation of 1.0-MeV Au<sup>+</sup> ion bombardment of Ti and Ti-6Al-4V**

*Rebeca Trejo-Luna, Jorge Rickards, Rodolfo Cuerno, Miguel Angel Garcia, Jaqueline Cañetas-Ortega, Luis Ricardo De la Vega, Luis Rodríguez-Fernández*

[ NSN-226 ] **Seebeck effect in Thue-Morse graphene-based structures**

*Nidia Esther Moreno-Cabrera, Sergio Molina-Valdovinos, Isaac Rodríguez-Vargas*

[ NSN-231 ] **Synthesis and Characterization of Nanostructured NiSb<sub>2</sub>O<sub>6</sub> Powders**

*Héctor Guillén Bonilla, Verónica María Rodríguez Betancourt, José Trinidad Guillen Bonilla, Martín Flores Martínez, Alex Guillen Bonilla, M. A. González, Santoyo Salazar Santoyo Salazar, Lorenzo Gildo Ortiz*

[ NSN-248 ] **Nylon fibers with copper nanoparticles**

*Zelene Patrocinio Mendoza-Gonzalez, Simón Yobanny Reyes-Lopez*



**[ NSN-263 ] Recycled aluminum reinforced with carbon nanotubes for its use in spatial truss structures**

*Karen Esquivel Escalante, Alma Rosa Zamudio Méndez, Martha Elva Pérez Ramos, Eduardo Arturo Elizalde Peña, José Ysmael Verde Gómez*

**[ NSN-279 ] Fabrication of carbon nanoparticles via spray pyrolysis method using metal phthalocyanines as catalyst precursors**

*Antonio Alanís, Beatriz Ortega, Oxana Kharissova, Hugo Galindo*

**[ NSN-282 ] Formation of graphene from graphite by non-standard route in mild conditions using theraphthal and ascorbic acid**

*Jared Rodríguez, Oxana Kharissova, Boris Kharisov*

**[ NSN-303 ] High resolution measurement of water levels in high vacuum environments**

*Fabian N. Murrieta-Rico, Vitalii Petranovskii, Oleg Sergiyenko, Daniel Hernandez-Balbuena, Oscar Raymond*

**[ NSN-306 ] The structural response of mordenite during copper ion-exchange treatment**

*Yurii Zhukov, Marina Shelyapina, Vitalii Petranovskii, Mark Tsodikov, Boris Shub*

**[ NSN-308 ] Chemical co-precipitation route for synthesis of magnetite nanoparticles: nanostructure and magnetic properties.**

*Lucero Mescli Hernandez-Cedillo, Rosa María Lima-García, Cristobal González-Meza Gómez-Farías*

**[ NSN-331 ] Nonlocal bianisotropic metamaterial response of 3D periodic nanostructures**

*Carlos Ernesto Ávila-Crisóstomo, Anatolii Konovalenko, Felipe Pérez-Rodríguez*

**[ NSN-358 ] Resistance to compression of mortar with additive fluidizing and nanoparticles of SiO<sub>2</sub>**

*Manuel de Jesús Ungsson Nieblas, Ramón Corral Higuera, Efraín Rubio Rosas, Rosalba Fuentes Ramírez, Andrés Castro Beltrán, José de Jesús Campos Gaxiola, Susana Paola Arredondo Rea, Jorge Luis Almaral Sánchez*

**[ NSN-369 ] Growth and characterization of different types of nano and micro-structures of Zinc Oxide via simple oxidation of metallic Zinc**

*Carlos Bueno, Mauricio Pacio, Tomás Díaz, Jose Alejandro García, Cesia Guarneros, Héctor Juárez*

**[ NSN-384 ] Structural analysis of calcium phosphate nanoparticles by Rietveld refinement and electron diffraction**

*María Magdalena Mendez-Gonzalez, Maria Guadalupe Gonzalez, Nestor Gabriel Sanchez*

**[ NSN-399 ] Nanomaterials based glycidyl polymethacrylate (PMAG) and wall carbon nanotubes multiple (NTCPM) modified by microwave**

*Leticia Arizbeth Ramirez Mendoza, Aidé Saénz Galindo, Lluvia López López, Pablo González Morones*

**[ NSN-408 ] Effect of water content on the morphology of TiO<sub>2</sub> nanotubes obtained by electrochemical etching**

*Eric Rolando Moreno Close, Arturo Chávez Chávez, José G. Quiñones Galván, Armando Pérez Centeno, Miguel Ángel Santana-Aranda, Martín G. Zapata-Torres*





[ NSN-411 ] **Nanoparticles of MnO/FeO solid solution and its magnetic properties**

*Diana María Carrillo Flores, Lizeth Vázquez Zubiato, José Luis Enríquez Carrejo, José Trinidad Elizalde Galindo*

[ NSN-441 ] **Chemisorption of adenine-alkali doped Si nanowires: ab-initio study**

