الجمعية الجزائرية للضوئيات والفتونيات

Optical and Photonics Algerian Society

Société Algérienne d'Optique et de Photonique

www.opal2015.dz

OPAL 2015

Optics and Photonics Algeria 2015

2015 الضوء و الفوتونيات الجزائر

Optique et Photonique Algérie 2015

Program

14 – 15 December 2015

USTHB, Algiers

United Nations Educational, Scientific and Cultural Organization

INTERNATIONAL YEAR OF LIGHT 2015

السنة الدولية للضوء وتكنولوجيات الضوء IYL 2015

OPALS a place of gathering and exchange …

The Optical and Photonics Algerian Society (OPALS/SOAP) is a young scientific association founded in 2014. It aims to encourage an interdisciplinary approach of the science of light and to promote scientific research and new technologies based on light science.

Among other objective, OPALS is also hoping in contribution to the advancement of emerging technologies in Algeria by favoring scientific exchanges, training and technological development through the organization of conferences, thematic schools and interactions of researchers and industrial. Generally speaking, OPALSt aims to gather optics and photonics scientists, academic or engineers and technicians in universities, research centers and enterprises. Many challenges and issues are actually under progress: the society is, for instance, developing a newsletter that will be its first publication and we do hope to create a specific peer reviewed scientific journal of the Society that might contribute to the international outreach of the Algerian research in the field of optics and photonics. In the same way, OPALS is developing cooperation with other societies and institutions. I am very pleased to announce that we recently signed a Memorandum Of Understanding with the Tunisian Optical Society (STO) and we are hoping to do the same with the French Optical Society. This is essential to develop international scientific events as we do today with the organization of the first edition of Optics and Photonics Algeria (OPAL) 2015 conference coinciding with the celebration of the International Year of Light and Light-based Technology. This outstanding international event is a great opportunity for us to pay tribute to Ibn Al Haytham, a major figure in the creativity of the golden age of Islamic civilization and founder of light science.

I am particularly pleased that this first conference takes place in the beautiful House of Science of the University of Science and Technology Houari Boumediene and I would like to express all my gratitude to the University USTHB officials for their support and help.

I conclude this message by thanking you all for your participation to the conference, your support and your contribution that you would give to the development of OPALS/SAOP society;

OPALS is your society.

Wishing you a successful conference with plenty of light …

Prof. Omar Lamrous
Chairman of the Optical and Photonics Algerian Society

Organizing Committee

Honorary chair: Prof. Benali Benzaghou, USTHB President
Chair: Prof. Omar Lamrous, President of the OPALS
Co-chairs: Fawzia Chafa-Mekideche, VP USTHB
Azzedine Boudrioua, VP OPALS

Members
Omar Ziane, USTHB
Azzedine Chafa, USTHB
Mohand Chalal, U. Boumerdes
Mohamed Kechouane, USTHB
Meriem Amoura Louni, USTHB
Amara El Hachemi, CDTA
Lakhdar Guerbous, CRNA
Mahdi Hamidi, UMMTO
Abdelaziz Mezaghrane, UMMTO
Abderrahmane Tadjeddine, OPALS
Youcef Ouerdane, OPALS
Tahar Touam, OPALS
Nacer Eddine Demagh, URPO
Mourad Zghal, STO

Scientific Committee

Honorary chair: Prof. Hafid Aourag, DG-RSDT (Algeria)
General Director of Scientific Research and Technological Development
Co-chairs: Prof. Azzedine Boudrioua, LPL Paris 13 (France)
Prof. Abderrahmane Tadjeddine, CNRS

