

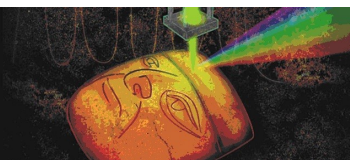


PONTIFICIA
UNIVERSIDAD
CATÓLICA
DEL PERÚ

RIAO-OPTILAS 2010

VII Reunión Iberoamericana de Óptica (RIAO)
X Encuentro Latinoamericano de Óptica, Láseres
y Aplicaciones (OPTILAS)

20-24 de septiembre 2010



PROGRAM BOOK of the RIAO-OPTILAS 2010

VII Ibero-American Conference on Optics
X Latin-American Meeting on Optics, Lasers
and Applications
20-24 September, 2010

Topics

LASERS

OPTICS

FOTONICS



MONDAY, September 20					
GENERAL					
MORNING	TIME	GROUP 1	GROUP 2	GROUP 3	GROUP 4
	08:00-10:30	Registration	Registration	Registration	Registration
	10:30 - 12:00	Invited Conference	Invited Conference	Invited Conference	Invited Conference
		Román Castañeda	María Flores Arias	Enrique Gálvez	José Luis Paz
		Technical Sessions	Invited Conference	Technical Sessions	Technical Sessions
			Zbigniew Jaroszewicz		
Technical Sessions					
AFTERNOON	12:00-13:30	Lunch			
	13:30-15:00	Technical Sessions	Technical Sessions	Technical Sessions	Technical Sessions
	15:00-15:30	Coffee Break			
	15:30-15:45	Welcome	Welcome	Welcome	Welcome
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	15:45-16:45	Duncan Moore	Duncan Moore	Duncan Moore	Duncan Moore
	16:45-17:45	Aristide Dogariu	Aristide Dogariu	Aristide Dogariu	Aristide Dogariu

GROUP 1: Optical Metrology, ...

GROUP 2: Optical Engineering, ...

GROUP 3: Environmental Optics, ...

GROUP 4: Quantum Optics, ...

TUESDAY, September 21					
GENERAL					
MORNING	TIME	GROUP 1	GROUP 2	GROUP 3	GROUP 4
	08:00-09:00	Registration	Registration	Registration	
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	09:00-09:30	James Wyant	James Wyant	James Wyant	James Wyant
	09:30-10:00	Daniel Malacara	Daniel Malacara	Daniel Malacara	Daniel Malacara
	10:00-10:30	Coffee Break			
	10:30 - 12:00	Invited Conference	Technical Sessions	Invited Conference	Invited Conference
		Patrick Sandoz		John Meriwether	Jimmy Castillo
		Invited Conference		Invited Conference	Technical Sessions
		Carlos Ferreira		Carlos Martinis	
Technical Sessions		Technical Sessions			
AFTERNOON	12:00-13:30	Lunch			
	13:30-15:00	Technical Sessions	Technical Sessions	Technical Sessions	Technical Sessions
	15:00-17:00	P1-Posters Session and Exhibit (closing) / Coffee	P1-Posters Session and Exhibit (closing) / Coffee	P1-Posters Session and Exhibit (closing) / Coffee	P1-Posters Session and Exhibit (closing) / Coffee

GROUP 1: Optical Metrology, ...

GROUP 2: Optical Engineering, ...

GROUP 3: Environmental Optics, ...

GROUP 4: Quantum Optics, ...

WEDNESDAY, September 22**GENERAL**

MORNING	TIME	GROUP 1	GROUP 2	GROUP 3	GROUP 4
	08:00-09:00	Registration			
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	09:00-09:30	Wolfgang Dultz	Wolfgang Dultz	Wolfgang Dultz	Wolfgang Dultz
	09:30-10:00	Ulrik Andersen	Ulrik Andersen	Ulrik Andersen	Ulrik Andersen
	10:00-10:30	Coffe Break			
	10:30 - 12:00	Invited Conference	Invited Conference	Invited Conference	Invited Conference
		Joanna Schmit	Juan Carlos Miñano	Miguel Andrés	Carlos Monken
		Invited Conference	Invited Conference	Technical Sessions	Invited Conference
		Gustavo Rodríguez	Maxim Tomilin		Luis Orozco
Technical Sessions		Technical Sessions	Technical Sessions		
AFTERNOON	12:00-13:30	Lunch			
	13:30-15:00	Technical Sessions	Technical Sessions	Technical Sessions	Technical Sessions
	15:00-17:00	P2-Posters Session and Exhibit (closing) / Coffee	P2-Posters Session and Exhibit (closing) / Coffee	P2-Posters Session and Exhibit (closing) / Coffee	P2-Posters Session and Exhibit (closing) / Coffee

GROUP 1: Optical Metrology, ...**GROUP 2:** Optical Engineering, ...**GROUP 3:** Environmental Optics, ...**GROUP 4:** Quantum Optics, ...

THURSDAY, September 23

GENERAL

	TIME	GROUP 1	GROUP 2	GROUP 3	GROUP 4
MORNING	08:00-09:00	Registration			
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	09:00-09:30	Halina Rubinsztein	Halina Rubinsztein	Halina Rubinsztein	Halina Rubinsztein
	09:30-10:00	Pierre Meystre	Pierre Meystre	Pierre Meystre	Pierre Meystre
	10:00-10:30	Coffee Break			
	10:30 - 12:00	Technical Sessions	Invited Conference	Invited Conference	Invited Conference
			Javier Alda	Gabriel Bilmes	Juan Pérez Torres
			Technical Sessions	Technical Sessions	Technical Sessions
AFTERNOON	12:00-13:30	Lunch			
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	13:30-14:15	Mario Bertolotti	Mario Bertolotti	Mario Bertolotti	Mario Bertolotti
	14:15-15:30	Sune Svanberg	Sune Svanberg	Sune Svanberg	Sune Svanberg
	15:00-15:30	Coffee Break			
	15:30-17:45	SPIE & OSA awards announcement	SPIE & OSA awards announcement	SPIE & OSA awards announcement	SPIE & OSA awards announcement
		General Assembly	General Assembly	General Assembly	General Assembly
	21:00	Artistic Show and Dinner	Artistic Show and Dinner	Artistic Show and Dinner	Artistic Show and Dinner

GROUP 1: Optical Metrology, ...

GROUP 2: Optical Engineering, ...

GROUP 3: Environmental Optics, ...

GROUP 4: Quantum Optics, ...

FRIDAY, September 24					
GENERAL					
MORNING	TIME	GROUP 1	GROUP 2	GROUP 3	GROUP 4
	08:00-09:00				
		Plenary Conferences	Plenary Conferences	Plenary Conferences	Plenary Conferences
	09:00-09:30	Katarina Svanberg	Katarina Svanberg	Katarina Svanberg	Katarina Svanberg
	09:30-10:00	Mitsuteru Inoue	Mitsuteru Inoue	Mitsuteru Inoue	Mitsuteru Inoue
	10:00-10:30	Coffee Break			
	10:30 - 12:00	Invited Conference	Technical Sessions	Technical Sessions	Invited Conference
		Marco Gesualdi			Alex Grishin
		Technical Sessions			Invited Conference
					Miguel Levy
Technical Sessions					
AFTERNOON	12:00-13:30	Lunch			
	13:30-15:00	Ancient Peruvian culture conference	Ancient Peruvian culture conference	Ancient Peruvian culture conference	Ancient Peruvian culture conference
	15:00-18:00	Museum / Archeological site visit	Museum / Archeological site visit	Museum / Archeological site visit	Museum / Archeological site visit

GROUP 1: Optical Metrology, ...

GROUP 2: Optical Engineering, ...

GROUP 3: Environmental Optics, ...

GROUP 4: Quantum Optics, ...



GROUP 1: Optical Metrology, ...

Optical Metrology. Holography. Interferometry.
Diffractive Optics. Physical Optics.



MONDAY, SEPTEMBER 20



Edificio Mac Gregor, Oficina de eventos • 08:00 – 10:30h • Registration Open

Edificio Mac Gregor, Aula N-413 • 10:30 – 12:00h • Technical Sessions

R. Castañeda, Chair

R. Castañeda • 10:30h **Invited**
POINT SOURCES OF CLASSICAL OPTICAL FIELDS
IN ANY STATE OF SPATIAL COHERENCE
R. Castañeda, G. Cañas-Cardona, J. Garcia-Sucerquia
Univ. Nacional de Colombia. Colombia.

I_075 • 11:00h
ALTERNATIVE COHERENT-MODE
REPRESENTATION OF A RANDOM
ELECTROMAGNETIC SOURCE
A. Ostrovsky, A. Zemliak, M. Olvera
Universidad Autónoma de Puebla. Mexico.

I_021 • 11:15h
STUDY OF A MULTILAYER PLASMONIC
STRUCTURE HOLOGRAPHICALLY RECORDED
FOR SENSOR APPLICATIONS
L.F. Avila¹, J.W. Menezes¹, B.V. Borges², L. Cescato¹
¹IFGW/UNICAMP. Brazil.
²EESC/USP. Brazil.

I_053 • 11:30h
CLASSICAL DIFFRACTION EXPERIMENTS FOR
DIGITAL HOLOGRAPHY ALGORITHM
CALIBRATION
L. Ángel, D. Sierra
Universidad EAFIT. Colombia.

I_111 • 11:45h
ON THE IMPLEMENTATION OF PLAUSIBLE
REASONING BY FOURIER-HOLOGRAPHY
TECHNIQUE
A. V. Pavlov
St. Petersburg State University. Russia.

12:00 – 13:30h • Lunch

Edificio Mac Gregor, Aula N-413 • 13:30 – 15:00h • Technical Sessions

P. Andrés, Chair

I_123 • 13:30h
SINGLE-SHOT COLOR DIGITAL HOLOGRAPHY
BY USING THE FRACTIONAL TALBOT EFFECT
L. Martínez¹, M. Araiza², B. Javidi³, P. Andrés⁴, J.
Lancis¹, V. Climent¹, R. Martínez¹, E. Tajahuerce¹
¹Universitat Jaume I. Spain.
²Univ. Autónoma de Zacatecas. Mexico.
³University of Connecticut. USA.
⁴Universitat de València. Spain.

I_033 • 13:45h
STUDY OF THE PHASE CONJUGATION
REFLECTIVITY AND SENSITIVITY OF FIBER
SPECKLEGRAM SENSORS BASED ON VOLUME
RECORDING MEDIA
Á. Salazar¹, J.A. Gómez^{1,2}, H. Lorduy G.¹
¹Universidad Pontificia Bolivariana. Colombia.
²Politécnico Colombiano Jaime Isaza Cadavid. Colombia.

I_058 • 14:00h
DIGITAL SPECKLE SHEAROGRAPHY SYSTEM
FOR DYNAMIC INSPECTION OF MATERIALS
UNDER HEAT STRESS
N.A. Correa, J.D. Causado-Buevas, G. Cañas,
R. Castañeda
Universidad Nacional de Colombia. Colombia.

I_052 • 14:15h

**SPECKLE FIELDS SYNTHESIS BY USING THE
DISCRETE FRESNEL TRANSFORM ALGORITHM**

L. Ángel, D. Sierra

Universidad EAFIT. Colombia.

I_006 • 14:30h

**LIGHT SCATTERING OF PARTICLES WITH
INCLUSIONS. INVERSE PROBLEM SOLUTION IN
THE RAYLEIGH-GANS APPROXIMATION**

G.E. Elicabe, F.A. Otero, G.L. Frontini

University of Mar del Plata and CONICET. Argentine.

I_103 • 14:45h

**DOUBLE SCATTER OF VECTOR
ELECTROMAGNETIC WAVES FROM ROUGH
METAL AND DIELECTRIC SURFACES USING THE
KIRCHHOFF APPROXIMATION**

N. C. Bruce

Univ. Nac. Autónoma de México. Mexico.

15:00 – 15:30h • Coffee Break

Auditorio de Derecho, 15:30 – 15:45h • Welcome

Auditorio de Derecho, 15:45h • Plenary

GRADIENT-INDEX MATERIALS MANUFACTURING IN NATURE AND MANMADE

D.T. Moore

University of Rochester. USA.

Auditorio de Derecho, 16:45h • Plenary

VARIABLE COHERENCE SENSING

A. Dogariu

University of Central Florida USA.

TUESDAY, SEPTEMBER 21



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

PRECISION INTERFEROMETRIC MEASUREMENTS IN NON-IDEAL ENVIRONMENTS

J. C. Wyant

University of Arizona. USA.

Auditorio de Derecho, 09:30h • Plenary

THE DESIGN OF OPTICAL SYSTEMS WITH OFF-AXIS SPHERICAL MIRRORS

D. Malacara

Centro de Investigaciones en Óptica. Mexico.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-413 • 10:30 – 12:00h • Technical Sessions

C. Ferreira, Chair

P. Sandoz • 10:30h

Invited

BIOLOGICAL AND METROLOGY APPLICATIONS
OF SUBPIXEL IN-PLANE POSITION
MEASUREMENTS BASED ON FOURIER
PROCESSING AND PHASE COMPUTATIONS OF
IMAGES

P. Sandoz, J.A. Galeano

Université de Franche-Comté. France.

C. Ferreira • 11:00h

Invited

TWO-DIMENSIONAL SUPERRESOLUTION AND
FIELD OF VIEW IMPROVEMENT USING AXIAL
TEMPORAL COHERENCE CODING.

C. Ferreira¹, V. Mico¹, J. García¹, D. Sylman²,
Z. Zalevsky²

¹Universitat de València. Spain.

²Bar-Ilan University. Israel.

I_060 • 11:30h

A HAND-HELD 3D LASER SCANNING WITH
SUBVOXEL PRECISION.

N.A. Arias¹, N. Meneses¹, J. Meneses¹, T. Gharbi²

¹Univ. Industrial de Santander. Colombia.

²FEMTO-ST. France.

I_073 • 11:45h

TOPOMETRY BY USING IN-PLANE ELECTRONIC
SPECKLE PATTERN INTERFEROMETRY WITH
DIVERGENT ILLUMINATION.

A. Martínez¹, J. Parra-Michel¹, M. Anguiano²,
J.A. Rayas¹

¹CIO. Mexico.

²Inst. Tecnológico de Chihuahua. Mexico.

12:00 – 13:30h. • Lunch

Edificio Mac Gregor, Aula N-413 • 13:30 – 15:00h • Technical Sessions

M. S. Millán, Chair

I_081 • 13:30h

HILBERT TRANSFORM AND OPTICAL
TOMOGRAPHY FOR ANISOTROPIC EDGE
ENHANCEMENT OF PHASE OBJECTS

A. Montes, C. Meneses, G. Rodriguez

Benemérita Univ. Autónoma de Puebla. Mexico.