*Francisco de Santiago, Álvaro Miranda, José Luis Cuevas, Alejandro Trejo, Luis Antonio Pérez, Miguel Cruz-Irisson*

[ NSN-447 ] **Interaction of platforms carbon nanostructures with cellular systems**

*Selene Acosta, Verónica Pérez-Luna, Said Aranda-Espinoza, Mildred Quintana*

[ NSN-464 ] **Coarsening in the homoepitaxy on GaAs high-index substrates grown by MBE: theory and experiment**

*Reyna Méndez Camacho, Victor Hugo Méndez García, Donato Valdez Pérez, Máximo López López, Esteban Cruz Hernández*

[ NSN-471 ] **Tuning of refractive index in Al-doped ZnO films by rf-sputtering using oblique angle deposition technique**

*Enrique Josué Chan y Díaz, Enrique Josué Chan y Díaz, Eduardo Denis Alcocer, Román Ernesto Castro Rodríguez, Augusto Iribarren Alfonso, Augusto Iribarren Alfonso*

[ NSN-478 ] **CdTeS nanoparticles obtained by reactive laser ablation of a solid CdTe target in thiourea solutions**

*Regino Sánchez Uriarte, Jose Humberto Vazquez Cazares, J.G. Quiñonez Galván, G. Gómez Rosas, A. Chávez Chávez, A. Pérez Centeno, M.A. Santana Aranda*

[ NSN-483 ] **Synthesis of Carbon Nanostructures from Naphtha 35/60**

*Jael Madai Ambriz-Torres, Carmen Judith Gutiérrez-García, Diana Litzajaya García-Ruiz, Francisco Gabriel Granados-Martínez, José de Jesús Contreras-Navarrete, Ezequiel Huipe-Nava, Leandro García-González, Luis Zamora-Peredo, Lada Domratheva-Lvova*

[ NSN-494 ] **Towards self-cleaning coatings based on alumina-ceria nanoparticles for application in photovoltaic panels**

*Lilia Magdalena Bautista Carrillo, Miguel Angel Velasco Soto, Sergio Alfonso Pérez García, Arturo Roman Vázquez Velázquez, Liliana Licea Jiménez*

[ NSN-507 ] **Hierarchical ZnO nanostructures synthesized by CSVT for dye-sensitized solar cells**

*Marco Antonio Villagrán Ocadíz, Fernando Chávez Ramírez, Gerardo Francisco Pérez Sánchez, Arturo Morales Acevedo, Nicolas Morales, Ramon Peña Sierra, Plácido Zaca Morán, Luz del Carmen Gómez Pavón*

[ NSN-517 ] **CoSb<sub>2</sub>O<sub>6</sub> nanoparticles for the detection of polluting gases**

*Alex Guillén Bonilla, Berenice del Rocío Romero Huerta, Héctor Guillén Bonilla, Verónica María Rodríguez Betancourt, José Trinidad Guillén Bonilla, Juan Pablo Moran Lázaro, Víctor Manuel Soto García, Karina Viridiana Chávez Hernández*

[ NSN-530 ] **Raman Spectra of SWCNTs at High Temperatures: Pretreated Samples in Nitrogen Atmosphere Improve Thermal Stability in Air**

*L. I. Espinosa-Vega, A. G. Rodríguez-Vazquez, R. Guirado-Lopez, J. Molina-Duarte*

[ NSN-542 ] **Energy band diagram of p-n-p photovoltaic quantum wires**

*Reyna Méndez Camacho, José Angel Espinoza Figueroa, Esteban Cruz Hernández*





**[ NSN-560 ] Design and application of Au and Ag nanoparticles protein bound TcG<sub>1</sub> and TcG<sub>4</sub> TcG<sub>2</sub> of *Trypanosoma cruzi* for diagnosing Chagas disease**

*José Alfredo Pescador Rojas, José Esteban Aparicio Burgos*

**[ NSN-569 ] A novel W-Shape nanodiode controlled by surface states**

*Irving Eduardo Cortes Mestizo, Jose Angel Espinoza Figueroa, Eric Eugenio Lopez, Christian A. Mercado, Edgar Briones, Víctor Hugo Méndez García*

**[ NSN-571 ] Mbe growth and characterization of AlGaAs/GaAs n-p and p-n solar cells**

*J.A. Espinoza-Figueroa, I.E. Cortes-Mestizo, E. Eugenio-López, C. Mercado-Ornelas, M. López-López, E. Cruz-Hernández, V. H. Méndez*

**[ NSN-586 ] New method of synthesis of graphene from cvd in steady state**

*A. Moreno-Bárceñas, J. F. Perez-Robles, Y. V. Vorobiev, N.E. Ornelas-Soto, L. M. Avilés-Arellano, A. García-García*