- **Optical Materials, Fabrication and Characterization**
  Gérard Aka, ENSCP Paris (France)
  Mohamed Kechouane, USTHB Algiers (Algeria)
  Eric Millon, Orléans University (France)
  Abdelhak Bensaoula, Houton University (USA)
  Val Zwiller, Delft University of Technology, Delft (The Netherlands)
  Witold Ryba-Romanowski, Polish Academy of Science (Poland)
- **Nonlinear optics**
  Benoit Boulganger, Neel Grenoble (France)
  Lung Han Peng, NATU Taipei (Taiwan)
  John Dudley, Femto ST, Unversity Besançon (France)
  Majed Chergui, EPFL (Switserland)
  Patrick Georges, Institut Optique GS (France)
- **Optoelectronic devices, light sources and laser processing**
  Abderrahim Ramdane, LPN Marcousis (France)
  Osman Benchikh, UNESCO
  Abderrahmane Tadjeddine, CNRS (France)
  Mohamed Abdel Harith, NILES (Egypt)
  El Hachemi Amara, CDTA (Algeria)
  Nourredine Guabouze, CRTSE (Algeria)
  Fethi Khalfaoui, Ouargla University (Algeria)
- **Nanophotonics and integrated optics**
  Tahar Touam, University Annaba (Algeria)
  Frédérique de Fornel, University Dijon (France)
  Nurdogan Can, Jazan University (Saudi Arabia)
  Omar Lamrous, UMMTO Tizi Ouzou (Algeria)
  Omar Ziane, USTHB (Algeria)
  Fredrik Laurell, KTH Stockholm (Sweden)
  Malik Maaza, Nanosciences & Nanotechnology
- **Optical telecommunications and fibers**
  Lotfy Simohamed, EMP Algiers (Algeria)
  Jean Claude Simon, Foton Rennes (France)
  Mourad Zghal, ENIT Tunis (Tunisia)
  Mohamed Bouazaoui, IRCICA Lille 1 (France)
  Badr Eddine Benkalfat, Telecom SudParis (France)
- **Biophotonics, organic photonics**
  Brahim Lounis, University Bordeaux (France)
  Alexis Fischer, University Paris 13 (France)
  Noureddine Melikechi, Delaware (USA)
  Georges Zissis, Laplace Toulouse (France)
- **Sensors and instruments**
  Youcef Ouerdane,University St Etienne (France)
  Abderrahmane Tadjeddine, CNRS (France)
  Paolo De Natale, stituto Nazionale di Ottica-CNR (Italy)
- **Quantum optics and emerging fields**
  Claude Fabre, LKB (France)
  Mohamed Bourennane, Royal Swedish Academy of Sciences

Invited speakers

Prof. Hafid Aourag
Directeur Général de la Recherche Scientifique et du Développement Technologique – Algérie

Dr. Jean-Paul Juste Ngome Abiaga, UNESCO
Secrétaire Exécutif Adjoint du Programme international relatif aux sciences fondamentales de l'UNESCO, Membre du Steering Committee IYL 2015

Prof. Noureddine Melikechi, D.Phil.
University Distinguished Professor of Physics
VP for Research, Innovation and Economic Development
Founding Director of OSCAR, PI of MARC, NIH
Member of the Mars Science Laboratory team, NASA
Delaware State University

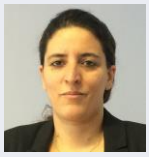
Prof. Claude Fabre
LKB, Université Pierre et Marie Curie-Paris 6, Agrégé de Sciences Physiques
Prix Fabry De Gramont de la Société Française d'Optique, fellow des Sociétés Américaine et Européenne d'Optique (OSA, EOS), membre senior de l'Institut Universitaire de France, président de la Société Française d'Optique

Prof. Dr. Benoît Boulanger
Institut Néel, University of Grenoble Alpes (UGA)
President of the French Society of Optics (SFO)
OSA & EOS Fellow
Topical Editor for Optics Letters

DIR CNRS Abdrrahmane Tadjeddine
Légion d'honneur française 2014
Lauréat de la médaille RAMMAL de Physique 2013
Directeur de recherche de Classe Exceptionnelle Emerite
Ex-Directeur Très Grands Infrastructures et Equipements de Recherche au CNRS

Prof. Mohamed Kechouane
Professeur à la Faculté de Physique de l'USTHB. Il est Directeur du Laboratoire de Physique des Matériaux depuis 2007. Ses activités de recherche se concentrent sur l'élaboration de matériaux en couches minces de silicium amorphe et polycristallin et ses alliages (a-SiH, a-SiGe :H a-Sic :H, SiNx), d'oxydes conducteurs transparents ainsi que sur les matériaux à transition de phase isolant-métal.