I_095 • 13:45h

3D VISUALIZATION AND TOPOMETRY IN REAL
TIME

J. A. Rayas, A. Martínez, F. Villa-Villa

Centro de Investigaciones en Óptica. México.

RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...	RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...
---	---

I_082 • 14:00h

**PFAFF EQUATION AND FOURIER ANALYSIS TO
PHASE EXTRACTION FROM AN INTERFEROGRAM
WITH CARRIER FREQUENCY**

F. Lara, C. Meneses, G. Rodriguez

Benemérita Univ. Aut. de Puebla. Mexico.

I_113 • 14:15h

**GROOVES WITH A SCANNING DIFFERENTIAL
HETERODYNE MICROSCOPE**

I.M. Akhmedzhanov¹, D.V. Baranov¹,

S.I. Bozhevolnyi², E.M. Zolotov¹

¹*Russian Academy of Sciences. Russia.*

²*Univ. of Southern Denmark. Denmark.*

I_005 • 14:30h

**SYSTEM OF LOW-COHERENCE
INTERFEROMETRY FOR INDUSTRIAL
APPLICATIONS**

E.N. Morel, J.R. Torga, F.A. Liporace, G.A. Martinez

Universidad Tecnológica Nacional. Argentine.

15:00 – 17:00h • P1-Posters Session and Exhibit / Coffee

WEDNESDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

A KEY EXPERIMENT OF QUANTUM OPTICS: THE TRANSFER OF SPIN ANGULAR MOMENTUM FROM PHOTONS TO A BIREFRINGENT PARTICLE

W. Dultz

University Frankfurt. Germany.

Auditorio de Derecho, 09:30h • Plenary

MANIPULATING THE CONTINUOUS QUANTUM VARIABLES OF LIGHT

U. Lund Andersen

Technical University of Denmark. Denmark.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-413 • 10:30 – 12:00h • Technical Sessions

G. Rodríguez Zurita, Chair

J. Schmit • 10:30h

Invited

EXPANDING THE APPLICATIONS OF INTERFEROMETRIC OPTICAL PROFILER

J. Schmit

Veeco Instruments, Inc. USA.

G. Rodríguez Zurita • 11:00h

Invited

ONE-SHOT TECHNIQUES WITH MODULATION OF POLARIZATION FOR PHASE-SHIFTING INTERFEROMETRY USING FOUR OR MORE INTERFEROGRAMS

G. Rodríguez, N.I. Toto, C. Meneses, J. Vázquez

Benemérita Universidad Autónoma de Puebla. Mexico.

I_044 • 11:30h

DETERMINATION OF THE COHERENCE VOLUME BY USING A YOUNG - MICHELSON INTERFEROMETER

G. Cañas-Cardona, A. Arias, J. García-Sucerquia, R. Castañeda

Univ. Nacional de Colombia. Colombia.

I_035 • 11:45h

NON-REDUNDANT ARRAY OF APERTURES FOR MEASURING THE COMPLEX DEGREE OF SPATIAL COHERENCE

A.I. González, Y. Mejía

Univ. Nacional de Colombia. Colombia.

12:00 – 13:30h. • Lunch

Edificio Mac Gregor, Aula N-413 • 13:30 – 15:00h • Technical Sessions

B. Vázquez, Chair

I_078 • 13:30h

CHALMERS TEST, WITH A LIQUID CRYSTAL DISPLAY

B. Canales¹, A. Cornejo¹ y F. Granados¹

¹*INAOE. Mexico.*

I_085 • 13:45h

CALIBRATION OF PHASE MEASURES FOR POINT DIFFRACTION INTERFEROMETER

E. Rueda, F.S. Granados, A. Cornejo

INAOE. México.

RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...	RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...
---	---

I_126 • 14:00h

**THE MONTE CARLO METHOD AS A TOOL FOR
STATISTICAL CHARACTERISATION OF
DIFFERENTIAL AND ADITIVE PHASE SHIFTING
ALGORITHMS**

M. Miranda, B.Vázquez, J. Blanco, J. Bugarín, F. Ribas
Universidade de Vigo. Spain.

I_020 • 14:15h

**LONG-PERIOD GRATING BASED ALL-FIBER
COAXIAL REFRACTOMETRIC SENSOR**

L. Mosquera^{1,2}, J. H. Osorio¹, C.M.B. Cordeiro¹

¹*UNICAMP. Brazil.*

²*Universidad Nacional de Ingeniería. Peru.*

15:00 – 17:00h • P2-Posters Session and Exhibit / Coffee

THURSDAY, SEPTEMBER 23



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

OPTICAL TWEEZERS AND ANGULAR MOMENTUM OF LIGHT

T. Asavei, A. Stligoe, Maucort, T. Nieminen, N. Heckenberg, H. Rubinsztien
University of Queensland. Australia.

Auditorio de Derecho, 09:30h • Plenary

CAVITY OPTOMECHANICS

P. Meystre
University of Arizona. USA.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-413 • 10:30 – 12:00h • Technical Sessions

A. Olivares, Chair

I_071 • 10:30h

**LIPPMANN PHOTOGRAPHY APPROACH IN A
PAGE-ORIENTED “HOLOGRAPHIC” DATA
STORAGE SYSTEM**

K. Contreras, G. Pauliat
Univ Paris-Sud, France.

I_096 • 10:45h

**REAL TIME GRATINGS IN E Cure 901[®] POLYMER
G. Mellado¹, M. Ortiz¹, M. Pérez², G. Gómez³,
A. Pérez³, J. C. Ibarra³**

¹Universidad Michoacana de San Nicolás de Hidalgo.
Mexico.

²Universidad Autónoma de Yucatán. Mexico.

³Universidad de Guadalajara. Mexico.

I_106 • 11:00h

**ENVIRONMENTAL CONDITIONS INFLUENCE FOR
REAL-TIME HOLOGRAM FORMATION ON
DICHROMAED POLYVINYL ALCOHOL NiCl₂·6H₂O
DOPED FILMS**

R.C. Fontanilla-Urdaneta, A. Olivares-Pérez,
I. Fuentes-Tapia, M.A. Ríos-Velasco
INAOE. Mexico.

I_045 • 11:15h

**CALCULATION MODEL FOR THE TWO-WAVE
MIXING GAIN IN A BSO CRYSTAL AS A FUNCTION
ON THE INPUT BEAM POLARIZATION ANGLE**

H. Lorduy G.¹, J.A. Gómez², Á. Salazar¹

¹Universidad Pontificia Bolivariana. Colombia.

²Politécnico Colombiano Jaime Isaza Cadavid. Colombia.

I_077 • 11:30h

**RELEVANCE OF SURFACE EFFECTS ON THE d/a^0
REFLECTANCE FACTOR**

A. García-Valenzuela¹, F. L. S. Cuppo², J.A. Olivares²

¹Univ. Nac. Autónoma de México. Mexico

²Centro de Inves. en Polímeros. Mexico.

12:00 – 13:30h. • Lunch

RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...	RIAO-OPTILAS 2010 GROUP 1: Optical Metrology, ...
---	---

Auditorio de Derecho, 13:30h • Plenary

THE HIDDEN SIDE OF THE LASER STORY

M. Bertolotti

University of Roma “La Sapienza”. Italy.

Auditorio de Derecho, 14:15h • Plenary

LASER SPECTROSCOPY APPLIED TO ENVIRONMENTAL AND MEDICAL RESEARCH

S. Svanberg

Lund University. Sweden.

15:00 – 15:30h. • Coffee Break

15:30 – 17:45h • SPIE & OSA awards announcement • General Assembly

21:00 h • Artistic Show and dinner

FRIDAY, SEPTEMBER 24



Auditorio de Derecho, 09:00h • Plenary

DIAGNOSTICS AND TREATMENT OF TUMOURS USING LASER TECHNIQUES

K. Svanberg

Lund University. Sweden.

Auditorio de Derecho, 09:30h • Plenary

MAGNETO- AND MULTIFERROIC PHOTONICS AND THEIR APPLICATION TO SPATIAL LIGHT MODULATORS

M. Inoue

Toyohashi University of Technology. Japan.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-413 • 10:30 – 12:00h • Technical Sessions

M. Muramatsu, Chair

I_070 • 10:30h

Invited

PHOTOREFRACTIVE DIGITAL HOLOGRAPHIC MICROSCOPY

J. Ricardo¹, M. Muramatsu², F. Palácios¹,
M.R.R. Gesualdi³, J.L. Valin⁴

¹Orients University. Cuba.

²USP, SP. Brazil.

³UFABC, SP. Brazil.

⁴ISPJAE. Cuba.

I_070 • 11:30h

DESIGNING FRESNEL MICROLENSSES BY USING THE FRACTIONAL FOURIER TRANSFORM AND FOCUSING ASTIGMATIC GAUSSIAN BEAMS

A. Patiño^{1,2}, P.E. Durand¹, E. Forget¹, P. Pellat-Finet¹

¹Université de Bretagne Sud. France.

²Universidad Tecnológica de Bolívar. Colombia.

I_042 • 11:00h

COMPENSATION OF PHASE ALTERATION IN REFLECTION DIGITAL HOLOGRAPHIC MICROSCOPY

O. Rincón¹, F. Monroy¹, R. Amézquita¹,
J. García-Sucerquia²

¹Univ. Nacional de Colombia. Colombia.

²Univ. Nacional de Colombia. Colombia.

I_127 • 11:45h

GENERATION OF FEMTOSECOND PARAXIAL BEAMS WITH ARBITRARY SPATIAL DISTRIBUTION USING TWO VOLUME HOLOGRAPHIC GRATINGS

O. Martínez-Matos¹, J.A. Rodrigo²,
M.P. Hernández-Garay¹, J.G. Izquierdo¹, R. Weigand¹,
M.L. Calvo¹, P. Cheben³, P. Vaveliuk^{1,4}, L. Bañares¹

¹Univ. Complutense de Madrid. Spain.

²Instituto de Óptica (CSIC). Spain.

³NRC. Canada.

⁴Servicio Nacional de Aprendizagem Industrial SENAI-Cimatec. Brazil.

I_065 • 11:15h

PHASE MEASUREMENT IN LENS-LESS DIGITAL IN-LINE HOLOGRAPHIC MICROSCOPY

S. Serna, J.F. Restrepo, J. García-Sucerquia

Univ. Nacional de Colombia. Colombia.

12:00 – 13:30h. • Lunch

13:30 – 15:00h • Ancient Peruvian culture conference

15:00 – 18:00h • Museum // Archeological site visit

Poster Session
Group 1

TUESDAY, SEPTEMBER 21

15:00 – 17:00h • P1-Posters Session and Exhibit / Coffee Break

I_001

THOROUGH CHARACTERIZATION OF SPATIAL LIGHT MODULATORS LCR2500, TUNED IN ONLY PHASE MODULATION
J. E. Rueda, L. A. Guerra, A.L. Romero
Universidad de Pamplona. Colombia.

I_002

3D FIELD CORRELATION OF SPECKLES GENERATED BY PUPILS WITH MULTIPLE APERTURES
A. Lencina^{1,2}, R. Guzmán^{3,4}, M. Tebaldi^{1,2}, N. Bolognini^{1,2}
¹CONICET La Plata. Argentina.
²Univ. Nacional de La Plata. Argentina.
³Universidad de La Frontera. Chile.
⁴Universidad de Concepcion. Chile.

I_003

DIGITAL HOLOGRAPHIC MICROSCOPY FOR DETECTION OF TRYPANOSOMA CRUZI PARASITE IN BLOOD
A. Monaldi, G. Romero, E. Alanís
Universidad Nacional de Salta. Argentina.

I_004

DIFFRACTION PROPERTIES OF FIBONACCI METALLIC GRATINGS
D.C. Skigin¹, R.A. Depine¹, J.A. Monsoriu², W.D. Furlan³
¹Universidad de Buenos Aires. Argentina.
²Univ. Politécnica de Valencia. Spain.
³Universitat de València. Spain.

I_007

REFLECTION AND REFRACTION IN ACTIVE DIELECTRIC MATERIALS
M.C. Duplaá¹, L.I. Perez^{1,2}, C.L. Matteo^{1,3}, M.T. Garea¹
¹Universidad de Buenos Aires. Argentina.
²INTECIN-CONICET. Argentina.
³CONICET (Argentina)

I_008

MEASUREMENTS OF NANOVARIAION IN PIEZOELECTRIC SENSOR SURFACE USING SPECKLE CORRELATION
M.F. Ruiz Gale, E. Hogert
Comisión Nacional de Energía Atómica. Argentina.

I_010

GHOST IMAGE AND GHOST DIFFRACTION WITH THERMAL LIGHT GENERATED BY MEANS OF A PROGRAMMABLE SLM
M.G. Capeluto¹, E. Duisterwinkel², C. Schmiegelow¹, D. Francisco¹, S.A. Ledesma¹, C.C. Iemmi¹
¹Universidad de Buenos Aires. Argentina.
²University of Groning. The Netherlands.

I_011

OPTICAL PROFILOMETRY BY LASER TRIANGULATION
E. Hogert, M. Landau
Comisión Nacional de Energía Atómica Argentina.

I_012

IMPLEMENTATION AND COMPARISON OF DYNAMIC AND STATIC LIGHT SCATTERING TECHNIQUES FOR POLIDISPERSE PARTICLE SIZING USING A CCD CAMERA
N. Álvarez¹, F. Pérez Quintián^{2,3}
¹Universidad de Buenos Aires. Argentina.
²Universidad del Comahue. Argentina.
³CONICET. Argentina.

I_013

STRUCTURAL MODEL FOR THE TELLURITE GLASS SYSTEM TeO₂-Li₂O-WO₃
A.A. Monteiro, V. Gordo, K. Yukimitu, J.B.B. De Oliveira
Universidade Estadual Paulista. Brazil.

I_014

HOLOGRAPHIC RECORDING AND ERASURE IN BTO CRYSTAL IN THE INFRARED UNDER APPLIED ELECTRIC FIELD ACTION
A.L. Moura¹, A.F. Pereira¹, J.F. Carvalho², P.V. dos Santos¹
¹Universidade Federal de Halagoas. Brazil.
²Universidade Federal de Goiás. Brazil.

I_015

DYNAMIC MOIRÉ PATTERNS FOR OPTICAL PROFILOMETRY APPLICATIONS
G. N. de Oliveira, M. E. de Oliveira, P. A. M. dos Santos
Universidade Federal Fluminense, Brazil

I_016

DYNAMIC OF FAST AND SLOW GRATINGS IN DOPED TITANOSILLENITE PHOTOREFRACTIVE CRYSTALS
L. De Oliveira, R. Montenegro, J. Frejlich
¹UNICAMP. Brazil.