## Plasma and Vacuum

**[ PLV-250 ] Influence of the mean kinetic energy of the plasma on the crystalline orientations and optical properties of ZnO thin films grown by PLD**

*Jesús Alonso Guerrero de León, José G. Quiñones-Galván, Armando Pérez-Centeno, Gilberto Gómez-Rosas, Enrique Camps, Miguel Ángel Santana-Aranda*

**[ PLV-270 ] CdTe:Sn thin films grown by pulsed laser deposition using powder as target**

*J.G. Quiñones-Galván, A. Guillén-Cervantes, E. Campos-González, J. Santos-Cruz, S.A. Mayén-Hernández, M. de la L. Olvera, O. Zelaya-Angel, G. Contreras-Puente, F. de Moure-Flores*

**[ PLV-346 ] Synthesis and characterization of p-type Ag-N dual acceptor doped ZnO thin films.**

*L. A. Sandoval Vázquez, J. J. Ortega, J. Ortiz Saavedra, F. R. Puch Ceballos, V. H. Méndez García, J. J. Araiza*

**[ PLV-413 ] Development of computing algorithms for spectral analysis in a Laser Induced Breakdown Spectroscopy system**

*Walther Lee-Cárdenas, Alan Preciado-Grijalva, Roberto Sangines, Roberto Machorro-Mejía*

**[ PLV-482 ] ZrN thin films deposition on Si under forming gas influence.**

*Alma Melissa Villegas Mercado, Hugo Tototzintle Huitle, Felipe Román Puch Ceballos, José Juan Ortega Sigala, Olga Sánchez Garrido, José de Jesús Araiza Ibarra*

**[ PLV-499 ] Effect of the increase of Sn plasma ion density on thin films deposited by simultaneous laser ablation of CdTe and Sn targets**

*E. García, A. Pérez-Centeno, E. Camps, L.P. Rivera-Reséndiz, M.A. Santana-Aranda, G. Gómez-Rosas, F. de Moure-Flores, J.G. Quiñones-Galván*

**[ PLV-543 ] Laser annealing of semiconductors nanocrystal thin films**

*A. Hernández-Hernández, L.A. Hernández-Hernández, M. Meléndez-Lira*



## Photothermal Phenomena

### [ PTP-32 ] Thermal properties measurement in rigid samples by infrared thermography and a 3D theoretical model

Rumen Ivanov Tsonchev, Ernesto Marín Moares, José de Jesús Villa Hernández, Pedro Daniel Alaniz Lumbrreras, Ernesto Olvera González

### [ PTP-319 ] Phase separation of optical absorption spectrum of mixture of turmeric and black pepper obtained by photoacoustic spectroscopy.

Margarita Lizeth Alvarado Noguez, Claudia Hernández Aguilar, Flavio Arturo Domínguez Pacheco, Alfredo Cruz Orea

### [ PTP-473 ] Comparative optical characterization of liquids by using Photopyroelectric and UV-Vis Techniques

Elizabeth Díaz Torres, Fray de Landa Castillo Alvarado, Alfredo Cruz Orea

## Renewable Energy: Solar Cells and Materials

### [ RWE-62 ] Proposed graded emitter design for efficient HIT solar cells using dichlorosilane in PECVD equipment.

Juan David Escobar Carrasquilla, Luis Andres Gómez González, Betsabeé Marel Monroy, Ateet Dutt, Guillermo Santana Rodríguez

### [ RWE-100 ] Photovoltaics windows based on CdS/CdTe heterostructure

Yaritza Enriquez Izazaga, Karla Gutierrez Z-B, Karen Rodriguez Rosales, Enrique Campos González, Ana Salomón-Preciado, M. de la L. Olvera, Orlando Zelaya-Angel, G. Contreras-Puente, Francisco De Moure-Flores

### [ RWE-109 ] Electronic density of states in bulk and surface (110) OF Mg<sub>1-x</sub>M<sub>x</sub>H (M=Al, Ni, Zn) alloys

I.E. Ramírez Platón, G. Ramírez Dámaso, F. L. Castillo Alvarado, E. Rojas Hernández, O. Ramírez Rodríguez, C. E. González Olgúin, G. Ramírez Dámaso, F. L. Castillo Alvarado

### [ RWE-176 ] Hierarchical TiO<sub>2</sub> Nanostructures in Lead Halide Perovskite Solar Cells

Oscar Andrés Jaramillo-Quintero, Marina Elizabeth Rincon González, Mauricio Solis de la Fuente, Iván Mora-Seró

### [ RWE-194 ] Prototype of a CdS/CdTe ultra-thin solar cell.

Karla Gutierrez Zayas Bazán, Ana María Salomón Preciado, Mitzzy Victoria Martínez-Sánchez, Francisco Javier de Moure Flores, Daniel Jiménez Olarte, Jorge Sastré Hernández, Salvador Gallardo Hernández, Jorge Ricardo Aguilar Hernández, Gerardo Silverio Contreras Puente