Prof. Nacer-Eddine Demagh
Directeur de l'Unité de Recherche en Optique et Photonique UROP/CDTA, Université Sétif1 (2011-2015), Responsable LMD et coordonateur de programme Averroes et Semsem (2011-2013), Directeur de l'Institut d'Optique et de Mécanique de Précision (2004-2008), 1ier prix de la meilleure publication ANDRU (2006), Directeur-adjoint à la société GTSM Groupe Technique et Scientifique Médical à Castelnaudary, France (1994)



Dr, Myriam Zerrad
Dr Myriam Zerrad graduated in 2003 at Ecole Centrale Marseille, a high engineer school in France. Then she studied light scattering and multi-scale microscopy at Institut Fresnel, a CNRS laboratory in Aix-Marseille University, where she obtained a PhD in 2007. She is now a senior member of Fresnel Institute (CONCEPT group) and addresses relevant topics like imaging and polarization in complex media, together with field confinement in optical micro-cavities and metrology & modelization of scattering phenomena in complex optical components. She received noticeable supports from different national and international agencies or companies to lead her activities in these photonic fields.

Dr. Laurent Canale
CNRS Research Engineer in Light & Matter Research Group
AFE Midi-Pyrénées Region Chairman Université Toulouse III - Paul Sabatier, LAPLACE

Prof. Azzedine Boudrioua
Responsable de l'équipe PON – LPL, Institut Galilée Université Paris 13
Coordonnateur du groupe international « Ibn al Haytham », IYL 2015 – UNESCO
Vice-Président de la Société Algérienne d'Optique et de Photonique

	Monday 14th , December 2015
8h00 – 9h00	Registration
9h00 – 10h00	**Opening Ceremony**
	Coffee Break
10H00 – 12h30	**Session 1: IYL 2015** (Chairman: O. Lamrous)
	Why defects are so important? **Hafid Aourag, Directeur Général de Recherche Scientifique et du Développement Technologique**
	Jean-Paul Juste Ngome Abiaga, UNESCO **Secrétaire Exécutif Adjoint du Programme international relatif aux sciences fondamentales de l'UNESCO**, Membre du Steering Committee IYL 2015
	The Islamic Golden Age of Light Science: The Ibn Al-Haytham Legacy **A. Boudrioua,** Ibn al Haytham International Working Group, IYL 2015 - UNESCO
Keynote speaker	Looking for Life on Mars while Searching for Signs of Cancers on Earth one Single Laser Pulse at a Time **Noureddine Melikechi, OSCAR, Delaware State University and Member of the Mars Science laboratory, NASA**
	Industrie photonique mondiale, situation et perspectives « 2015, Année de la Lumière en France » **Costel Subran and Claude Fabre,** IYL 2015 France,
13h – 14h00	**Lunch**
	Session 2: Non linear Optics (Chairman: O. Ziane)
14h00 – 14h40 **Invited**	Triple photons generation from third-order nonlinear down-conversion interactions **Benoît Boulanger,** NEEL Grenoble
14h40 – 14h55	Angular tuning and tolerances in quasi-phase matched 2D nonlinear photonic crystals **M. Lazoul**, EMP
14h55 – 15h10	Optical waves generation in a nonlinear metamaterials **J. Antagana, U.** Cameroon
15h10 – 15h25	A new synthesis approach for a reconfigurable birefringent Filter **R. Hamdi**, Guelma
15h25 – 16h05 **Invited**	Solid State Lighting: A revolution enlightening the world … But dreams or nightmare **Laurent Canale,** LAPLACE Toulouse
16h05 – 16h30	**Coffee break**
	Session 3: Optical Materials – Thin films (Chairman: E. Amara)
16h30 – 17h10 **Invited**	Fabrication and applications of silicon nanowires **M. Kechouane, I. Lachebi, A. Fedala,** USTHB
17h10 – 17h25	Effect of Zinc Oxide on the physicochemical, optical and spectroscopic properties of Nd^{3+} doped fluorophosphates glasses **M. Chalal, U.** Boumerdes
17h25 – 17h40	Effects of precursor source on structural and morphological properties of hydrothermal ZnO nanocrystallites **Z. Ait Abdelouhab,** Béjaia
17h40 – 17h55	Structural, morphological and optical properties of Sol–Gel dip-coated TiO_2 thin films: effect of deposition parameters **M. Atoui,** U. Annaba
17h55 – 18h10	Influence of solution flow rate on the properties of SnS_2 films prepared by ultrasonic spray **I. Kherchachi,** U. Biskra
18h10 – 18h25	Deposition of perovskite $CH_3NH_3PbI_3$ Thin Films by spin-coating method **F. Khelfaoui,** U. Constantine
18H45	**Light Show** **Gala Diner**