I_017

PLASMONIC STRUCTURES FABRICATION: FOCUSED ION BEAM X HOLOGRAPHIC LITHOGRAPHY
J.W. Menezes, L.F. Avila, L. Cescato
DFMC-UNICAMP. Brazil.

I_018

EFFECT OF THE DIAMETER OF NANOHOLES IN PLASMONIC STRUCTURES GENERATED BY HOLOGRAPHY FOR SENSOR APPLICATIONS
J.W. Menezes, L.F. Avila, L. Cescato
DFMC-UNICAMP. Brazil.

I_021

STUDY OF A MULTILAYER PLASMONIC STRUCTURE HOLOGRAPHICALLY RECORDED FOR SENSOR APPLICATIONS
L.F. Avila¹, J.W. Menezes¹, B.V. Borges², L. Cescato¹
¹IFGW/UNICAMP. Brazil.
²EESC/USP. Brazil.

I_022

DIGITAL HOLOGRAPHY MICROSCOPY IN 3D BIOLOGIC SAMPLES ANALYSIS
J.R. Pérez¹, M. Muramatsu², F. Palácios¹, M.R.R. Gesualdi³, J.L. Valin⁴, O. Font⁵
¹Oriente University. Cuba.
²USP, SP. Brazil.
³UFABC, SP. Brazil.
⁴ISPJAE. Cuba.
⁵Oriente University. Cuba.

I_024

POTENTIALITIES OF THE DIGITAL HOLOGRAPHY IN THE STUDY OF THE FRAUNHOFER DIFFRACTION PATTERN OF MICROSCOPIC OBJECTS
J.R. Pérez¹, M. Muramatsu², F. Palácios¹, M.R.R. Gesualdi³, J.Valin⁴, O. Font¹, G. Palacios¹, D. Palacios⁵, S. Herold¹, M. Escobedo¹
¹Oriente University. Cuba.
²USP, SP. Brazil.
³UFABC, SP. Brazil
⁴ISPJAE, Habana- Cuba.
⁵Simón Bolívar University. Venezuela.

I_025

PHASE-SHIFTING REAL-TIME HOLOGRAPHIC MICROSCOPY APPLIED IN MICRO-STRUCTURES SURFACE ANALISYS
I. V. Brito¹, M. R. R. Gesualdi¹, M. Muramatsu², J. Ricardo³
¹UFABC. Brazil.
²USP. Brazil.
³Universidad de Oriente. Cuba.

I_026

DIGITAL HOLOGRAPHY MICROSCOPY USING A SINGLE MODE FIBER AND AN ERROR CORRECTION METHOD
K. Matsuda¹, M. Muramatsu², S. Rehman³, M. R.R.Gesualdi⁴
¹NIAIST. Japan.
²Univ. de São Paulo. Brazil.
³National Univ. of Singapore. Singapore.
⁴Univ. Federal do ABC. Brazil.

I_027

FORMATION AND LOCALIZATION OF DIGITAL SPECKLE FRINGE PATTERNS FOR WAVEFRONT RECONSTRUCTION
E. Acedo Barbosa¹, M.R.R. Gesualdi², M. Muramatsu³
¹UNESP. Brazil.
²Universidade Federal do ABC. Brazil.
³Universidade de São Paulo. Brazil.

I_028

SIMPLE OPTICAL SETUP IMPLEMENTATION FOR DIGITAL FOURIER TRANSFORM HOLOGRAPHY
G.N. de Oliveira, D.M.C. Rodrigues, P.A.M. dos Santos
Universidade Federal Fluminense. Brazil.

I_029

GENERATION OF OPTICAL LATTICES USING LIGHT BEAMS WITH ORBITAL ANGULAR MOMENTUM
W.C. Soares¹, D.P. Caetano¹, J.M. Hickmann¹, S. Chávez-Cerda²
¹Universidade Federal de Alagoas. Brazil.
²INAOE. Mexico.

Poster Session Group 1

I_030

CHARACTERIZATION PROCESS OF A TWISTER NEMATIC LCD IN SINGLE-PHOTON LIMIT DETECTION

A. Vargas^{1,2}, R. Guzmán^{1,2}, G. Lima², C. Saavedra², I. Moreno⁴

¹Universidad de La Frontera. Chile.

²Universidad de Concepción. Chile.

³Universidad Miguel Hernández. Spain.

I_031

CLUSTERED SPECKLE IN OPTICAL TWEEZERS

J.P. Staforelli¹, J.M. Brito¹, E. Vera¹, P. Solano¹, A. Lencina^{2,3}

¹Universidad de Concepción. Chile.

²CONICET La Plata. Argentine.

³Univ. Nacional de La Plata. Argentine.

I_032

THREE-DIMENSIONAL EXPLORATION OF THE CROSS-SECTION OF EXTRUDED PROFILES BY MEANS LASER TRIANGULATION

A.F. Muñoz P., J.C. Ramírez R., J.G. Barrero, J.E. Meneses F.

Univ. Industrial de Santander. Colombia.

I_036

MICROSCOPIC INSPECTION OF METAL SURFACES BY MATCHING PHOTOMETRIC STEREO IMAGES

C. Chacón, C. Osorio, L. Gabriel Valdivieso, A. Plata Gómez

Universidad Industrial de Santander. Colombia.

I_037

PINHOLE CAMERA UNDER STUDY OF APPROACH METAXIAL AND THE FRACTIONAL FOURIER OPTICS

Z. Lizarazo, R. Torres, C. Chacón

Universidad Industrial de Santander. Colombia.

I_038

REAL TIME NUMERICAL RECONSTRUCTION OF DIGITALLY RECORDED HOLOGRAMS

C. Trujillo, J. García-Sucerquia

Univ. Nacional de Colombia. Colombia.

I_039

IMPLEMENTATION AND CALIBRATION OF A LASER DOPPLER VELOCIMETER IN ORDER TO MEASURE LIQUIDS VELOCITY

C.F. Ordóñez Urbano, J. León Tellez

Universidad del Cauca. Colombia.

I_040

DIFRACTIVE ELEMENTS PERFORMANCE IN CHROMATIC CONFOCAL MICROSCOPY

D. Duque¹, J. Garzón¹, Á. Aleán Vanegas¹, M.F. Toledo¹, J. Meneses², T. Gharbi³

¹Univ. Pontificia Bolivariana. Colombia.

²Univ. Industrial de Santander. Colombia.

³Université de Franche-Comté. France.

I_041

TALBOT EFFECT WITH IMPERFECT PERIODIC OBJECTS

E. Rueda, F. Medina, J.F. Barrera

Universidad de Antioquia. Colombia.

I_043

TEMPERATURE CONTROLLED TOPOGRAPHY AND INDEX OF REFRACTION DECOUPLING IN MICROSCOPY INTERFEROMETRY

F.A. Monroy Ramírez, J. García-Sucerquia

Universidad Nacional de Colombia. Colombia.

I_046

EFFICIENT ALGORITHM FOR CALCULATING INTERFERENCE AND DIFFRACTION PATTERNS WITH OPTICAL FIELDS IN ANY STATE OF SPATIAL COHERENCE

H. Muñoz¹, R. Castañeda¹, J. García-Sucerquia¹

¹Universidad Nacional de Colombia sede

Medellín. Colombia

I_047

DIGITAL APPROXIMATION TO EXTENDED DEPTH OF FIELD FOR NON-TELECENTRIC IMAGING SYSTEMS

J. Meneses, R. Contreras

Universidad Industrial de Santander. Colombia.

I_048

INFLUENCE OF THE SPECKLE SIZE ON SPECKLEGRAM SENSORS BASED ON VERY LOW SNR FIBERS AND BSO CRYSTALS

J.A. Gómez^{1,2}, H. Lorduy G.¹, Á. Salazar¹

¹Univ. Pontificia Bolivariana. Colombia.

²Politécnico Colombiano Jaime Isaza Cadavid. Colombia.

I_050

SPATIAL COHERENCE OF HIGHER - ORDER AND CORRELATION BETWEEN SPATIAL COHERENCE WAVELETS

R. Castañeda¹, G. Cañas-Cardona¹,

J. González², H. Vinck-Posada²

¹Univ Nacional de Colombia. Colombia.

²Universidad de Antioquia. Colombia.

I_051

NANOCHARACTERIZACION OF THICKNESS OF TIN FILMS OBTAINED BY IONIC DEPOSITION

L. Lara O.¹, M.I. Jerez A.¹,

L. Dary Morantes M.¹, A. Plata Gomez²,

Y. Torres², M.C. Lasprilla², V. Zhabon³

¹Univ. Industrial de Santander. Colombia

²Grupo de Óptica y Tratamiento de Señales. Colombia.

³Física y Tecnología del Plasma y Corrosión. Colombia.

I_054

AUTOMATIC VERIFICATION OF MATRIX WEAR STATE FOR METAL FORGING USING A 3D SCANNING SYSTEM

L.D. Morantes M.¹, C.A. Chacon¹,

M.I. Jerez A.¹, L. Lara O.¹, J. Meneses²,

A. Plata Gomez²

¹Univ. Industrial de Santander. Colombia.

²Grupo de Óptica y Tratamiento de Señales. Colombia.

I_055

CHARACTERIZATION OF THE STRUCTURE OF THE COATING OF MULTILAYERS USING AFM AND INTERFEROMETRIC MICROSCOPY

M.I. Jerez A.¹, L. Lara O.¹,

L.D. Morantes M.¹, A. Plata Gomez²,

Y. Torres², P. Tsygankov²

¹Univ. Industrial de Santander. Colombia

²Grupo de Óptica y Tratamiento de Señales. Colombia.

I_056

CCD CAMERA CALIBRATION FOR 3D-METROLOGY ON CYLINDRICAL SURFACES

N. Múnera, J. García-Sucerquia

Universidad Nacional de Colombia. Colombia.

I_059

3D OBJECT TRACKIN USING A PHASE SENSITIVE METHOD

N.A. Arias H.¹, M.A. Suarez², J. Meneses¹, T. Gharbi²

¹Univ. Industrial de Santander. Colombia.

²FEMTO-ST. France.

I_061

RECONSTRUCTION OF OBJETS FOR PROFILOMETRY INTERFEROMETRY WITH GRAN RANGE AXIAL

N.A. Arias H.¹, J. Meneses¹, T. Gharbi²

¹Univ. Industrial de Santander. Colombia.

²FEMTO-ST. France.

I_062

INTERACTING BOSON SYSTEM IN DISSIPATIVE ENVIRONMENTS

R.D. Guerrero, H. Vinck-Posada,

K.M. Fonseca

Univ. Nacional de Colombia. Colombia.

I_063

FRESNEL DIFFRACTION AND FRACTIONAL FOURIER OPTICS

R. Torres, Z. Lizarazo

Universidad Industrial de Santander. Colombia.

I_066

ABERRATION COMPENSATION USING A LIGHT SPATIAL MODULATOR LCD

R. Amezcuita¹, O. Rincon², M. Torres¹

¹Univ. Nacional de Colombia. Colombia.

²Combustión Ingenieros LTDA. Colombia.

I_067

DIAMETER AND AXIAL POSITION MEASUREMENT OF MICROMETRIC PARTICLES BY IN-LINE DIGITAL HOLOGRAPHY USING WAVELET TRANSFORM

Y.M. Torres¹, F. Monroy¹, R.Amézcuita¹,

J. García-Sucerquia

¹Univ. Nacional de Colombia. Colombia.

²Univ. Nacional de Colombia. Colombia.

I_068

MAKING HOLOGRAVURES AS COMPUTER GENERATED AND LASER ENGRAVED SCRATCH HOLOGRAMS

A.G. Augier, R.B. Sánchez

InSTEC. Cuba.

Poster Session Group 1

I_069

ELECTRO-OPTICAL METHOD
POLARIMETRIC MESUREMENT

L.J. Miranda Díaz

*Center for Technological Applications and
Nuclear Development. Cuba.*

I_074

COLOR MULTIPLEXING USING
DIRECTIONAL HOLOGRAPHIC
GRATINGS AND LINEAR POLARIZATION

L.I. Lugo Pérez, A. Rodríguez Cobos,

G. Ramírez Flores S. Guel Sandoval

*Universidad Autónoma de San Luis Potosí.
México.*

I_076

SIMPLE TECHNIQUE FOR GENERATING
THE PARTIALLY COHERENT AND
PARTIALLY POLARIZED
ELECTROMAGNETIC SOURCE

A. Ostrovsky, G. Rodríguez, C. Meneses,
M. Olvera

Universidad Autónoma de Puebla. Mexico.

I_079

CHARACTERIZATION OF PARAMETERS
IN 3D PARTICLE IMAGE VELOCIMETRY

C. Mares, B. Barrientos

CIO. Mexico.

I_080

SIZE AND REFRACTIVE INDEX
MEASUREMENT OF COLLOIDAL
PARTICLES

C. Sánchez-Pérez, A. García-Valenzuela

*Universidad Nacional Autónoma de México,
Mexico.*

I_083

LINEAL PHASE IN THE COMMON PATH
INTERFEROMETRY BY LONGITUDINAL
TRASLATION OF THE RULING

E. Barojas, C. Meneses, G. Rodríguez

Benemérita Univ. Aut. de Puebla. Mexico.

I_084

RAY TRACING TO STUDY OF WAX
AROUND OF CLOUD POINT BY OPTICAL
ABSORPTION TOMOGRAPHY

L. Moreno, C. Meneses, N. Herrera,

G. Rodríguez

Benemérita Univ. Aut. de Puebla. Mexico.

I_087

WAVEFRONT CALCULATION FROM THE
BACKSCATTERING PHASE IN THE
PROOF OF OPTICAL ELEMENTS

G. Díaz-González¹, J. Muñoz-López¹,

J. Castro-Ramos¹, A. Santiago-Alvarado²

¹INAOE, Mexico.

²Universidad Tecnológica de la Mixteca. Mexico.

I_089

MODULATION OF POLARIZATION FOR
PHASE-SHIFTING HOLOGRAPHIC
INTERFEROMETRY WITH TWO
REFERENCES

G. Rodríguez, J. Vázquez, N.I. Toto,

C. Meneses, L. E. Jiménez

*Benemérita Universidad Autónoma de Puebla.
Mexico.*

I_090

EXPERIMENTAL EVIDENCE OF AN
EFFECTIVE MEDIUM FOR DIFFUSE
LIGHT IN TURBID COLLOIDS

H. Contreras-Tello, A. García-Valenzuela

*Universidad Nacional Autónoma de México.
Mexico.*

I_091

GENERATION OF NEW PROPAGATION
INVARIANT BEAMS

J. Mendoza Hernández¹, M.L. Arroyo Carrasco¹

and M.M. Méndez Otero¹,

S. Chávez Cerda², M.D. Iturbe Castillo²

¹BUAP. Mexico.