### [ RWE-217 ] Tailoring the properties of BiFeO<sub>3</sub> for photovoltaic applications through First-principles calculations

Espiridión Martínez Aguilar, H<sup>o</sup>Linh H<sup>o</sup>Mok, Ma. Guadalupe Moreno Armenta, Jesús María Siqeiros Beltrones



**[ RWE-325 ] Effect of Chemical Compounds Formed After Activation with  $\text{CHCl}_2$  and  $\text{MgCl}_2$  in CdS/CdTe Solar Cell.**

*Ricardo Mis-Fernández, V. Rejon, Ivan Rimmaudo, J. L. Peña*

**[ RWE-340 ] Oxygenated cadmium sulfide ( $\text{CdS:O}$ ) used as a window layer in thin film solar cells**

*Mariely Loeza-Poot, Eric Hernández-Rodríguez, Víctor Rejón, Ricardo Mis-Fernandez, Inés Riech, Juan Luis Peña*

**[ RWE-388 ] Simple process for the manufacture of copper iodide thin films**

*Marcos Alan Cota Leal, Miguel Martínez Gil, Mérida Sotelo Lerma*

**[ RWE-418 ] Comparative pv-performance of prototype cigs solar cells**

*Jorge Sastré Hernández, Karla Gutierrez Zayaz-Bazan, Luis A González López, Arturo Morales Acevedo, Miguel Tufiño Velázquez, Rogelio Mendoza Pérez, Gerardo S. Contreras Puente, Victor Rangel Kuoppa*

**[ RWE-474 ] Improving conditions thermal housing stake of a subdivision of the city of Oaxaca**

*Amira Maria Garcia Martinez, Rafael Alàves Ramirez*

**[ RWE-500 ] Synthesizing and characterization of thin films of a nanostructured thermoelectric material based on silicon and its alloys with Ge, H and Ar.**

*Israel Emmanuel Zapata De Santiago, Alfonso Torres Jácome*

**[ RWE-523 ] Orocessing and characterization of the  $\text{Sb}_2\text{Te}_3$  AS p+ material**

*Rogelio Mendoza Pérez, Hugo Amilcar León Bonilla, Jorge Sastre Hernández, Jorge Arenas Del Angel, Gasparin Casados, Ambrosio Leon Bonilla, Gerardo Contreras Puente*

**[ RWE-548 ] Hydrogen Generation across by Copper Doped Titania**

*Veronica De La Luz Tlapaya, Ricardo Gómez Romero*

**[ RWE-580 ] SnS thin films prepared by Chemical Spray Pyrolysis with potential application in solar cells**

*Jacob A. Andrade-Arvizu, M. F. García-Sánchez, M. Courel, F. Pulgarín-Agudelo, E. Valencia-Resendiz, E. Santiago-Jaimes, O. Vigil-Galán*

## Semiconductors

**[ SEM-26 ] Electronic and phononic properties of GaSb quantum wires: a theoretical approach**

*Moisés Ramírez Marthen, Miguel Ojeda Martinez, Alejandro Trejo Baños, Miguel Cruz Irisson*

**[ SEM-143 ] Comparison structural, morphological, optical and electrical properties of CdSe thin films growth by two different techniques, Janeth Sarmiento, Jesus Lugo, Enrique Rosendo, Tomás Díaz, Roman Romano, Crisoforo Morales, Reina Galeazzi, Godofredo García**

*Janeth Sarmiento, Jesus Lugo, Enrique Rosendo, Tomás Díaz, Roman Romano, Crisoforo Morales, Reina Galeazzi, Godofredo García*

**[ SEM-174 ] Optical and electrical characterization of Li doped PbS thin films.**

*Melissa Chavez Portillo, Hector Juarez Santiesteban, Mauricio Pacio Castillo*

**[ SEM-190 ] Lipid bilayer formation within pores in macroporous silicon**



*Xairo León Valiente, Edith Osorio de la Rosa, Héctor Juárez Santiesteban, Mauricio Pacio Castillo, Roberto Roman Koropecki*

**[ SEM-275 ] Effect of metal work function on the properties of TiO<sub>2</sub> thin films deposited by reactive RF Sputtering.**

*M. Zapata Torres, E. Valaguez Velazquez, J.L. Fernandez Muñoz, G.I. Silva Galindo, M.A. Escalona García*

**[ SEM-289 ] Numerical modelling of transport phenomena in optically excited GaN/AlN/Si heterostructures: Electrical properties**

*José Bruno Rojas Trigos, Joel Hernández Wong, Víctor Manuel Suárez Quezada, Víctor Manuel Suárez Quezada, José Antonio Calderón Arenas*