	Tuesday 15th , December 2015
	Session 4: Optoelectronics and instrumentations (Chairman: A. Tadjeddine)
9h00 – 9h40 **Invited**	Quantum Wavelength Division Multiplexing **Claude Fabre,** LKB U. Paris 6
9h40 – 9h55	Angular and chromatic multiplexing holograms of particles in off-axis configuration **S. Mebarek,** U. Sétif
9h55 – 10h10	Characterization of PANI Based Composite Layers Intended for Opto-Electronic Applications **D. Mazdour,** U. Jijel
10h10 – 10h25	Structural and optical properties of ZnO:Co thin films prepared by ultrasonic spray pyrolysis method for DMS applications **K. Chebbah**, U. Tiaret
10h25 – 10h40	Transmission Simulation of 40 Gbps DDO-OFDM signal in WDM-PON access network **A. Chenika**, Tlemcen
10h40 – 11h10 **Invited**	Microlensed fibers for efficient light coupling **Nacer Eddine Demagh** , URPO Sétif
11h00 – 12h30	**Coffee break**
	Poster session Exhibition "Caravane de la lumière" ALOP
12h30 – 13h30	**Lunch**
	Session 5: Nanophotonics (Chairman: M. Kechouane)
13h30 – 14h00 **Invited**	Multi-Dielectric structures for giant optical field enhancement **M. Zerrad, A. Lereu, F. Lemarchand, C. Amra,** Institut Fresnel Mareseille
14h00 – 14h15	Enhanced efficiencies in organic light-emitting diodes by using localized surface plasmons **S. Khadir**, U. Tizi Ouzou
14h15 – 14h30	Organic sensor based on SPR technique **K. Ayadi,** U. Sétif
14h30 – 14h45	Photoluminescence properties of powder and chemical bath deposited metal sulfide nanoparticles on SiO2/Si substrates **S. Kaci,** CRSTE
14h45 – 15h00	Graphene photonics: from multi-peak to broadband optical absorption **R. Miloua**, U. Sidi Bel Abbes
15h00 – 15h15	Optical and structural properties of ZnO nanorods grown by sol-gel technique **D. Guitoum,** CDTA
15h15 – 16h00 **Invited**	Sum-Frequency Generation spectroscopy study of the vibrational and electronic properties of interfaces and nanoparticles **A. Tadjeddine, C. Humbert, L. Dalstein and B. Busson,** LCP Paris Sud
16h00 – 17h00	**Coffee break** **Presentation of OPALS** (Optical and Photonics Algerian Society)
	Best Poster Award, Best Presentation Award **Closing ceremony**

Poster presentations

P1 **Synthesis and spectroscopic characterization of doped RE3+ glasses containing metallic nanoparticles**

N. Abdedou [1,*], T. Djouama [1], M. Chalal [1, 2, 3], O. Ziane [1], M. Poulain [4]

[1] Laboratoire d'Electronique Quantique, Faculté de Physique, USTHB, El-Alia Bab-Ezzouar, 16111 Alger, Algérie

[2] Département de physique, Faculté des Sciences, UMBB, 35000 Boumerdès, Algérie.

[3] Agence Thématique de Recherche en Sciences et Technologie (ATRST), Avenue Pasteur, ENSA Ex INA, El Harrach, Alger

[4] Sciences Chimiques, Université de Rennes1, Campus de Beaulieu, 35042 Rennes, France

P2 **The structural and optical properties of SnO2 and SnO2:F thin films prepared by sol-Gel process**

A. Adjimi1, M. Lamri Zeggar1, F. Bourfaa1, M. S. Aida1, N. Attaf1

1 Laboratoire de Couches Minces et Interfaces, Faculté des Sciences, Université des frères Mentouri Constantine 1, Algerie.