²INAOE. Mexico.

I_093

SISTEMA PARA LA DETERMINACIÓN
EXPERIMENTAL DE LA LONGITUD DE
LA CAVIDAD DE UN LÁSER

L. Rojas-Cortéz, J. Castillo-Mixcóatl,

G. Beltrán-Pérez, S. Muñoz-Aguirre

Ben. Univ. Autónoma de Puebl.Mexico.

I_094

IMPLEMENTACIÓN DE UN ALGORITMO
DE SEGUIMIENTO DE CAMINO PARA EL
DESENVOLVIMIENTO DE FASE EN 2D
MEDIANTE MAPAS DE CALIDAD

G. Domínguez-Guzmán, J. Castillo-Mixcóatl,

S. Muñoz-Aguirre, G. Beltrán-Pérez

Ben. Univ. Autónoma de Puebl.Mexico.

I_097

DOUBLE MACH-ZEHNDER
INTERFEROMETER FOR TOMOGRAPHIC
OBTENTION OF THE TEMPERATURE
DISTRIBUTION OF A FLAME

L.R. Berriel Valdos¹, E. De la Rosa Miranda²,

J.F. Aguilar Valdez¹, J.C. Aguilar-López¹

¹INAOE. Mexico.

²Univ. Autónoma de Zacatecas. Mexico.

I_098

b-CAROTENE, ELECTRICAL
PROPERTIES

M. J. Ordóñez-Padilla^{1,2},

A. Olivares-Pérez¹,

V. Santacruz-Vázquez²,

C. Santacruz-Vázquez², S. Toxqui-López¹,

V. Dorantes-García^{1,2}, I. Fuentes-Tapia¹

INAOE. Mexico.

Universidad Autónoma de Puebla. Mexico.

I_099

THE USE OF A CONICAL LENS TO FIND
THE REFRACTIVE INDEX OF LIQUIDS

M. Anguiano, D. Salas, G. Trujillo

Instituto Tecnológico de Chihuahua. Mexico.

I_100

NEW HARTMANN'S SCREENS TO TEST A
PLANE-CONVEX SPHERICAL

BIREFRINGENT LENS

M. Avendaño-Alejo, D.M. González-Utrera

Universidad Nacional Autónoma de México.

Mexico

I_101

EQUATION FOR THE CAUSTIC SURFACE
PRODUCED BY REFRACTION THROUGH
AN ASPHERICAL PLANE-CONVEX LENS,
TO DESIGN NEW HARTMANN'S NULL
SCREENS

M. Avendaño-Alejo, D. M. González-Utrera

Universidad Nacional Autónoma de México,

Mexico.

I_102

THE RONCHI TEST USING AN LCD AS A
PHASE GRATING

M. Mora-González, F.J. Casillas,

J. Muñoz-Maciel, R. Chiu-Zarate,

G. Gómez-Rosas, J. Salinas-Luna,

F.G. Peña-Lecona

Universidad de Guadalajara. Mexico.

I_104

DESIGN OF A SCANNING
POLARIMETRIC SCATTEROMETER FOR
2D ROUGH SURFACE SCATTERING
MEASUREMENTS

N. C. Bruce, A. Dominguez, T. Santana,

X. Téllez, A. Nogueira, R. Nava

Universidad Nacional Autónoma de México.

Mexico.

I_105

HOLOGRAMS RECORDED IN
DICHROMATED SIMPLE SUGARS

N. Mejías-Brizuela¹, A. Olivares-Pérez¹,

A. Grande-Grande²

¹INAOE. Mexico.

²Inst. Tecn. Superior de Atlixco. Mexico.

I_107

NEW NULL SCREEN DESIGNS FOR
TESTING CYLINDRICAL PARABOLIC
CONCENTRATORS

R. Díaz¹, J. Beltrán¹, V.I. Moreno²

¹Univ. Nac. Autónoma de México. Mexico.

²Univ. de la Ciénega del Estado de Michoacán de
Ocampo. Mexico.

I_108

HOLOGRAMS PREPARATION USING
COMMERCIAL FLUORESCENT BENZYL

V. Dorantes -García, A. Olivares- Pérez,

M.J. Ordoñez- Padilla, I. Fuentes -Tapia

INAOE. México.

I_110

RAPID PROTOTYPING AND
INSTRUMENTATION OF AN
INTERFEROMETER FOR OPTICAL
TESTING

M. Asmad, D. Córdova, S. Romero, G. Baldwin

PUCP. Peru.

I_112

IMPLEMENTATION OF THE COUPLED-
WAVE METHOD FOR V-SHAPED
GROOVE CHARACTERIZATION WITH A
SCANNING DIFFERENTIAL

HETERODYNE MICROSCOPE

I.M. Akhmedzhanov, D.V. Baranov,

E.M. Zolotov

Russian Academy of Sciences. Russia.

I_114

ANALYSIS, OPTIMIZATION AND
IMPLEMENTATION OF A DYNAMIC
STOKES POLARIMETER BASED ON LCDs

A. Peinado¹, Á. Lizana¹, J. Vidal^{1,2}, C. Iemmi³,

J. Campos¹

¹Univ. Autònoma de Barcelona. Spain.

²¹ALBA Synchrotron Light Source Facility Spain.

²Universidad de Buenos Aires. Argentine.

Poster Session
Group 1

I_116

AMPLITUDE AND PHASE
CHARACTERIZATION OF SPATIAL
WAVEFRONTS BY DIFFRACTED BEAM
INTERFEROMETRY: BLIND DBI

E. López-Lago, H. González-Núñez,
R. De la Fuente

Univ. de Santiago de Compostela. Spain.

I_117

AMPLITUDE AND PHASE
CHARACTERIZATION BY RADIAL
SHEARING INTERFEROMETRY

E. López-Lago, H. González-Núñez,
R. Fuente

Univ. de Santiago de Compostela. Spain.

I_118

MEASUREMENT OF CONIC ROTATION-
INVARIANT OPTICAL SURFACES

J. Mazzaferri, R. Navarro

Universidad de Zaragoza. Spain.

I_119

DEVELOPMENT OF AN ALGORITHM TO
ESTIMATING PITCH AND ROLL FOR AN
ABSOLUTE FLAT X-RAY MIRROR
TESTING USING LATERAL SHEARING
TECHNIQUE

J. Vidal^{1,2}, J. Nicolas¹, J. Campos²

¹ALBA Synchrotron Light Source Facility. Spain

²Universitat Autònoma de Barcelona. Spain.

I_120

THE FIBONACCI LENS

J.A. Monsoriu¹, A. Calatayud¹,

L. Remón¹, W.D. Furlan², G. Saavedra²,

P. Andrés², E. Tajahuerce³

¹Univ. Politécnica de Valencia. Spain.

²Universitat de València. Spain.

³Universitat Jaume I. Spain.

I_121

ANALYSIS OF THE DOES EFFICIENCY
GENERATED BY LCOS DISPLAYS

A. Lizana¹, L. Lobato¹, C. Iemmi¹,

A. Márquez³, I. Moreno⁴, J. Campos¹,

M.J. Yzuel¹

¹Universitat Autònoma de Barcelona. Spain.

²Universidad de Buenos Aires. Argentine.

³Universidad de Alicante. Spain.

⁴Universidad Miguel Hernández. Spain.

I_122

OPTICAL IMPLEMENTATION OF
MULTIFOCAL PROGRAMMABLE LENS
WITH SINGLE AND MULTIPLE AXIS

L.A. Romero, M.S. Millán, E. Pérez Cabré

Univesitat Politècnica de Catalunya. Spain.

I_125

BIDIMENSIONAL CHARACTERISTIC
POLYNOMIALS IN THE DIRECT
CALCULATION OF OPTICAL PHASE SUM
AND DIFFERENCE

M. Miranda, B.V. Dorrió, J. Blanco,

J. Bugarín, F. Ribas

Universidade de Vigo. Spain.

I_128

INTERFEROMETER WITH EXTENDED
VISIBILITY FOR FEMTOSECOND
RADIATION. APPLICATIONS TO LOW
COHERENCE DIGITAL HOLOGRAPHY

R. Martínez¹, L. Martínez¹, J. Lancis¹,

G. Mínguez¹, O. Mendoza¹, E. Tajahuerce¹,

P. Clemente¹, P. Andrés²

¹Universitat Jaume I. Spain.

²Universitat de València. Spain.

I_129

TELEPORTATION OF DISPLACED FOCK
STATES: FIDELITY AND THE THEIR
TELEPORTED PHOTON NUMBER
DISTRIBUTIONS

W. Quintero, C.L. Ladera

Universidad Simón Bolívar. Venezuela.

I_130

QUANTITATIVE PHASE MICROSCOPY
FOR THE STUDY OF BONE CELLS ON
MULTIPLE ROUGHNESS SURFACES

J. González-Laprea, A. Márquez,

K. Noris-Suárez, R. Escalona

Universidad Simón Bolívar. Venezuela.

I_131

ADAPTIVE CONTROL TO IMPROVE
INTERFEROGRAMS IN PRESENCE OF
MECHANICAL VIBRATIONS

N. Veloz Savino, R. Escalona,

J. González-Laprea

Simón Bolívar University. Venezuela.

I_132

LASER OPTICAL MOUSE APPLIED TO
DYNAMIC SPECKLE SENSING

M. Melo da Silva¹, J. R. de Almeida¹,

M. José Chaves¹, R. A. Braga¹, H. Rabal²

¹Universidade Federal de Lavras. Brazil.

²Univ. Nac. de La Plata. Argentine.



GROUP 2: Optical Engineering, ...

Color, Vision and Radiometry. Electro-optics.
Optical and Digital Image Processing. Optical
Systems, Instruments and Optical Design. Opto-
mechatronics and Optomechanical Design.
Astronomical Instrumentation. Optical testing.
Optical Fabrication and testing.



MONDAY, SEPTEMBER 20



Edificio Mac Gregor, Oficina de eventos • 08:00 – 10:30h • Registration Open

Edificio Mac Gregor, Aula N-404 • 10:30 – 12:00h • Technical Sessions

María Teresa Flores, Chair

M. Flores Arias • 10:30h Invited

GRADIENT-INDEX HUMAN EYE

M.T. Flores-Arias, A.Díaz, C. Gomez
Universidade de Santiago. Spain.

Z. Jaroszewicz • 11:00h Invited

COMPENSATION OF PRESBYOPIA WITH
DIFFRACTIVE OPTICAL ELEMENTS

Z. Jaroszewicz
Institute of Applied Optics-Warsaw. Poland.
National Institute of Telecommunications-Warsaw. Poland.

II_003 • 11:30h

CALCULATION AND COMPARISON OF VISUAL
OTF OF AXICONS AND LSOE LIKE INTRAOCULAR
LENS

A. Arias¹, S. Bará², Z. Jaroszewicz^{3,4}, A. Kolodziejczyk⁵

¹Univ. Nacional de Colombia. Colombia.

²Univ. de Santiago de Compostela. Spain.

³Institute of Applied Optics. Poland.

⁴National Inst. Telecommunications. Poland.

⁵Warsaw University of Technology, Poland.

12:00 – 13:30h • Lunch

Edificio Mac Gregor, Aula N-404 • 13:30 – 15:00h • Technical Sessions

Alfonso Lastras Martínez, Chair

VI_020 • 13:30h

MICROREFLECTANCE DIFFERENCE
SPECTROMETER BASED ON A CHARGE COUPLED
DEVICE CAMERA

L.F. Lastras-Martínez¹, R. Castro-García²,
R.E. Balderas-Navarro¹, N.A. Ulloa-Castillo¹,
R. Herrera-Jasso¹, A. Lastras-Martínez¹

¹Univ. Autón. de San Luis Potosí. Mexico.

²Univ. Politéc. de San Luis Potosí. Mexico.

VI_022 • 13:45h

FAST 32-CHANNEL SPECTROMETER FOR THE
MEASUREMENT OF SURFACE OPTICAL
ANISOTROPIES

O.F. Núñez-Olvera, R.E. Balderas-Navarro,
J. Ortega-Gallegos, L.F. Lastras Martínez,
A. Lastras-Martínez

Univ. Autónoma de San Luis Potosí. Mexico.

IV_015 • 14:00h

DESIGN AND IMPLEMENTATION OF A LOW COST
RAMAN SPECTROMETER

E. Zegarra, A. Gutarra

¹Universidad Nacional de Ingeniería. Peru.

III_041 • 14:15h

UNSUPERVISED DEFECT SEGMENTATION OF
PATTERNED MATERIALS UNDER NIR
ILLUMINATION

M. S. Millán, J. Escofet, M. Ralló

Universitat Politècnica de Catalunya. Spain.

III_036 • 14:30h

REMOTE SENSING SYSTEM USING LOW COST
AIRCRAFT FOR AGRICULTURAL APPLICATIONS

A. Flores¹, G. Cucho¹, E. Gordillo¹, J. Quispe¹,
D. Reátegui¹, M. Aucallanchi¹, J. Barba^{1,2}, A. Posadas²,
R. Quiroz², C. Barreda², H. Loayza²

¹PUCP. Peru.

²Centro Internacional de la Papa. Peru.

VI_001 • 14:45h

LEDs USED AS SPECTRAL SELECTIVE LIGHT
DETECTORS IN REMOTE SENSING TECHNIQUES

C. Weber^{1,2}, J.O. Tocho^{1,2}, E.J. Rodríguez¹

¹Centro de Inv. Ópticas. Argentine.

²UNLP. Argentine.

RIAO-OPTILAS 2010 GROUP 2: Optical Engineering, ...	RIAO-OPTILAS 2010 GROUP 2: Optical Engineering, ...
---	---

VI_013 • 15:00h

**LIQUID CHROMATOGRAPHY SYSTEM WITH
OPTICAL ACTIVITY LASER DETECTOR AND ITS
APPLICATIONS IN VEGETABLE EXTRACTS AND
FERMENTATION PROCESSES**

**V. Fajer¹, C.W. Rodríguez², S. Naranjo¹, W. Mora¹,
H. Fernández¹, T. Cepero¹, E. Arista¹, G. Mesa¹,
C. Fonfría¹, J. Arteché¹**

¹CEADEN. Cuba.

²Universidad de La Habana. Cuba.