**[ SEM-333 ] Degradation Photocatalytic of phenol using oxides of ZnAl whit and whitout a Surfactant**

*Guadalupe Romero Ortiz, Monserrat Suárez Quezada, Luz Amparo Hernández Carabali, Víctor Suárez Quezada, Luis Lartundo Rojas, María de los Ángeles Mantilla Ramírez*

**[ SEM-341 ] SnO<sub>2</sub> Synthesis and its photocatalytic activity compared with TiO<sub>2</sub>**

*Maria Fernanda Galvez Lopez, Garrafa Gálvez Horacio Edgardo, Castro Beltrán Andres, Luque Moralez Priscy Alfredo, Hurtado Macias Abel, Almaral Sanchez Jorge Luis, Vargas Ortiz Ramon Alvaro, Alvarado Beltrán Clemente Guadalupe*

**[ SEM-362 ] Properties of reduced graphene oxide films**

*Liliana Arvizu Rodríguez, Felipe Caballero Briones, Ulises Páramo García, Luis Manuel Aquino Meneses, Francisco Rodríguez Melgarejo, Martín Hernández Landaverde, Sergio Jiménez Sandoval*

**[ SEM-365 ] Properties of ZnO layers for gas sensor application**

*Rodrigo Mora, Mauricio Pacio, Héctor Juárez, Cesia Guarneros, Germán Escalante*

**[ SEM-385 ] Preparation and characterization of TiO<sub>2</sub> based photocathodes for potential applications in photodegradation and photoregenerative cathodes in MFCS**

*Roberto Sanchez Sosa, Julio Omar Arias Ortiz, Javier Armando Barón Miranda, Tania Robledo, Tania Robledo, Jonathan Salvador, Jonathan Salvador, Ricardo Garcia Alamilla, Octavio Calzadilla Amaya, Francisco Javier Espinosa Faller, Sathish-Kumar Kamaraj, Fabio Felipe Chalé Lara, Felipe Caballero Briones*

**[ SEM-404 ] Study of fluorescent carbon nanoparticles derived from carbon black**

*Leticia Fornue Francisco, Carolina Estrada Moreno, Cesia Guarneros Aguilar, Juan Jesús Reyes Valdez, Mauricio Pacio Castillo, Fabio Felipe Chalé Lara, Felipe Caballero Briones*

**[ SEM-462 ] Morfologic study by afm of epitaxial layers grown since inas liquid phases on substrates isoperiodic GaAs and InGaP**

*Edith Guadalupe Castillo Baldivia, Ken Axxel Castillo Arvizy, Andrei Yu. Gorbachev, Viatcheslav Mishournyi, Francisco De Anda Salazar*

**[ SEM-498 ] Optical and structural characterization of InP quantum dots.**

*Daladier Granada, Jose Saul Arias Ceron, Juan Pedro Luna Arias, Jose Luis Herrera Perez, Delia Hurtado Castañeda, Delia Hurtado Castañeda, Rogelio Fragoso Soriano, Julio G. Mendoza Alvarez*



[ SEM-544 ] **Characterization of porous silicon decorated with SnO obtained by anodizing electrochemically using HF-CH<sub>3</sub>CH<sub>2</sub>OH**, Juárez Raúl, García Godofredo, Pacio Mauricio, Diaz Tomas, Morales Crisoforo, Nieto Gabriela

[ SEM-587 ] **Fabrication of CIGS/CdS solar cell. CIGS and CdS growth optimization, and its application to CIGS/CdS solar cell elaboration and performance evaluation**

V. T. Rangel-Kuoppa, J. Sastré-Hernández, J. Sastré-Hernández, D. Jiménez-Olarte, M. L. Albor-Aguilera, J. M. Flores-Márquez, L. A. González-López, M. Tufiño-Velázquez, G. Casados-Cruz, A. Morales-Acevedo, R. Mendoza-Pérez, G. Contreras-Puente

## Thin Films

[ THF-91 ] **Synthesis by SILAR Method of Lead Sulfide Thin Films and Evaluation as Absorber Layer for Solar Cells**

Francisco Argenis Moyeda-Martinez, Luis Alfonso Garcia-Cerda, Francisco Servando Aguirre-Tostado, Manuel Angel Quevedo-Lopez, Victor Hugo Martinez-Landeros

[ THF-148 ] **Characterization of organic thin films elaborated with natural pigments of flowers and gelita bloom**

Erick Daniel Ortiz Belman, Esperanza Paulina Romero Gutierrez, Oscar Alejandro Ramirez Medina, Miroslava Cano Lara, Maria Del Carmen Salazar Hernandez, Santiago Camacho Lopez

[ THF-224 ] **Optical Characterization of InAsSb layers on GaSb substrates by Liquid Phase Epitaxy**

Yolanda Elinor Bravo-García, Patricia Rodriguez-Fragoso, Julio Gregorio Mendoza-Alvarez, Gerardo Gonzalez de la Cruz, Rogelio Fragoso-Soriano