P3 **Analytic modeling of AlGaAs laser diode emission**

M. ALLICHE, A. AISSANI , O ZIANE

Laboratory of Quantum electronics, Faculty of Physics , University of Science and Technology Houari Boumediene

P4 **Analysis of two Dimensional Photonic crystal cavities based on Gallium Nitride (GaN) by Finite Difference Time Domain (FDTD) approach**

A.Amirouche*, H.Bouridah, M.R. Beghoul

Laboratoire d'Etudes des Matériaux, Université de Jijel, Algérie

P5 **Generation of magneto-acoustic waves by laser-Plasma Interaction**

K. Annou and D. Bennaceur-Doumaz

Centre de développement des technologies avancées, BP 17, Baba Hassen 16303, Algiers, Algeria.

P6 **Symmetry dependence of Photonic Band Gaps in 2D GaAs Photonic crystal**

F. ARAB, F. KANOUNI R, GRAIN and A. ASSALI.

Centre for Development of Advanced Technologies (CDTA) , Research Unit in Optics and Photonics (UROP), University Ferhat Abbas 1, El Bez, 19000 Setif, Algeria

P7 **Design of Four channels Demultiplexer Based on Two Dimensional Photonic Crystal Silicon Nitride Microcavities**

Safia Arafa , Mohamed Bouchemat , Touraya Bouchemat, Ahlem Benmerkhi

Microsystems and Instrumentation Laboratory, Department of Electronics, Faculty of Technology and Sciences, University des Frères Mentouri, Constantine,25000,Algeria

P8 **Experimental Investigations of the Natural Convection Heat Transfer Around LEDs Mounted on Rectangular Heat Sink**

Zouhour Araoud*1, Khaoula Ben Abdelmlek1, Laurent Canale2, Kamel Charrada1, Georges Zissis2

1 Unité d'Etude des Milieux Ionisés et Réactifs, Université de Monastir, route de Kairouan 5019 Monastir, Tunisie

2 Laboratoire Plasma et Conversion d'Énergie, Université Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France

P9 **Experimental Investigation of the Effect of Aging on Optical Properties of LEDs**

Khaoula Ben Abdelmlek*1, Zouhour Araoud1, Laurent Canale2, Kamel Charrada1, Georges Zissis2

1 Unité d'Etude des Milieux Ionisés et Réactifs, Université de Monastir, route de Kairouan 5019 Monastir, Tunisie

2 Laboratoire Plasma et Conversion d'Énergie, Université Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France

P10 **Synthesis and crystallization behavior study of transparent glass-ceramics**

K.Ariane1,2, A. Chorfa1,2, L. Smata1, F. Rubio3, J. Rubio3

1Unité de recherche 'Matériaux émergeants', Université Sétif 1, Algérie.

2Institut d'optique et mécanique de précision IOMP, Université Sétif 1, Algérie.

3 Institut des céramiques et verres, icv, Madrid, Espagne

P11 **Collective variable technique of calculation of Raman solitonself-frequency shift in nonlinear optical media**

Jacques Atangana a, Bouchra Mokthari b, Bedel Giscard Onana Essama a, Bibiane Mireille, Ndi Nnanga a, Noureddine Cherkaoui Eddeqaqi b

a : Department of Physics, ENS Yaoundé, University of Yaoundé I, Yaoundé, Cameroon)

b: Department of Physics, Faculty of Science, Moulay Ismail University, Meknes, Morocco

P12 **Numerical Study of the distribution of Titanium in Sapphire Crystal Grown by the µ-PD Technique**

Hanane.Azoui, Abdellah.Laidoune, Djamel.Haddad and Derradji.Bahloul

Département de Sciences de la Matière, Facultés des Sciences, Université El-Hadj-Lakhdar Batna, Algérie.

P13 **NUMERICAL MODELING OF CZTS THIN-FILM SOLAR CELLS WITH VARIOUS NANO-BUFFERLAYERS**

Bahfir1, 2, M. Boumaour1, M.Kechouane2, A. Larabi1, N.Ouarab1, M. Abdelghani1

1Research Center in Semiconductor Technology for Energetic - CRTSE 2, Bd Frantz FANON-Alger

2University of Houari Boumediene- USTHB - Bab-Ezzouar, Alger

P14 **Nonthermal effects on laser ion acceleration with two electron temperature distribution function**
D. Bara and D. Bennaceur-Doumaz
Centre de Développement des Technologies Avancées, B.P. 17 Baba Hassen 16303 Algiers,, Algeria.