15:00 – 15:30h • Coffee Break

Auditorio de Derecho • 15:30 – 15:45h. • Welcome

Auditorio de Derecho • 15:45h • Plenary

GRADIENT-INDEX MATERIALS MANUFACTURING IN NATURE AND MANMADE

D.T. Moore

University of Rochester. USA.

Auditorio de Derecho • 16:45h • Plenary

VARIABLE COHERENCE SENSING

A. Dogariu

University of Central Florida USA.

TUESDAY, SEPTEMBER 21



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

PRECISION INTERFEROMETRIC MEASUREMENTS IN NON-IDEAL ENVIRONMENTS

J. C. Wyant

University of Arizona. USA.

Auditorio de Derecho • 09:30h • Plenary

THE DESIGN OF OPTICAL SYSTEMS WITH OFF-AXIS SPHERICAL MIRRORS

D. Malacara

Centro de Investigaciones en Óptica. Mexico.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-404 • 10:30 – 12:00h • Technical Sessions

Yobani Mejía, Chair

III_032 • 10:30h

MEASURING REFRACTIVE POWER OF PROGRESSIVE ADDITION LENSES BY USING THE HARTMANN TEST

Y. Mejía, A.F. Jiménez

Universidad Nacional de Colombia. Colombia.

I_034 • 10:45h

ESTIMATION AND COMPENSATION OF THE ABERRATIONS IN THE SPATIAL LIGHT MODULATOR

A. Arias, R. Castañeda

Univ. Nacional de Colombia. Colombia.

I_072 • 11:00h

ONLY ONE RONCHIGRAM TO STIMATE CURVATURE RADIUS OF A SPHERICAL CONCAVE SURFACE

A. Cordero-Dávila¹, J. González-García^{1,2}, R. Izazaga-Perez¹, B. Villalobos-Mendoza¹

¹BUAP. Mexico.

²Univ. Tecnológica de la Mixteca. Mexico.

I_092 • 11:15h

EVALUATION OF HARMONIC ERROR IN OPTICS SURFACES BY USING RONCHI TEST, GENETIC ALGORITHMS AND CUBIC SPLINES

J. González-García^{1,2}, A. Cordero-Dávila¹

¹BUAP. Mexico.

²Universidad Tecnológica de la Mixteca. Mexico.

VI_023 • 11:30h

OPTICAL TESTING WITH A KNIFE EDGE INTERFEROMETER

P. Cebrian¹, N. Korneev¹,

F.S. Granados¹, A. Cornejo¹, R. Díaz²

¹INAOE. Mexico.

²Centro de Ciencias Aplicadas y Desarrollo Tecnológico. Mexico.

XI_009 • 11:45h

REFRACTION INDEX MEASUREMENT OF A LENS WITH HELP OF AN UNFOCUSED RONCHI GRATING

R. Tapia R., C. Torres, L. Mattos

Univ. Popular del Cesar. Colombia.

12:00 – 13:30h • Lunch

M. Tebaldi, Chair

I_124 • 13:30h

**HOLOGRAPHIC GRATINGS IN
PHOTOPOLYMERIZABLE GLASSES:
APPLICATION TO FEMTOSECOND LASER PULSES
MANIPULATION**

**M. P. Hernández-Garay¹, O. Martínez-Matos¹,
J. G. Izquierdo¹, M. L. Calvo¹, P. Vaveliuk^{1,2},
P. Cheben³, L. Bañares¹**

¹*Univer. Complutense de Madrid. Spain.*

²*Servicio Nacional de Aprendizagem Industrial SENAI-
Cimatec. Brazil.*

³*National Research Council Canada. Canada.*

V_031 • 13:45h

**DEFINITION OF THE AXES OF AN
ASTRONOMICAL TELESCOPE USING LOW
DIVERGENCE LASER BEAMS**

D. M. Gale

INAOE. Mexico.

III_006 • 14:00h

**TALBOT EFFECT BY PHOTOREFRACTIVE 3D
PHASE GRATINGS**

G. Forte, A. Lencina, M. Tebaldi, N. Bolognini

Centro de Inves. Ópticas. Argentine.

III_038 • 14:15h

**IMAGE PROCESSING IN THE
CHARACTERIZATION OF NANOSTRUCTURES**

M.F.M. Costa

Universidade do Minho. Portugal

I_114 • 14:30h

**ANALYSIS, OPTIMIZATION AND
IMPLEMENTATION OF A DYNAMIC STOKES
POLARIMETER BASED ON LCDs**

**A. Peinado¹, A. Lizana¹, J. Vidal^{1,2}, C. Iemmi³,
J. Campos¹**

¹*Universidad Autónoma de Barcelona. Spain.*

^{1,2}*ALBA Synchrotron Light Source Facility. Spain.*

²*Universidad de Buenos Aires. Argentina.*

WEDNESDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

A KEY EXPERIMENT OF QUANTUM OPTICS: THE TRANSFER OF SPIN ANGULAR MOMENTUM FROM PHOTONS TO A BIREFRINGENT PARTICLE

W. Dultz

University Frankfurt. Germany.

Auditorio de Derecho, 09:30h • Plenary

MANIPULATING THE CONTINUOUS QUANTUM VARIABLES OF LIGHT

U. Lund Andersen

Technical University of Denmark. Denmark.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-404 • 10:30 – 12:00h • Technical Sessions

J. C. Miñano, Chair

J. C. Miñano • 10:30h

Invited

NOVEL IDEAL NONIMAGING DESIGNS BY MULTICHANNELING THE PHASE-SPACE FLOW

J. C. Miñano^{1,2}, P. Benítez^{1,2}, L. Jiayao¹, J. Infante¹, J. Chaves²

¹*Universidad Politécnica de Madrid. Spain.*

²*LPI. USA.*

III_037 • 11:45h

A NON-NEGATIVE QUADRATIC PROGRAMMING APPROACH TO MINIMIZE THE GENERALIZED VECTOR-VALUED TOTAL VARIATION FUNCTIONAL

P. Rodríguez

Pontificia Universidad Católica del Perú. Peru.

M. Tomilin • 11:00h

Invited

POLARIZING MICROSCOPY BASED ON LIQUID CRYSTALS WITH NEW IMAGING FUNCTIONS

M. Tomilin

St.-Petersburg University. Russia.

III_008 • 11:30h

IMAGE SHARPNESS METRIC: A COMPARATIVE STUDY

Rafael Anaice¹, Jacques Facon²

¹*CCET-PUCPR Pontificia Universidade Católica do Paraná. Brazil.*

²*PPGIA-PUCPR Pontificia Universidade Católica do Paraná. Brazil.*

12:00 – 13:30h • Lunch

J. Álvarez Borrego, Chair

III_031 • 13:30h

USING A DIGITAL SIGNAL PROCESSOR TO PERFORM CORRELATION OF FRACTIONAL ORDER

W. Castaño Galviz^{1,2}, Y. Torres Moreno¹

¹Univ. Industrial de Santander. Colombia.

²Universidad Pontificia Bolivariana. Colombia.

III_001 • 13:45h

MULTIPLEXING TECHNIQUE BASED ON THE LACUNARITY OF FRACTAL ENCRYPTING MASKS

M. Tebaldi^{1,2}, D. Amaya¹, W.D. Furlan³, J.A. Monsoriu⁴, R. Torroba^{1,2}, N. Bolognini^{1,2}

¹Centro de Inves. Ópticas. Argentine.

²Univ. Nacional de La Plata, Argentine.

³Universitat de València. Spain.

⁴Univ. Politécnica de Valencia Spain.

III_014 • 14:00h

HARTLEY FRACTIONAL TRANSFORM APPLIED TO IMAGE ENCRYPTION

C. Jiménez¹, C.O. Torres², L. Mattos²

¹Universidad de la Guajira. Colombia.

²Universidad Popular del Cesar. Colombia.

III_026 • 14:15h

DOUBLE APERTURE SCHEME IN SLOPE DETECTION: SYSTEM PERFORMANCE

M. Molina Prado^{1,2}, M.C. Lasprilla², M. Tebaldi³, N. Bolognini³

¹Universidad de Pamplona. Colombia.

²Univ. Industrial de Santander. Colombia.

³Universidad Nacional de La Plata. Argentine.

III_035 • 14:30h

ADAPTIVE MASKS FOR THE PATTERN RECOGNITION BY UNIDIMENSIONAL SIGNATURES IN DIGITAL IMAGES

S. Solorza¹, J. Álvarez-Borrego²

¹Universidad Autónoma de Baja California. Mexico.

²Centro de Investigación Científica y de Educación Superior de Ensenada. Mexico.

III_028 • 14:45h

FINGERPRINTS RECOGNITION BASED ON HYBRID CORRELATION AND HAUSDORF DISTANCES

O. Tíjaro, Y. Torres, H. Argüello

Universidad Industrial de Santander. Colombia.

III_034 • 15:00h

CORRELACIÓN NO LINEAL MEDIANTE LA UTILIZACIÓN DE FIRMAS VECTORIALES INVARIANTES

C. Fimbres-Castro¹, J. Álvarez-Borrego², S. Solorza¹

¹UABC. Mexico.

²Cicese. Mexico.

THURSDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

OPTICAL TWEEZERS AND ANGULAR MOMENTUM OF LIGHT

T. Asavei, A. Stligoe, Maucort, T. Nieminen, N. Heckenberg, H. Rubinsztien
University of Queensland. Australia.

Auditorio de Derecho, 09:30h • Plenary

CAVITY OPTOMECHANICS

P. Meystre
University of Arizona. USA.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-404 • 10:30 – 12:00h • Technical Sessions

J. Garzón, Chair

J. Alda • 10:30h **Invited**

ABERRATIONS IN RESONANT OPTICAL ELEMENTS

G. Boreman¹, J. Ginn¹, J. A. Gómez², J. Alda²
¹*University of Central Florida. USA.*
²*University Complutense of Madrid. Spain.*

III_018 • 11:00h

EVALUATION OF HYBRIDS ALGORITHMS FOR MASS DETECTION IN DIGITALIZED MAMMOGRAMS

J. Cordero, J. Garzón
Univ. Pontificia Bolivariana. Colombia.

III_019 • 11:15h

STUDY OF INTERHEMISPHERIC ASYMMETRIES IN ELECTROENCEPHALOGRAPHIC SIGNALS BY FREQUENCY ANALYSIS

J. Zapata^{1,2}, J. Garzón¹
¹*Univ. Pontificia Bolivariana. Colombia.*
²*Instituto Neurológico de Antioquia. Colombia.*

III_009 • 11:30h

EXTRACTION OF 3D INFORMATION AT 360 DEGREES OF OBSERVATION BY LASER TRIANGULATION: COORDINATE SYSTEM UNIFICATION

A.F. Muñoz P., J.C. Ramírez R., J.G. Barrero, J.E. Meneses F.
Universidad Industrial de Santander. Colombia.

12:00 – 13:30h • Lunch

Auditorio de Derecho • 13:30h • Plenary

THE HIDDEN SIDE OF THE LASER STORY

M. Bertolotti
University of Roma “La Sapienza”. Italy.

RIAO-OPTILAS 2010 GROUP 2: Optical Engineering, ...	RIAO-OPTILAS 2010 GROUP 2: Optical Engineering, ...
---	---

Auditorio de Derecho, 14:15h • Plenary

LASER SPECTROSCOPY APPLIED TO ENVIRONMENTAL AND MEDICAL RESEARCH

S. Svanberg

Lund University, Sweden.

15:00 – 15:30h • Coffee Break

15:30 – 17:45h • SPIE & OSA awards announcement • General Assembly

21:00 h • Artistic Show and dinner

FRIDAY, SEPTEMBER 23



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

DIAGNOSTICS AND TREATMENT OF TUMOURS USING LASER TECHNIQUES

K. Svanberg

Lund University, Sweden.

Auditorio de Derecho, 09:30h • Plenary

MAGNETO- AND MULTIFERROIC PHOTONICS AND THEIR APPLICATION TO SPATIAL LIGHT MODULATORS

M. Inoue

Toyohashi University of Technology, Japan.

10:00 – 10:30h • Coffee Break

12:00 – 13:30h • Lunch

13:30 – 15:00h • Ancient Peruvian culture conference

15:00 – 18:00h • Museum // Archeological site visit

Poster Session
Group 2

TUESDAY, SEPTEMBER 21

15:00 – 17:00h • P1-Posters Session and Exhibit / Coffee Break

II_001

CORNEAL ABERRATIONS IN KERATOCONIC EYES: INFLUENCE OF PUPIL SIZE AND CENTERING
S.A. Comastri^{1,2}, L.I. Perez^{1,3}, G.D. Pérez¹, G. Martin^{1,4}, A. Bianchetti¹

¹Universidad de Buenos Aires. Argentina.

²CONICET. Argentine.

³INTECIN-CONICET. Argentine.

⁵Reichert Inc. USA.

II_002

OPTIMIZATION OF THE EFFICIENCY OF PHOTOVOLTAIC SYSTEMS THROUGH SOLAR COLLECTION BASED ON FRESNEL LENS AND AUTOMATED POSITIONING SYSTEM

O. Ormachea, D. Serna

Universidad Privada Boliviana. Bolivia.

II_004

COLORIMETRIC EQUIVALENT'S SEARCH BETWEEN COLOR PENCILS AND THE FARNSWORTH D – 15 COLOR VISION TEST

E. Gómez¹, C.P. Valdés², E. Solarte²

¹Universidad Antonio Nariño. Colombia.

²Universidad del Valle. Colombia.

II_005

A NUMERICAL MODEL OF SCATTERING OF LIGHT IN THE HUMAN EYE

I. Kelly Pérez¹, N.C. Bruce², L.R. Berriel¹

¹INAOE. Mexico.

²UNAM. Mexico.

II_006

PSYCHOPHYSICS IN THE HUE TEST

J. Carranza Gallardo¹,

P.R. Cervantes Petersen²

¹INAOE. Mexico.

²Univ. Nac. Autónoma de México. Mexico.

II_007

QUANTIFICATION OF THE DIFFERENCES IN CHROMATIC COORDINATES $L^*a^*b^*$ DUE TO THE APERTURE SIZE IN AN SPECTROCOLORIMETER WITH AN INTEGRATION SPHERE

J. Medina, S. Vázquez

INAOE. Mexico.

II_009

DESIGN AND TUNING OF A TEST BENCH FOR THE INTRAOCULAR LENS OPTIC CHARACTERIZATION

E. Alba-Bueno, F. Vega, M. S. Millán.

Universitat Politècnica de Catalunya. España.

III_002

EVALUATION OF SPECKLE-INTERFEROMETRY DESCRIPTORS TO MEASURING DRYING OF COATINGS

E. Blotta¹, V. Ballarín¹, H. Rabal²

¹U.N.M.D.P. Argentine.