[ THF-251 ] **Ripple formation on Ti implanted with Au ions: XPS characterization**

Luis Ricardo De la Vega Ballesteros, Miguel Ángel García, Jorge Rickards Campbell, Luis Lartundo-Rojas, Rebeca Trejo-Luna, Jaqueline Cañetas-Ortega, Luis Rodríguez-Fernández

[ THF-264 ] **Structural and compositional studies of BiFeO<sub>3</sub> films grown by Spray Pyrolysis**

B. Villaneda-Saldívar, L. Pérez-Arrieta, J. J. Araiza-Ibarra, H. Tototzintle-Huitle, A. Puga

[ THF-287 ] **Optical and Structural Characterization of n-ZnO/p-ZnO:Ag, N structure.**

Agustín A. Santos Morales, Fernando Avelar Muñoz, Juan Ortiz Saavedra, Hugo Tototzintle Huitle, María Leticia Pérez Arrieta, José Juan Ortega Sigala, Ciro Falcony Guajardo, José de Jesús Araiza Ibarra

[ THF-311 ] **Mechanical properties of aluminum oxide films grown on 416 stainless steel**

Daniel Ruiz-Marcial, Bertha S. Salazar R., Roberto T. Hernández

[ THF-328 ] **Effect of nitrogen in the properties of IZO thin films**

J. J. Ortega, H. Tototzintle-Huitle, J. Ortiz-Saavedra, C. Falcony, J. J. Araiza

[ THF-335 ] **Synthesis and structural characterization of TiAlN hard coatings deposited by magnetron sputtering**

Esaú Moisés Aguillón Rojas, José Martín Yáñez Limón, Rafael Ramírez Bon, José Manuel Juárez García, Ana Laura Martínez Hernández, Oscar Gómez Guzmán



**[ THF-382 ] Characterization of polycrystalline silicon thin films obtained by rf-sputtering deposition and crystallization of amorphous silicon**

*Abraham Pacio, Hector Juarez, Nicolas Budini, Xavier Mathew, Mauricio Pacio, Jose Alejandro Garcia, Cesia Guarneros*

**[ THF-400 ] Porous silicon based UV Fabry-Perot filters: optimization of oxidation temperature.**

*María del Rayo Jiménez Vivanco, Godofredo García Salgado, Francisco Morales Morales, Vivechana Agarwal, Jesús Carrillo Lopéz, Tomás Francisco Díaz Becerril, Enrique Rosendo Andrés, Fabiola Gabriela Nieto Caballero*

**[ THF-420 ] Influence of precursor ball milling in enhancing the structural, morphological, optical and electrical properties of AIZO thin films**

*Vinoth Kumar Jayaraman, Arturo Maldonado Alvarez, Maria de la Luz Olvera Amador*

**[ THF-459 ] Study of electrical properties on HfO<sub>2</sub> thin films growth by RF sputtering**

*Mario Fernando Quiñonez Penagos, John Edward Ordoñez Ñañez, Isabel Cristina Arango, Luisa Suarez, Wilson Lopera, María Elena Gómez de Prieto, María Elena Gómez de Prieto*

**[ THF-463 ] EXAFS Characterization of TiN/CrN/TiN and CrN/TiN/CrN Thin Films Hard Coatings**

*Jose Alberto Duarte Moller, Hilda Esperanza Esparza Ponce, Javier Eliel Morales Mendoza*

**[ THF-490 ] Structural characterization of IZO films deposited by RF-Sputtering under nitrogen ambient.**

*Juan Ortiz Saavedra, Miguel Ángel Aguilar Frutis, Ciro Falcony Guajardo, José Juan Ortega Sigala, José de Jesús Araiza Ibarra*

**[ THF-513 ] Microstructural and mechanical characterization of MoS<sub>2</sub>-CN<sub>x</sub> coatings**

*Aime Margarita Gutiérrez Peralta, Edgar Cruz Valeriano, Eleazar León Sarabia, Diana Marcela Osorio, Jose Manuel Juarez García, Gustavo Adolfo Zambrano Romero, Jose Martín Yáñez Limón*

**[ THF-536 ] Effect sensor and actuator piezoelectric of ZnO thin film study**

*Maribel García "Miranda, Raquel Ramirez-Amador, Salvador Alcantara-Iniesta, Blanca Susana Soto-Cruz, Miguel Angel Dominguez*

**[ THF-593 ] Simple automatization of standard sputtering system for multilayer growth**

*N. Gabriela González-Castillo, Y. Chipatecua-Godoy, Orlando Cortazar-Martinez, Alberto Herrera-Gomez*

## **Tribology**

**[ TRB-76 ] Tribological behavior of a high carbon martensitic stainless steel hardened by means of a national boriding mixture**

*Germán Palacios Quintas, Rafael Carrera Espinoza, Ulises Figueroa López, J. Antonio García Macedo, Sarai del Ángel Cruz*