P15 **PbS Thin Films Properties Deposited With a Mixture Of Lead Precursors at Various Deposition Time**
Lynda BEDDEK*, Meriem MESSAOUDI, Samira GUITOUNI, Nadhir ATTF, M.S. AIDA
Laboratoire des couches minces et interfaces, Frères Mentouri University, Constantine, Algeria

P16 **Optical limiter based on two-dimensional nonlinear photonic crystal**
Belabbas Amirouche.*a*, Lazoul Mohamed.*a* and Boudrioua Azzedine.*b*
a Ecole Militaire Polytechnique, UER Electronique, Laboratoire des Systèmes Electroniques et Optroniques, Algiers, Algeria
b Université Paris 13, Laboratoire de Physique des Lasers, Villetaneuse 93430, France

P17 **Optical and mechanical characterization of nanostructured ceramics prepared by spark plasma sintering**
S. Benaissa(a,c), , M. Kolli(b,c), M. Hamidouche(b,c), G. Bonefont(d), G. Fantozzi(d)
(a) Optical Research and Photonics Unit, CDTA, Ferhat Abbas University Setif 1
(b) Emerging Materials Research Unit, Ferhat Abbas University Setif 1
(c) Optics and Precision Mechanics Institute, Ferhat Abbas University Setif 1
(d) MATEIS Laboratory, INSA Lyon, France

P18 **High Gain and Short length EDFA Modeling**
Dikra BENAMMAR and Derradji BAHLOUL
Batna University, Avenue med El-Hadi Boukhlouf 05000 Batna, Algeria

P19 **BIOSENSOR SURFACE PLASMON RESONANCE FO STUDYING MELANIN**
H. BOUANDDASa, I.HABIAb, Kh. AYADIb
Applied Optics Laboratory, Institute of Optics, University Ferhat Abbas, Setif 19000, Algeria

P20 **Numerical study for a synchronously pumped picosecond optical parametric oscillator based on periodically poled Lithium Niobate**
C. BOUCHENEB1*, N. HENDAOUI1, D. LOUHIBI1, A. KELLOU2, A. PEREMANS3
1Centre de développement des technologies avancées, Division des milieux Ionisés & Lasers,, Alger
2 Faculté de Physique, Université des Sciences et de la technologie Houari Boumediene, Alger 16111, Algérie
3 Centre de Recherche en Physique de la Matière et des Rayonnements, Université de Namur, Namur, Belgique

P21 **Characterization of a parabolic microlens**
Bouhafs zaied1, Guessoum Assia1, Demagh Nacer-eddine2
(1)Laboratoire d'Optique Appliquée, Institut d'Optique et de Mécanique de Précision, Université Ferhat Abbas Setif1
[Applied Optics Laboratory, Institute of Optics and Precision Mechanics, Ferhat Abbas University], Sétif1, Algeria.
(2)Optics and Photonics Research Unit UROP / CDTA , University Setif1.

P22 **Design of a Sub-wavelength Nanocavity Based Surface Plasmon Resonance Interferometric Device**
B. BOUHAFS, M. BENDJEBBOUR, N. BORDJI, and N. MAHI
University of Tlemcen, Faculty of Sciences, Theoretical Physics Laboratory, Tlemcen 13000. (Algeria)

P23 **The inclusion of Gold nanoparticles in ZnO thin films deposited by spray pyrolysis**
Fouzia Bourfaa1, Salem Zargou2, Meryem Lamri Zeggar1, Amel Adjimi1, Mohammed Salah Aida1 and Nadir Attaf1
1Laboratory of Thin Films and Interfaces Faculty of Science University of Bothers Mentouri Constantine, Algeria
2Laboratory of research on macromolecules faculty of science university A.B.Belkaid of Tlemcen, Algeria

P24 **Structural and optical properties of TiO2 thin films deposited by sol-gel**
Abderhamane Boutelala, Fouzia Bourfaa and Mohammed Mahtali
Laboratory of thin films and interfaces, Faculty of science, University Constantine 1, Algeria

P25 **Modal composition of an incoherent mixture of symmetric Laguerre-Gauss (LGp0) laser modes by a circular aperture**
Bouzid Oussama1, Ferria Kouider1, Ait Ameur Kamel2, Bencheikh Abdelhalim1
1Applied optics Laboratory, institute of optics and precision mechanics , Ferhat abbas university Setif
2Centre de recherche sur les Ions, les Matériaux et la Photonique (CIMAP), UMR6252 CEA-CNRS-ENSICAEN et Université de Caen, ENSICAEN, 6 Bd. Maréchal Juin, F14050 Caen, France