²UNLP. Argentine.

III_003

OPTICAL ACCESSING BY USING SPECKLE PATTERNS GENERATED BY THE CHIRP-Z TRANSFORM

F. Mosso¹, M. Tebaldi^{1,2}, R. Torroba^{1,2},

N. Bolognini^{1,2}

¹CONICET-CIC. Argentine.

²Univ. Nacional de La Plata, Argentine.

III_004

OPTICAL ENCRYPTION OF SOUND SIGNALS

F. Mosso¹, M. Tebaldi^{1,2}, R. Torroba^{1,2},

N. Bolognini^{1,2}

¹CONICET-CIC. Argentine.

²Univer. Nacional de La Plata, Argentine.

III_005

CHARACTERIZATION OF UNIAXIAL CRYSTALS THROUGH THE STUDY OF FRINGE PATTERNS

F.E. Veiras¹, G.D. Pérez¹, M.T. Gareá¹,

L.I. Perez^{1,2}

¹Universidad de Buenos Aires. Argentine.

²INTECIN CONICET. Argentine.

III_007

EXPERIMENTAL COLOR ENCRYPTION IN A JOINT TRANSFORM CORRELATOR ARCHITECTURE

M. Tebaldi¹, S. Horrillo¹, E. Pérez-Cabré¹,

M.S. Millán¹, D. Amaya², R. Torroba²,

N. Bolognini²

¹Univ. Politècnica de Cataluña. Spain.

²Univ. Nacional de La Plata, Argentine.

III_010

USING THE EFFECT OF POLARIZATION FOR GENERATE IMAGE IN FOCUS IN MICROSCOPY C-DIC

C. Chacon, A. Plata, C. Osorio

Universidad Industrial de Santander. Colombia.

III_011

OPTO-DIGITAL MULTIPLEXING EXPERIMENTAL PROCEDURE BY DIFFUSER ROTATIONS IN A JOINT TRANSFORM CORRELATOR ARCHITECTURE

C. Ríos¹, E. Rueda¹, R. Henao¹,

J.F. Barrera¹, R. Torroba²

¹Universidad de Antioquia. Colombia.

²Univ. Nacional de La Plata, Argentine.

III_012

VULNERABILITY OF THE JTC BASED DOUBLE RANDOM PHASE ENCODING ENCRYPTING ARCHITECTURE

C. Vargas¹, J.F. Barrera¹, M. Tebaldi²,

R. Torroba², N. Bolognini²

¹Universidad de Antioquia. Colombia.

²Univ. Nacional de La Plata, Argentina.

III_013

DESIGN AND IMPLEMENTATION OF A BIOMETRIC METHOD BASED ON FACIAL DETECTION IN VIDEO SEQUENCES

C.F. Ordóñez Urbano¹, S.G. Ortiz Uriburu²

¹Universidad del Cauca. Colombia.

²InsT. Balseiro, Suratom S.R.L. Argentine.

III_015

WAVELET TRANSFORM APPLIED TO PATTERN RECOGNITION OPTIMIZATION OF JTC DIGITAL CORRELATOR

G. Mestre¹, C.O. Torres²

¹Universidad del Zulia. Venezuela

²Universidad Popular del Cesar. Colombia.

III_016

IMAGE ENCRYPTION USING THE FRACTIONAL WAVELET TRANSFORM

J. Useche, J.M. Vilardy, C.O. Torres,

L. Mattos

Universidad Popular del Cesar. Colombia.

III_017

IMPROVEMENT CAPACITIES OF AN OPTO-DIGITAL ENCRYPTION SYSTEM VIA MULTIPLEXING

J.F. Barrera¹, E. Rueda¹, C. Ríos¹,

M. Tebaldi², N. Bolognini², R. Torroba²

¹Universidad de Antioquia. Colombia.

²CONICET-CIC. Argentine.

III_020

DESIGN AND IMPLEMENTATION IN VHDL CODE OF THE TWO-DIMENSIONAL FAST FOURIER TRANSFORM FOR FREQUENCY FILTERING, CONVOLUTION AND CORRELATION OPERATIONS

J. Vilardy, F. Giacometto, C. Torres,

L. Mattos

Universidad Popular del Cesar. Colombia.

III_021

DIGITAL CORRELATION BASED ON WAVELET TRANSFORM FOR IMAGE DETECTION

L. Barba, L. Vargas, C. Torres, L. Mattos

Universidad Popular del Cesar. Colombia.

III_022

SIGN LANGUAGE RECOGNITION SYSTEM USING NEURAL NETWORK FOR DIGITAL HARDWARE IMPLEMENTATION

L. Vargas, L. Barba, C. Torres, L. Mattos

Universidad Popular del Cesar. Colombia.

III_023

FPGA IMPLEMENTATION OF EDGE DETECTION ALGORITHM IN IMAGE

L. Vargas, L. Barba, C. Torres, L. Mattos

Universidad Popular del Cesar. Colombia.

III_024

HARDWARE ARCHITECTURE FOR FPGA IMPLEMENTATION OF THE IEEE 754 FORMAT FOR BINARY REPRESENTATION OF FLOATING POINT DATA

M. León A., L. Barba J., I. Vargas Q.,

C. Torres M.

Univ. Popular del Cesar. Colombia.

III_025

IMPLEMENTATION OF THE 2-D WAVELET TRANSFORM INTO FPGA FOR IMAGE

M. León A., L. Barba J., L. Vargas Q.,

C. Torres M.

Universidad Popular del Cesar. Colombia.

Poster Session Group 2

III_027

SLOPE DETECTION BY VOLUME MODULATED SPECKLES

M. Molina Prado^{1,2}, M.C. Lasprilla²,
M. Tebaldi³, N. Bolognini³

¹Universidad de Pamplona. Colombia.

²Univ. Industrial de Santander. Colombia.

³Univ. Nacional de La Plata. Argentine.

III_029

RADIAL HILBERT TRANSFORM AND ITS APPLICATION IN THE EDGE DETECTION. STUDY CASE: FINGERPRINT

Y. Morales, C. Torres, L. Mattos

Universidad Popular del Cesar. Colombia.

III_030

IMAGE ENCRYPTION AND DECRYPTION USING FRACTIONAL FOURIER TRANSFORM AND RADIAL HILBERT TRANSFORM

Y. Morales, C. Torres, L. Mattos

Universidad Popular del Cesar. Colombia.

III_033

MODIFICATION OF WAVEFRONT FROM CAUSTIC SURFACES TO LENGTHEN THE FOCAL LINE

S.I. Carrillo, Y. Mejía

Univ. Nacional de Colombia. Colombia.

III_040

RETINAL IMAGE ANALYSIS: PREPROCESSING AND FEATURE EXTRACTION

A. G. Marrugo, M. S. Millán

Universitat Politècnica de Catalunya. Spain

VI_002

STUDY OF THE DIFFRACTION IN THE MICROSCOPE: ANNULAR CONDENSER

L. Ciocci Brazzano^{1,2}, J. Miguel Simon²,

R. Echarri³

¹Consejo Nacional de Investigaciones Científicas

y Técnicas. Argentine.

²Universidad de Buenos Aires. Argentine.

³Univ. Nac. de Gral Sarmiento. Argentine.

VI_003

DISEÑO DE UN RETARDADOR DE CUARTO DE ONDA EN UNA SOLA REFLEXIÓN

G. Raffa¹, A. Bianchetti¹, L.I. Perez^{1,2},

M.T. Gareá¹, S.A. Comastri^{1,3}

¹Universidad de Buenos Aires. Argentine.

²INTECIN- CONICET. Argentine.

³CONICET. Argentine.

VI_004

HOLODIAGRAMS USING MAHALANOBIS DISTANCE

H. Rabal¹, N. Cap¹, C. Criado², N. Alamo³

¹Univ. Nacional de la Plata. Argentine.

²Universidad de Málaga. Spain.

³Universidad de Málaga. Spain.

VI_005

TEMPORAL CHARACTERIZATION OF A XENON LAMP DEPENDING ON THE EXCITATION CIRCUIT CL

O. Ormachea, D. Iriarte, R. Portugal

Universidad Privada Boliviana. Bolivia.

VI_006

DESIGN AND CONSTRUCTION OF A PULSED AND PORTABLE LASER TYPE YAG:Nd⁺⁺⁺ FOR LIBS APPLICATIONS

O. Ormachea, D. Monica

¹Universidad Privada Boliviana. Bolivia.

VI_007

TROPOSPHERIC LIDAR SYSTEM PROJECT IN COCHABAMBA, BOLIVIA

O. Ormachea, O. Urquidi,

D. Alejandro, C. Andrea, C. Gonzalo,

Y. Joseth

¹Universidad Privada Boliviana. Bolivia.

VI_008

DEVELOPEMENT OF A HIGH VOLTAGE SOURCE FOR TRANSVERSAL AND LONGITUDINAL EXCITATION FOR GAS LASERS

O. Ormachea, W. Morrison

Universidad Privada Boliviana. Bolivia.

VI_009

BEHAVOUR OF THE KERR SIGNAL FOR DIFFERENT ANGLES OF THE ANALYZER: FUNCTIONAL ANALYSIS OF THE KERR MAGNETOMETER

J. Torres^{1,2}, A. Rincon¹, B. Cruz¹

¹Univ. Tecnológica de Pereira. Colombia.

²Unversidad de Caldas. Colombia.

VI_010

DESIGN AND IMPLEMENTATION OF A DATA ACQUISITION SYSTEM FOR THE STUDY OF DYNAMICS SIGNALS IN TIME RESOLVED

A. Daza, A. Hinojosa, X. Díaz, O. Neira

Popular University of Cesar. Colombia.

VI_011

EVALUATION OF CARBON NANOPARTICLES COATING FOR LASER RADIATION DETECTORS

J.G. Darias, M.A. García, M. Ramos,

L.F. Desdín

Centro de Aplicaciones Tecnológica y Desarrollo

Nuclear(CEADEN). Cuba

VI_012

EVALUATION OF AN AUTOMATIC DIODE LASER DENSITOMETER

P.J. Larrea-Cox¹, L. Hernández-Tabares¹, C.E.

Suárez-San Pedro²,

A. Vázquez-Cano³,

M. De los Reyes-Rodríguez³

¹CEADEN. Cuba.

²Instituto Nacional de Investigaciones en

Metrología. Cuba.

³Empresa de Sueros y Productos Hemoderivados

“Adalberto Pesant”. Cuba.

VI_014

COMPARISON OF TUNABLE LENSES: LIQUID AND SOLID LENS

A. Santiago-Alvarado¹, S. Vazquez-Montiel², J.

Munoz-López², V.M. Cruz-Martínez,

G. Díaz-González²

¹Univ. Tecn. de la Mixteca. Mexico.

²INAOE. Mexico.

VI_015

STUDY OF MICROSPECTROMETERS WITH PLANAR AND DIFFRACTIVE MICROMIRRORS

A.G. Rojas-Hernández,

A. Vera-Marquina, A. García-Juarez

Universidad de Sonora. Mexico.

VI_016

USING THE FRESNEL INVARIANT FOR RAY TRACING IN OPTICAL DESIGN

A. Morales, M. Cywiak

Centro de Investigaciones en Óptica. Mexico

VI_017

EVALUATION OF THE INCREASING OF THE TRANSVERSE ABERRATION ACCURACY USING SUB-STRUCTURED GRATINGS

D. Aguirre-Aguirre¹, F. Granados-Agustín¹, M.

Campos-García²

¹Instituto Nacional de Astrofísica, Óptica y

Electrónica. Mexico.

²Universidad Nacional Autónoma de México.

Mexico.

VI_018

THIRD ORDER DISPERSION EFFECTS ON SUB 20 FEMTOSECOND OPTICAL PULSES GENERATED BY REFRACTIVE LENSES

F.C. Estrada-Silva, M. Rosete-Aguilar,

J. Garduño-Mejía, M.A. González-Galicia,

N.C. Bruce, R. Ortega-Martínez.

Univ. Nac. Autónoma de México. Mexico.

VI_019

COMPARISON BETWEEN NORMAL AND LATERAL FORCES USING A QUARTZ TUNING FORK SENSOR FOR A PHOTON TUNNELING SCANNING NEAR-FIELD OPTICAL MICROSCOPE

J.M. Merlo R.¹, J.F. Aguilar¹, R. Cortés²,

V. Coello¹

¹Instituto Nacional de Astrofísica, Óptica y

Electrónica. Mexico.

²Centro de Investigación Científica y de

Educación Superior de Ensenada. Mexico

VI_021

PHOTONIC FILTERING FOR OPTICAL SOURCES OF WIDE-BAND SPECTRA USING BIREFRINGENT OPTICAL FIBER

J. Santos-Aguilar, M. Santiago-Bernal,

C. Gutiérrez-Martínez

INAOE. Mexico.

VI_024

A SPECTROMETER SYSTEM FOR RAPID PHOTOREFLECTANCE SPECTROSCOPY

M. García-Martínez, M.A. Lastras-Montaño,

A. Sustaita-Narváez, R.E. Balderas-Navarro,

L.F. Lastras-Martínez, G. Ramírez-Flores,

A. Lastras-Martínez.

Universidad Autónoma de San Luis Potosí.

Mexico

VI_025

CALIBRATION OF A SPECTROGRAPH BY LASER-INDUCED PLASMA LIGHT

R. Sánchez, G. Baldwin

PUCP. Peru.

VI_026

PROBLEMS OF OVERLAPPING UNWANTED LIGHT IN A CZERNY-TURNER MONOCHROMATOR

R. Sánchez, G. Baldwin

PUCP. Peru.

VI_027

OPTICAL SIMULATION FOR A CZERNY-TURNE SPECTROGRAPH

R. Sánchez, G. Baldwin

PUCP. Peru.

Poster Session
Group 2

VI_028

DESIGN, ASSEMBLY AND CALIBRATION
OF AN OFFNER IMAGING
SPECTROMETER

H. González-Núñez, E. López Lago,
C. Montero-Orille, M.D. Mouriz Cereijo,
X. Prieto-Blanco, R. De la Fuente Carballo
Univ. de Santiago de Compostela. Spain

VI_029

DESIGN AND MANUFACTURE OF A
MICROSCOPE CONFOCAL BASED ON
OPTICAL FIBERS

M. Lomer¹, G. Gutierrez¹, R. Coello²,
J.M. López¹

¹*Univ. de Cantabria. Spain.*

²*PUCP. Peru.*



GROUP 3: Environmental Optics, ...