**[ TRB-162 ] Effect of the chemical composition of alloys of a filler material deposited by the technique of shielded metal arc welding on the microstructure of a hardfacing and its influence in the abrasive wear resistance**

*Radamés Romero Guerrero, Ricardo Domínguez Rodríguez, Guillermo Javier Rubio Astorga, Raúl Santiesteban Cos*

**[ TRB-392 ] Growth and characterization of nanocrystalline ZrN, ZrN:Nb and ZrN:Cr hard coatings**

*L. R. Acevedo Sánchez, A. M. Villegas Mercado, H. Tototzintle Huitle, O. Sánchez Garrido, J. J. Ortega, J. J. Araiza*

**[ TRB-489 ] Effects on ZrN deposition on Si by DC-Sputtering under forming gas influence at different deposition power**

*Efraín García Jaramillo, Luis Ricardo Acevedo Sánchez, María Leticia Pérez Arrieta, Olga Sánchez Garrido, José Juan Ortega Sigala, José de Jesús Araiza Ibarra*

**Thursday**





## Thursday September 29th

		PLENARY 9: Two-Dimensional Materials, Heterostructures and Devices, <i>Xiangfeng Duan</i> , University of California Los Angeles, USA SALON EL DORADO	
09:00	09:45		
09:45	10:30	PLENARY 10: Time-of-flight mass spectrometry in laser-matter interaction studies, <i>Alexander V. Bulgakov</i> , Institute of Thermophysics, Russia SALON EL DORADO	
10:30	10:45	COFFEE BREAK	
		<b>SEMICONDUCTORS SALON EL DORADO</b>	<b>PLASMA AND VACUUM SALON BUGAMBILIAS</b>
10:45	11:00	INVITED TALK [502] Synthesis and characterization of MoS <sub>2</sub> - MoSe <sub>2</sub> Van der Waals heterostructures, <i>Andres de Luna Bugallo</i>	INVITED TALK [414] Hard transparent coatings deposited by laser ablation, <i>Enrique Camps</i>
11:00	11:15		
11:15	11:30	[558] Electrical Optical and Structural Properties of Polycrystalline Silicon / ZnO:Al / Glass to form emitter layer in thin film solar cells, <i>Fermín Mora Ochoa</i>	[479] Effect of temperature changes on deposition process for n-ZnO/p-ZnO:Ag,N structure, <i>José Juan Ortega Sigala</i>
11:30	11:45	[437] Study and characterization of GaAs films grown by a low cost technique, <i>Dalia Téllez Flores</i>	[356] Characterization of thin films of the ternary system V <sub>2</sub> O <sub>5</sub> -CdO-Cu deposited by laser ablation, <i>Érika Cervantes Juárez</i>
11:45	12:00	[506] Macroporous 3D- TiO <sub>2</sub> thin film functionalized with palladium nanoparticles and its sensing, <i>Gerardo Francisco Pérez Sánchez</i>	[529] Effect of Changes on Power Deposition for n-ZnO/p-ZnO: Ag, N Structure, <i>Javier Alejandro Berumen Torres</i>
12:00	12:15	COFFEE BREAK	
		<b>ADVANCED MATERIALS SYNTHESIZED BY CHEMICAL ROUTES SALON EL DORADO</b>	<b>PLASMA AND VACUUM SALON BUGAMBILIAS</b>
12:15	12:30	[487] Polycaprolactam and Multi Wall Carbon Nanotubes composites, <i>Lada Domratheva-Lvova</i>	INVITED TALK [412] Spectroscopic study of plasma emission and its relation to the properties of SiO <sub>x</sub> N <sub>y</sub> thin films during reactive DC magnetron sputtering, <i>Roberto Sangines</i>
12:30	12:45	[561] Synthesis, characterization and testing of bulk catalysts NiMo for HDS of 4,6-DMDBT, <i>Macaria Hernández Chávez</i>	
12:45	13:00	[555] Nano and microstructural development of strontium aluminate obtained by the Sol-Gel Technique, <i>Delia Cristina Altamirano-Juarez</i>	[140] Optical emission spectroscopy of nitrogen plasma for growth of III-nitride compounds, <i>Manolo Ramírez López</i>



13:00	13:15	[247] Phase transformation from aluminum formate to alpha-alumina by Raman and infrared spectroscopy, <i>Nadia Vargas-Martínez</i>	[452] Effect of deposition pressure on the plasma parameters used for growth of amorphous carbon thin films by pulsed laser deposition, <i>Victor Hugo Castrejón Sánchez</i>
13:15	13:30	[200] ZnAlCe layered double hydroxides for photodegradation of phenol, <i>Montserrat Suarez Quezada</i>	[503] Sputtering yield amplification evidence for C, Al and Si measured by ion beam analysis and the CO-SS code, <i>Julio Cruz</i>
13:30	15:30	LUNCH	