P26 **Enhancement for the performance of organic solar cells based on P3HT:PCBM bulk-heterojunction**
Brioua Fathi, Bourouina Hicham
Laboratoire LEMEAMED , Département d'électronique, Université des Frère Mentouri Constantine ,Algerie
Laboratory FUNDAPL, Faculty of science, University of Blida, BP. 270 09000, Algeria

P27 **Effects of ZnO thin films thickness on electrical properties of ZnO/Si heterojunctions elaborated by DC reactive sputtering for solar cell applications**

L. Chabane1, N. Zebbar1, M. Kechouane1, M. Trari2.
1 LCMS, Faculty of Physics, University of Sciences and Technology (USTHB), BP 32-16111, Algiers, Algeria
2 Laboratory of Storage and Valorization of Renewable Energies, Faculty of Chemistry (USTHB), BP 32-16111 Algiers

P28 **Effect of Supercritical Solvent on Structural and Morphological Properties of TiO2 Aerogels Powders**

S. Chelbi1*, L.Hammiche1, D. Djouadi1, A. Chelouche1, T. Touam2
1Laboratoire de Génie de l'Environnement (LGE), Faculté de Technologie, Université de Béjaia, Algérie 2Laboratoire des Semi-conducteurs, Université Badji Mokhtar, BP 12, Annaba 23000, Algérie

P29 **Simulation the Wavefront Aberrations of Human Eye using Zernike Polynomials**

Sabah Cherif, Soumaya Kara Mohammed, Mahdi Rahmani
Division Dispositifs et Technologie Photoniques, Unité de Recherche en Optique et Photonique (UROP), Centre de Développement des Technologies (CDTA)

P30 **Slowing of light and enhancement of second harmonic generation in one dimensional photonic crystal**

Amani Cheriguene, Hachemi Bouridah, Mahmoud Riad Beghoul
Laboratoire d'Etude des Matériaux, Université de Jijel BP98 Ouled Aissa Jijel 18000, Alegria,

P31 **Optimized Complete PBG in 2D Magneto-Photonic Crystal Slab**

R. Deghdak1, M. Bouchemat1, T. Bouchemat1, M. Lahoubi2, H. Otmani1 and S. Pu3
1 Department of Electronics, Laboratory L.M.I., University of Constantine 1, Constantine 25017, Algeria
2 Department of Physics, Laboratory L.P.S., Badji Mokhtar-Annaba University, Annaba 23000, Algeria
3College of Science, Photonics Research Laboratory, University of Shanghai for Science and Technology, China

P32 **Study of the specular surfaces by deflectometry phase shift**

Guessoum Assia1 Demagh Nacereddine2, Daoui Abdel Kader2, Adouane Azzedine2.
1 Applied Optics Laboratory (LOA), Institute of Optics and Precision Mechanics, Ferhat Abbas University], Sétif 1, Algérie
2 Research Unit in Optics and Photonics (UROP) CDTA Ferhat Abbas University], Sétif 1, Algérie

P33 **Elaboration des couches minces deZrN déposées par ablation laser**

I. GHEMRAS1*, S. ABDELLI-MESSACI 1, M. IZERROUKEN2, K.YAHIAOUI1, S.LADJOUZI2,M.BOUAKIL1
1. Centre de Développement des Technologies Avancées CDTA, Cité 20 août 1956 Baba Hassen, Alger, Algérie,
2. Centre nucléaire de Draria, Draria, Alger, Algérie

P34 **Optical Similaritons for Optical Communications Systems**

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P35 **Effect of substrate temperature on the Optical properties of CZTS thin films deposited by spray pyrolysis**

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P36 **SPR optical biosensor for detection of hemoglobin concentration in human blood**

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P37 **UV-Visible Spectroscopy of Sm3+ and Eu3+ Ions Doped YP3O9**

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P38 **Analysis of relative intensity noise in Fabry-Pérot laser diodes using Traveling wave model**

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P39 **Light absorption efficiency in a metamaterial-silicon waveguide structure for solar cell**