Didactics of Optics and Photonics. Optical applications in industry, engineering and medicine. Optical Entrepreneurship. Optical Industry. Environmental Optics. LIDAR. Optical Aeronomy. Fiber Optics and Communications. Optical Spectroscopy, LIBS.



MONDAY, SEPTEMBER 20



Edificio Mac Gregor, Oficina de eventos • 08:00 – 10:30h • Registration Open

Edificio Mac Gregor, Aula N-403 • 10:30 – 12:00h • Technical Sessions

E.J. Galvez, Chair

IV_022 • 10:30h **Invited**

CORRELATED-PHOTON EXPERIMENTS FOR TEACHING QUANTUM MECHANICS, QUANTUM OPTICS AND QUANTUM INFORMATION

E.J. Galvez

Colgate University. USA.

IV_008 • 11:00h

UNDERSTANDING THE PHYSICAL OPTICS PHENOMENA BY USING A DIGITAL APPLICATION FOR LIGHT PROPAGATION

D. E. Sierra¹, L. Ángel¹

¹*Universidad EAFIT. Colombia.*

IV_009 • 11:15h

DISCOVERING THE PUZZLING BEHAVIOUR OF ELECTRONS WITH THE GRIMALDI-YOUNG EXPERIMENT

S. Serna¹, G. Matteucci², R. Castañeda¹, F. Medina³, J. García-Sucerquia¹

¹*Univ. Nacional de Colombia. Colombia.*

²*University of Bologna. Italy.*

³*Universidad de Antioquia. Colombia.*

IV_003 • 11:30h

ELECTRIC/MAGNETIC PLASMON POLARITONS AND ABSORPTION EFFECTS IN 1D PHOTONIC SUPERLATTICES CONTAINING A METAMATERIAL

D. Mogilevtsev^{1,2}, E. Reyes-Gómez³, S.B. Cavalcanti⁴, C.A.A. de Carvalho⁵, L. E. Oliveira²

¹*NASB. Belarus.*

²*Unicamp. Brazil.*

³*Universidad de Antioquia. Colombia.*

⁴*Univ. Federal de Alagoas. Brazil.*

⁵*Univ. Fed. do Rio de Janeiro, Brazil.*

IV_013 • 11:45h

CURSO INTRODUCTORIO DE ÓPTICA DE FOURIER EN LICENCIATURA O POSGRADO: SECUENCIA Y ELEMENTOS PROPUESTOS

G. Rodríguez-Zurita

Ben. Univ. Autónoma de Puebla. Mexico.

12:00 – 13:30h • Lunch

Edificio Mac Gregor, Aula N-403 • 13:30 – 15:00h • Technical Sessions

A. García, Chair

IV_006 • 13:30h

BREWSTER MODES AND SUPPRESSION OF ANDERSON LOCALIZATION IN DISORDERED DISPERSIVE MEDIA

D. Mogilevtsev¹, F.A. Pinheiro², R.R. Dos Santos², S.B. Cavalcanti³, L. E. Oliveira⁴

¹*NASB. Belarus.*

²*Univ. Federal do Rio de Janeiro. Brazil.*

³*Universidade Federal de Alagoas. Brazil.*

⁴*Univ. Estadual de Campinas. Brazil.*

VIII_008 • 13:45h

GAIN BANDWIDTH OPTIMIZATION OF A RAMAN AMPLIFIER BASED ON GENETIC ALGORITHMS

D. Steinberg, L. Saito, E. De Souza

¹*Univ. Presbiteriana Mackenzie. Brazil.*

RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...	RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...
--	--

VIII_016 • 14:00h

COHERENT DEMODULATION OF MICROWAVE SIGNALS BY USING OPTICAL HETERODYNE TECHNIQUE WITH APPLICATIONS TO POINT TO POINT INDOOR WIRELESS COMMUNICATIONS SYSTEMS

**A. García¹, I. Zaldívar², G. Aguayo², J. Rodríguez³,
R. Gómez¹, M. Acosta¹, A. Rojas¹**

¹Universidad de Sonora. Mexico.

²INAOE. Mexico.

³Universidad de las Américas. Mexico.

VIII_017 • 14:30h

PHOTONIC FILTERING OF MICROWAVE SIGNALS IN THE FREQUENCY RANGE OF 0.01-20 GHZ USING A FABRY PEROT FILTER

**G. Aguayo¹, I. Zaldívar¹, A. García², J. Rodríguez³,
L. Larger⁴, N. Courjal⁴**

¹INAOE. Mexico.

²Universidad de Sonora. Mexico.

³Universidad de las Américas. Mexico.

⁴Université de Franche-Comté. France.

15:00 – 15:30h • Coffee Break

Auditorio de Derecho • 15:30 – 15:45h. • Welcome

Auditorio de Derecho • 15:45h • Plenary

GRADIENT-INDEX MATERIALS MANUFACTURING IN NATURE AND MANMADE

D.T. Moore

University of Rochester. USA.

Auditorio de Derecho • 16:45h • Plenary

VARIABLE COHERENCE SENSING

A. Dogariu

University of Central Florida USA.

TUESDAY, SEPTEMBER 21



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

PRECISION INTERFEROMETRIC MEASUREMENTS IN NON-IDEAL ENVIRONMENTS

J. C. Wyant

University of Arizona. USA.

Auditorio de Derecho • 09:30h • Plenary

THE DESIGN OF OPTICAL SYSTEMS WITH OFF-AXIS SPHERICAL MIRRORS

D. Malacara

Centro de Investigaciones en Óptica. Mexico.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-403 • 10:30 – 12:00h • Technical Sessions

M. Brydegaard, Chair

VII_015 • 10:30h

Invited

EQUATORIAL THERMOSPHERIC DYNAMICS

J.W. Meriwether

Clemson University. USA.

VII_015 • 11:30h

FABRY-PEROT INTERFEROMETER NETWORK IN PERU FOR AERONOMY STUDIES

L. Navarro¹, J. Meriwether², O. Veliz¹, J. Chau¹

¹*Radio Observatorio de Jicamarca. Peru.*

²*Clemson University. USA.*

VII_014 • 11:00h

Invited

ALL-SKY IMAGING OF LOW LATITUDE THERMOSPHERE/IONOSPHERE PROCESSES

C. Martinis, J. Baumgardner, M. Mendillo¹

Bostn University. USA.

VII_012 • 11:45h

APPLICATIONS OF LIF LIDAR IN ZOO-ECOLOGICAL EXPERIMENTS AND RESEARCH

M. Brydegaard¹, Z. Guang¹, P. Lundin¹, M. Wellenreuther¹, A. Runemark¹, S. Åkersson¹, S. Svanberg¹

¹*Lund University. Sweden.*

12:00 – 13:30h • Lunch

Edificio Mac Gregor, Aula N-403 • 13:30 – 15:00h • Technical Sessions

B. Castañeda, Chair

VII_002 • 13:30h

NEW PROPOSAL TO MEASURE NO₂- FORMATION RATE FROM NO EMISSIONS IN THE ATMOSPHERE

E. Frins¹, M. Osorio¹, N. Casaballe¹, T. Wagner², U. Platt³

¹*Universidad de la República. Uruguay.*

²*Max-Planck Institut für Chemie. Germany.*

³*Universität Heidelberg. Germany.*

XII_001 • 13:45h

LASER SHOCK PROCESSING OF ALUMINUM ALLOY

G. Gomez-Rosas¹, C. Rubio-Gonzalez², J.L. Ocaña³, C. Molpeceres³, J.A. Porro³, M. Morales³, J.C. Ibarra-Torres¹, M.A. Santana-Aranda¹, A. Perez-Centeno¹

¹*Universidad de Guadalajara. Mexico.*

²*Centro de Ingeniería y Desarrollo Industrial de Queretaro. Mexico.*

³*Universidad Politécnica de Madrid, Spain.*

RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...	RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...
--	--

V_023 • 14:00h

**ESTIMATION OF TRANSFER FUNCTION OF
PIEZOELECTRIC CRYSTALS USED IN THE STUDY
OF ACOUSTIC WAVES PROPAGATION IN ROCKS**

**H. Altamar^{1,3}, J. E. Guerrero¹, Y. Torres¹, C. C.
Piedrahita²**

¹Universidad Industrial de Santander. Colombia.

²UIS, ECOPETROL-ICP. Colombia.

³Universidad Tecnológica de Bolívar. Colombia.

V_036 • 14:25h

**SHEAR VELOCITY ESTIMATION IN TISSUE FROM
INTERFERENCE PATTERNS IN
SONOELASTOGRAPHIC IMAGES**

B. Castañeda, D.J. Rubens, K. Parker

¹PUCP, Peru.

²Univ. Rochester Medical Center. USA.

²University of Rochester. USA.

15:00 – 17:00h • P1-Posters Session and Exhibit / Coffee Break

WEDNESDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

A KEY EXPERIMENT OF QUANTUM OPTICS: THE TRANSFER OF SPIN ANGULAR MOMENTUM FROM PHOTONS TO A BIREFRINGENT PARTICLE

W. Dultz

University Frankfurt. Germany.

Auditorio de Derecho, 09:30h • Plenary

MANIPULATING THE CONTINUOUS QUANTUM VARIABLES OF LIGHT

U. Lund Andersen

Technical University of Denmark. Denmark.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-403 • 10:30 – 12:00h • Technical Sessions

M. Andrés, Chair

VIII_25 • 10:30h

Invited

COMBINING BRAGG AND LONG PERIOD GRATINGS

D. Sáez, J. Cruz, A. Díez, M. Andrés

Universidad de Valencia. Spain.

VIII_004 • 11:00h

OPTICALLY COUPLED CAVITIES FOR WAVELENGTH SWITCHING

P. Costazo-Caso^{1,2}, S. Granieri¹, A. Siahmakoun¹

¹*Rose-Hulman Institute of Technology. USA.*

²*CONICET-CIC. Argentine.*

VIII_014 • 11:15h

METAL COATED D-SHAPED OPTICAL FIBER FOR GAS SENSING: MODEL AND SIMULATION

N. Gómez, P. Torres

National University of Colombia. Colombia.

XI_041 • 11:30h

SENSOR OF DISPLACEMENT WITH AXIAL AND/OR TRANSVERSE DISPLACEMENT OF OPTICAL FIBERS

M. Lomer¹, G. Gutierrez¹, V. Muñoz¹, R. Coello², J.M. López¹

¹*Universidad de Cantabria. Spain.*

²*PUCP. Peru.*

V_017 • 11:45h

MICRODEFORMATION MEASUREMENT OF CONCRETE ROADWAY SURFACE SLABS USING FIBER BRAGG GRATINGS AND ANALYSIS BY COMPUTATIONAL SIMULATION

F.J. Velez Hoyos^{1,2}, C.M. Serpa Imbett¹, N.D. Gomez Cardona²

¹*Universidad Eafit. Colombia.*

²*Inst. Tecnológico Metropolitano. Colombia.*

12:00 – 13:30h • Lunch

Edificio Mac Gregor, Aula N-403 • 13:30 – 15:00h • Technical Sessions

E. Gómez, Chair

V_034 • 13:30h

THREE LEVEL MULTIPOINT SENSOR BASED ON BRAGG GRATING

O. Méndez-Zepeda, S. Muñoz-Aguirre,

G. Beltrán-Pérez, J. Castillo-Mixcóatl

¹*Benemérita Universidad Autónoma de Puebla. Mexico.*

VIII_007 • 13:45h

STUDY OF AN ERBIUM DOPED FIBER LASER ASYNCHRONOUSLY MODE-LOCKED

C. Dias, E. De Souza

Univ. Presbiteriana Mackenzie. Brazil.

RIAO-OPTILAS 2010
GROUP 3: Environmental Optics, ...

VIII_018 • 14:00h

NOVEL BISMUTH DOPED OPTICAL FIBERS:
SPECTROSCOPY, LASER ACTION, AND
NONLINEAR PHENOMENA

V. Dvoyrin¹, V. Mashinsky¹, E. Dianov¹, A. Kir'yanov²

¹Academy of Science. Russia.

²CIO. Mexico.

V_018 • 14:15h

SEARCHING FOR A LOW-COST PRACTICAL TEST
FOR THE DETECTION OF DEFICIENCIES IN THE
HUMAN COLOR VISION

E. Gómez¹, J.M. Ontibón G.¹, A.F. García I.¹,

C.P. Valdés², E. Solarte²

¹Universidad Antonio Nariño. Colombia.

²Universidad del Valle. Colombia.

RIAO-OPTILAS 2010
GROUP 3: Environmental Optics, ...

IX_009 • 14:30h

²⁸Si ENRICHMENT BY INFRARED MULTIPHOTON
DISSOCIATION OF SiF₄

A.N. Alcaraz¹, J. Codnia², M.L. Azcárate²

¹Universidad de Buenos Aires. Argentine.

²CEILAP (CITEDEF-CONICET). Argentine.

IV_021 • 14:45h

MATRIX METHODS IN GEOMETRIC, WAVE, AND
STATISTICAL OPTICS

T. Alieva¹, J.A. Rodrigo², O. Martínez¹,

M.J. Bastiaans³, A. Cámara¹, A. Asenjo², M.L. Calvo¹

¹Univ.Complutense de Madrid. Spain.

²CSIC. Spain.

³Eindhoven Univ. Technology. Netherlands.

15:00 – 17:00h • P2-Posters Session and Exhibit / Coffee Break

THURSDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

OPTICAL TWEEZERS AND ANGULAR MOMENTUM OF LIGHT

T. Asavei, A. Stligoe, Maucort, T. Nieminen, N. Heckenberg, H. Rubinsztien

University of Queensland. Australia.