**Friday**



## Friday September 30th

09:45	10:30	PLENARY 11: Up- and down-conversion in photoluminescent glasses for enhanced photovoltaics: recent advances, <i>G.C. Righini</i> , Centro Fermi, Italy SALON EL DORADO	
10:30	10:45	COFFEE BREAK	
		<b>LUMINESCENCE PHENOMENA SALON EL DORADO</b>	<b>TRIBOLOGY SALON BUGAMBILIAS</b>
10:45	11:00	[56] Zinc phosphate glasses doped yttrium-europium oxide, a luminescence study, <i>Luis Mariscal Becerra</i>	[1] Study of Two-Body and Three-Body Abrasive Wear of an Elastomeric Dynamic Seal Using a Micro-Abrasion Tester, <i>Leonardo Israel Farfan-Cabrera</i>
11:00	11:15	[222] Carbon-induced optical quenching on nitride-based high electron mobility transistor, <i>Manolo Ramírez López</i>	[314] Tribological behavior of FeB/TiN coatings on AISI-H13 formed by paste-boriding process and PDV respectively, <i>Oscar Armando Gómez Vargas</i>
11:15	11:30	[253] Luminescent properties of bicomponent polyester/perylene fibers, <i>Florentino Soriano-Corral</i>	[339] Structural and mechanical properties for Nb <sub>2</sub> O <sub>5</sub> coatings as a function of Si additions, <i>Roberto Mirabal-Rojas</i>
11:30	11:45	[259] Luminescent and structural properties of microwave synthesized HfO <sub>2</sub> and HfO <sub>2</sub> :Eu <sup>3+</sup> nano-powders, <i>Eduardo Canales Velasco</i>	[477] Tribology study of stainless steel (AISI 410 and 304), titanium and titanium alloy (TaAlV) at Room Temperature (RT), 150, 300 and 450 °C, <i>Ernesto García</i>
11:45	12:00	[271] High-pressure photoluminescence spectroscopy of LiNbO <sub>3</sub> :Cr <sup>3+</sup> ; W <sup>4+</sup> . Pressure dependence of spectroscopic parameters and local structure of Cr <sup>3+</sup> , <i>Marco A. Sánchez-Alejo</i>	[529] A comparison of the tribological performance of an H-DLC coating deposited on AISI 52100 and API X65 steels, <i>Jose Solis Romero</i>
12:00	12:15	COFFEE BREAK	
		<b>LUMINESCENCE PHENOMENA SALON EL DORADO</b>	<b>PHOTOTHERMAL PHENOMENA SALON BUGAMBILIAS</b>
12:15	12:30	INVITED TALK [581] Tunable white light emission from hafnium oxide films co-doped with trivalent terbium and europium ions, <i>A. Báez-Rodríguez</i>	[31] Photopyroelectric measurement of thermal effusivity of liquids by a method free of fitting procedures, <i>Rumen Ivanov Tsonchev</i>
12:30	12:45	[510] Quantum yield enhancement of zno nanoparticles by plasma surface modification, <i>Florentino Soriano Corral</i>	[225] 1D-thermophotoacoustic theory of the ultrasound generated by laser for plane samples, <i>Gerardo Gutiérrez-Juárez</i>
12:45	13:00	[525] Design of oxide and oxy-nitride structures doped with rare earth for white-like emission, <i>Ivan Camps</i>	[350] Resonant photoacoustics, <i>Rafael Pérez-Solano</i>



13:00	13:15	[535] Blue and white light emission in $Tm_{3+}$ and $Tm_{3+}/Dy_{3+}$ doped zinc phosphate glasses upon NUV light excitation, <i>Abraham Meza-Rocha</i>	[491] Thermal effusivity of human blood serum, <i>Jose Luis Gonzalez Dominguez</i>
13:15	13:30	INVITED TALK [582] Erbium ( $Er_{3+}$ ) and Ytterbium ( $Yb_{3+}$ ) luminescent $ZrO_2$ films deposited by the ultrasonic spray pyrolysis, <i>J. Guzmán</i>	[520] Juice and Rind Characterization of <i>Citrus latifolia</i> through the Photoacoustic Spectroscopy, Technique, <i>Susan Cristina Corzo-Ruiz</i>
13:30	13:45		[583] Modeling the photoacoustic signal during the porous silicon formation, <i>M. E. Rodriguez-García</i>
13:30	15:30	LUNCH	
15:30	16:15	PLENARY 12: Pulsed Laser Deposition of 2D and Bulk II-VI Materials, <i>Manuel Quevedo</i> , University of Texas at Dallas, USA SALON EL DORADO	
16:15		ANNUAL MEETING OF THE "SOCIEDAD MEXICANA DE CIENCIA y TECNOLOGIA de SUPERFICIES y MATERIALES, SALON EL DORADO	