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P40 **Frequency conversion efficiency with quasi-phase matching in two-dimensional nonlinear photonic crystals**

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P41 **New Calibration For Fluorescence Correlation Spectroscopy**

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P42 **Impact of Thickness and Deposition Temperature of a-Si1-xCx:Hon Optical Properties of the Interfacial Layer in SiC-Based Photodiodes**

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P43 **Optimization of the transmission of the AAA structure through TEM mode**

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P44 **Influence of Solution Flow rate on the Properties of SnS2 Films Prepared by Ultrasonic Spray**

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P45 **The Light Scattering By Grains of Alumina Alpha (Al2O3)**

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P46 **Local Field Enhancement in Plasmonic System: Metallic Nanoparticle/Metallic Thin Film**

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P47 **Infrared Sensor Network for the Dynamic Viscosity Measurement**

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P48 **Optimisation of Laser Cutting Process in Relation to the Maximum Cutting Speeds Using Numerical Modelling**

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P49 **Effect of Stabilizer Molar Ratio on Sol–Gel ZnO Nanostructured Thin Film Properties**

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P50 **Effect of the thickness of the gold layer on the silicon nanowires**

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P51 **Detection of micro-displacements and vibrations by defocusing laser beam**

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P52 **Structural and optical properties of sol-gel spin-coated Al doped ZnO thin films: Effects of doping concentration**

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P53 **Effects of the position, of the amplifier tube, on the line shape in a laser cavity**

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P54 **Annealing effect on the microstructural, optical and electrical properties of ZnO-Ag films deposited by thermal evaporation**

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P55 **Relationship between optical and morphological properties of Au-Pd nanoparticles prepared by sputtering technique**

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P56 **Topography of Surfaces Reduced by Optical Technique**

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P57 **Effect of flow rates in the properties of SnS thin films**

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P58 **Design of Broadband Omnidirectional Reflector Based on MgF2/Ge Photonic Crystal**

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P59 **Effect of Post-deposition Annealing on Properties of Nanostructured ZnO Thin Films Deposited by RF Magnetron Sputtering for Photonic Applications**

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P60 **Gain Saturation and Threshold Condition in InAs/GaAs Quantum Dot Lasers**

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P61 **Simulation of solar cells III.V "InGaN"**

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P62 **Modeling of Heat Transfer in End-Pumped Composite Laser Rods by Finite Difference Method**

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P63 **Photonic Crystal Fiber of Air-Holes Filled with Magnetic Fluid into a Cerium-substituted YIG (Ce:YIG) fiber**

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P64 **STRUCTURAL AND OPTICAL PROPERTIES OF ZnO THIN PREPARED BY SOL-GEL PROCESS**

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P65 **An All Optical Switch Based on AlGaAs Nonlinear Photonic crystal**

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P66 **Light Emission Calibration Technique for High Voltage Discharge Currents Measurement in Liquid Dielectrics**
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P67 **Structural and optoelectronic properties of defect- halcopyrite ZnGa2Se4 by GGA + Tran-Blaha-modified Becke–Johnson (TB-mBJ) approach**
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P68 **Pre-Breakdown and Breakdown Currents and Correlated Light Emissions Analysis in Liquid Dielectrics**
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P69 **Study of micro-particle localization by analysis of simulated numerical holograms**
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P70 **Theoretical and Experimental Investigation of Laser Edge Isolation Effect on Silicon Solar Cells Performance**
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P71 **Three–dimensional modeling of laser cutting process with compressible and incompressible assisting gas**
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P72 **Effect of Low Ce Doping on Structural and Photoluminescence Properties of Highly Oriented Sol-Gel ZnO Thin Films**
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P73 **Polymer Nanopyramid as Basic Photonic Component**
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P74 **Growth time effects on the electrodeposition of well- aligned ZnO nanorods array**
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P75 **Optimization of the refractive index and radius of curvature of microlens of a fiber optic microcollimator**
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P76 **Cupric oxide thin films deposited by spray ultrasonic pyrolysis for solar cells**
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P77 **OPTICAL PROPERTIES OF ZnO THIN FILMS DEPOSITION BY SPRAY PYROLYSIS**
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P78 **Exactly Fractional Travelling Wave Solutions Of Nonlinear Equation Via Some Fractional Transformations**
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