Auditorio de Derecho, 09:30h • Plenary

CAVITY OPTOMECHANICS

P. Meystre

University of Arizona. USA.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-403 • 10:30 – 12:00h • Technical Sessions

G.M. Bilmes, Chair

IX_007 • 10:30h

Invited

**LIBS AND LASER CLEANING APPLIED TO THE
CONSERVATION OF RESCUED OBJECTS OF THE
CORVETTE H.M.S. SWIFT**

G.M. Bilmes¹, N. Pérez Zoloza¹, A.A. Orsetti²

¹*Univ. Nacional de La Plata. Argentine.*

²*Museo Mario Brozoski. Argentine.*

IX_006 • 11:00h

**TIME RESOLVED IMAGING SPECTROSCOPY
APPLIED TO THE ANALYSIS OF PLASMAS
GENERATED BY MICRO, NANO AND
FEMTOSECOND LASERS**

F.C. Alvira¹, L. Ponce³, M. Arronte³, G.M. Bilmes^{1,2}

¹*CONICET La Plata- CIC. Argentine.*

²*Univ. Nacional de La Plata. Argentine.*

³*CICATA-IPN. Mexico.*

X_029 • 11:30h

**LASER CLEANING OF GLASSWARE AND
APPLICATIONS TO PRESERVATION OF
PATRIMONIAL VALUE OBJECTS**

J. Vallejo¹, C. Costa¹, G. Bilmes²

¹*Escuela Politécnica Nacional. Ecuador.*

²*CONICET-CIC and Universidad Nacional de La Plata.
Argentine.*

X_028 • 11:45h

**A SIMPLE RANDOM WALK MODEL FOR THE
SCATTERING OF PHOTONS IN POROUS MEDIA
WITH AN EXPERIMENTAL CALIBRATION**

C. Costa¹, Y. Angulo², C. Santacruz¹, E. Ayala¹

¹*Escuela Politécnica Nacional. Ecuador.*

²*PUC-Rio. Brazil.*

12:00 – 13:30h • Lunch

Auditorio de Derecho • 13:30h • Plenary

THE HIDDEN SIDE OF THE LASER STORY

M. Bertolotti

University of Roma “La Sapienza”. Italy.

Auditorio de Derecho, 14:15h • Plenary

LASER SPECTROSCOPY APPLIED TO ENVIRONMENTAL AND MEDICAL RESEARCH

S. Svanberg

Lund University. Sweden.

RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...	RIAO-OPTILAS 2010 GROUP 3: Environmental Optics, ...
--	--

15:00 – 15:30h • Coffee Break

15:30 – 17:45h • SPIE & OSA awards announcement • General Assembly

21:00 h • Artistic Show and dinner

FRIDAY, SEPTEMBER 23



Edificio Mac Gregor, Oficina de eventos • 08:00 – 9:00h • Registration Open

Auditorio de Derecho • 09:00h • Plenary

DIAGNOSTICS AND TREATMENT OF TUMOURS USING LASER TECHNIQUES

K. Svanberg

Lund University. Sweden.

Auditorio de Derecho, 09:30h • Plenary

MAGNETO- AND MULTIFERROIC PHOTONICS AND THEIR APPLICATION TO SPATIAL LIGHT MODULATORS

M. Inoue

Toyohashi University of Technology. Japan.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-403 • 10:30 – 12:00h • Technical Sessions

E. V. Mejía, Chair

IX_036 • 10:30h

OPTICAL METHODS FOR QUANTIFICATION OF ANIMAL COLOR FOR ANIMAL ECOLOGY RESEARCH

A. Runemark¹, M. Brydegaard¹, R. Bro²

¹*Lund University. Sweden.*

²*University of Copenhagen. Denmark.*

IX_037 • 10:45h

DEVELOPMENT OF- AND SELECTED EXAMPLES FROM A VERSATILE MULTI-SPECTRAL IMAGER WITH ANGULAR DISCRIMINATION

M. Brydegaard¹, A. Merdasa¹, J. Ålebring¹, J. Zoueu², S. Svanberg¹

¹*Lund University. Sweden.*

²*National Polytechnic Institute. Ivory Coast.*

IX_020 • 11:00h

INFLUENCE OF NANOSTRUCTURES SIZE OF MANGANESE IONS IN NaCl MATRIX ON THE PHOTOLUMINESCENCE

E V. Mejía-Uriarte, O. Kolokoltsev, M. Navarrete, V. Velásquez, E. Camarillo, J. Hernández A., H. Murrieta S.

Univ. Nac. Autónoma de México. Mexico.

IX_024 • 11:15h

LUMINESCENCE FROM CONICAL BUBBLE COLLAPSE

M. Navarrete, C. Sanchez, E. V. Mejía-Uriarte, M. Villagran

UNAM. Mexico.

V_019 • 11:30h

TRANSMITTANCE, REFLECTANCE AND FLUORESCENCE OF SOME VEGETABLE OILS

E. Solarte, C.P. Valdés, V. Endo, E. Peña

Universidad del Valle. Colombia.

12:00 – 13:30h • Lunch

13:30 – 15:00h • Ancient Peruvian culture conference

15:00 – 18:00h • Museum // Archeological site visit

Poster Session
Group 3

WEDNESDAY, SEPTEMBER 22

15:00 – 17:00h • P2-Posters Session and Exhibit / Coffee Break

IV_001

GEOMETRIC IMAGE FORMATION OF AXIAL OBJECTS

H. Rabal^{1,2}, N. Cap¹, R. Arizaga¹, M. Trivi^{1,2}

¹Centro de Investigaciones Ópticas. Argentine.

²UNLP. Argentine.

IV_002

SCIENCE POPULARIZATION AS AN EDUCATIONAL TOOL; CONSTRUCTION TOYS IN SCIENTIFIC AND RELATED OTICA

L.R. Batista, M. Muramatsu

USP. Brazil.

IV_004

MAKING HOLOGRAMS AT SCHOOL AND AT HOME

R. Serra Toledo¹, A. Moreno Yeras¹, D.S.F. Magalhães², M. Muramatsu³, J.B. Lemus⁴

¹Instituto Superior Politécnico José Antonio Echeverría. Cuba.

²Universidade Estadual de Campinas. Brazil.

³Universidade de Sao Paulo. Brazil.

⁴Universidad Libre de Colombia. Colombia.

IV_005

EXPERIMENTS AND DEMONSTRATIONS TO INTRODUCE CONCEPTS OF MODERN OPTICS IN HIGH SCHOOL

S. Sausmikat Fortes¹, F. Matioli da Silva¹, G. Oliveira Steinicke¹,

M.N. Rocha¹, T. Gishitomi Fujimoto,

M. Muramatsu¹

¹USP. Brazil.

IV_007

DESIGN AND BUILT OF OPTICAL FIBER NETWORK TO ANALYSIS OF TRANSMISSION ON PASSIVE NETWORK OF DIFFERENT TOPOLOGY

C.M. Serpa Imbett¹,

N.D. Gómez Cardona¹,

N. Guerrero González^{2,3}

¹Inst. Tecn. Metropolitano. Colombia.

²Universidad de Antioquia. Colombia.

³Universidad Tecnológica de Dinamarca. Denmark.

IV_012

MANUAL DE PRÁCTICAS: LABORATORIO DE ÓPTICA A NIVEL MEDIO Y SUPERIOR

G. Rodríguez-Zurita

Ben. Univ. Autónoma de Puebla. Mexico.

IV_014

DISCRETE WIGNER DISTRIBUTION FUNCTION WITH COHERENT ILLUMINATION OF DETECTED IMAGES OF QUASI-POINT SOURCE OBJECTS

L.R. Berriel Valdos¹, I.J. Orlando Guerrero², S. Mejía Romero¹, J.F. Aguilar¹,

J.E.A. Landgrave³

¹INAOE. Mexico.

²Universidad de la Cañada. Mexico.

³CIO. Mexico.

IV_016

OPTICS AND CHILDREN

M.F.M. Costa¹, J. Ayres de Campos¹,

M. Lira¹, S. Franco, B.V.Dorrio²

¹Universidade do Minho. Portugal.

²Universidad de Vigo. Spain.

IV_017

UNDERGRADUATE LABORATORY EXPERIMENTS WITH FRACTAL DIFFRACTION GRATINGS

A. Pons¹, J.C. Barreiro¹, W.D. Furlan¹, M.H.

Giménez², J.A. Monsoriu³

¹Universitat de València. Spain.

³Univ. Politécnica de Valencia. Spain.

IV_018

OPTICAL ABERRATIONS MEASUREMENT IN PHOTOGRAPHIC LENSES. DISPLAY OF ITS EFFECTS ON DIGITAL IMAGES

C. Mitjà, J. Escofet, F. Vega

UPC. Spain.

IV_019

FRACTIONAL FOURIER TRANSFORM ANALYSIS OF TWO MIRROR RESONATORS

C. Ferreira¹, I. Moreno², P. García-Martínez¹

¹Universidad de Valencia. Spain.

²Universidad Miguel Hernández. Spain.

IV_020

MIRAGES ABOVE THE SEA WATERS

J. Blanco, F.A. Ribas

Universidad de Vigo. Spain.

V_001

DIRT REFERENCE STANDARDS CHARACTERIZATION BY USING LASER ABLATION INDUCED PHOTOACOUSTICS AND LOW COHERENCE INTERFEROMETRY

D.J.O. Orzi¹, E.N. Morel²,

J.R. Torga², A.N. Roviglione³, G.M. Bilmes¹

¹Centro de Investigaciones Ópticas. Argentine.

²UTN. Argentine.

³Universidad de Buenos Aires. Argentine.

V_002

STUDY OF THE DIRECT PROBLEM IN TURBID MEDIA WITH INCLUSIONS USING MONTE CARLO SIMULATIONS AND TRANSMITTED LIGHT EXPERIMENTS

N.A.Carbone¹, H.O. Di Rocco^{1,2}, D.I. Iriarte^{1,2},

J.A. Pomarico^{1,2}, H.F. Ranea-Sandoval^{1,2}

¹Universidad Nacional del Centro de la Provincia de Buenos Aires. Argentine.

²Concejo Nacional de Investigaciones Científicas y Técnicas. Argentine.

V_003

STUDY OF ABSORBING INCLUSIONS IN TURBID MEDIA SLABS USING TIME RESOLVED AND CW LIGHT

TRANSMISSION

H.O. Di Rocco^{1,2}, D.I. Iriarte^{1,2}, J.A. Pomarico^{1,2}, H.F. Ranea-Sandoval^{1,2}

¹Universidad Nacional del Centro de la Provincia de Buenos Aires. Argentine.

²CNICT. Argentine.

V_004

RESONANT PHOTOACOUSTIC WATER VAPOR MEASUREMENT IN GASEOUS SAMPLES EXCITED BY NEAR INFRARED LEDS

R. Bernhardt¹, M. González¹,

G. Santiago¹, V. Slezak², A. Peuriot²

¹Universidad de Buenos Aires. Argentine.

²Centro de Investigaciones en Láseres y Aplicaciones. Argentine.

V_005

PHOTOACOUSTIC DETECTION OF INHOMOGENEITIES IN TURBID MEDIA

P. Grondona¹, G.M. Bilmes²,

H.O. Di Rocco³, D.I. Iriarte³,

J.A. Pomarico³, H.F. Ranea-Sandoval³

¹Univ. Nacional de Rosario. Argentine.

²CONICET-CIC. Argentine.

³Universidad Nacional del Centro de la Provincia de Buenos Aires. Argentine.

V_006

APPLICATION OF THE PHOTOACOUSTIC TECHNIQUE TO THE DETECTION OF VOLATILE ORGANIC COMPOUNDS INSIDE CARS

N. Zajarevich¹, V. Slezak¹, A. Peuriot¹,

G. Santiago²

¹CEILAP (CITEDEF-CONICET). Argentine.

²UBA. Argentine.

V_008

VISUALIZATION OF SUBSURFACE TOPOGRAPHIES BY DYNAMIC SPECKLE

R. Arizaga¹, M. Mattenet^{1,2},

M. Trivi^{1,2}, H. Rabal^{1,2}

¹Centro de Inv. Ópticas. Argentine.

²UNLP. Argentine.

V_009

DYNAMIC SPECKLE CHARACTERIZING MICROALGAE MOBILITY

M. Mattenet^{1,2}, R. Arizaga¹,

I. Roquette³, M.C. Ríos de Molina³,

H. Rabal^{1,2}, M. Trivi^{1,2}

¹Centro de Inv. Ópticas. Argentine.

²UNLP. Argentine.

³UBA. Argentine.

V_010

DISCRIMINATION BETWEEN FUNGI AND BACTERIA COLONIES USING BIOSPECKLE

S. Murialdo¹, H. Sendra^{1,2}, M. Guzman^{1,2}, I.

Passoni¹, J.F. Gonzalez¹, R. Arizaga², H.

Rabal^{1,2}, M. Trivi^{1,2}

¹Universidad Nacional de Mar del Plata. Argentine.

²Centro de Inv. Ópticas. Argentine.

V_011

LOW SPECKLE ACTIVITY MEASUREMENTS IN CORN SEEDS

M. Mattenet^{1,2}, M. Guzman^{1,3},

R. Arizaga¹, M. Trivi^{1,2}, H. Rabal^{1,2}

¹Centro de Inv. Ópticas. Argentine.

²Univ. Nac. de Mar del Plata, Argentine.

Poster Session Group 3

V_012

CHARACTERIZATION OF A FEL LAMP TYPE SOURCE TOWARDS A BLUE LIGHT IRRADIANCE INTERCOMPARISON IN MEDICAL FIELD

A. F. Gentil F.

¹Instituto de Pesquisas Tecnológicas do Estado de São Paulo. Brazil.

V_014

DETERMINATION OF PDMS POLYMER SHEAR MODULUS BY DIGITAL IMAGE CORRELATION FOR DIFFERENT TEMPERATURES

G.N. Oliveira, L.C.S. Nunes, P.A.M. Dos Santos

Universidade Federal Fluminense. Brazil.

V_015

STUDY OF THERMAL LENS SPECTROSCOPY FOR CHARACTERIZATION OF EXOTIC BIODIESEL

W. Da Costa, M.P. De Castro, M. Sthel, A. Martins, L.F. Milleri, V. Haber, H. Vargas
Univ. Estadual do Norte Fluminense. Brazil.

V_016

M-I BIOSPECKLE DEPENDENCE ON TEMPERTURE AND HUMITY IN LUPINUS SEEDS

R. Guzmán, A. Vargas, F. Torres, J. Cariñe

¹Universidad de La Frontera, Chile.

²Univeridad de Concepción, Chile.

V_020

FLUORESCENCE EMISSION BY MALIGNANT CELL CULTURES IRRADIATED USING UV - SEMICONDUCTOR LIGHT EMITTING DIODES

E. Solarte, C.P. Valdes, W. Criollo, O. Gutierrez

Universidad del Valle. Colombia.

V_021

DESIGN AND IMPLEMENTATION OF AN ALGORITHM FOR CREATING TEMPLATES FOR THE PURPOSE OF IRIS BIOMETRIC AUTHENTICATION THROUGH THE ANALYSIS OF TEXTURES IMPLEMENTED ON AN FPGA

F. Giacometto, J. Vilardy, C. Torres, L. Mattos

¹Universidad Popular del Cesar. Colombia.

V_022

TEMPLATE CHARACTERIZATION AND CORRELATION ALGORITHM CREATED FROM SEGMENTATION FOR THE IRIS BIOMETRIC AUTHENTICATION BASED ON ANALYSIS OF TEXTURES IMPLEMENTED ON AN FPGA

F. Giacometto¹, J. Vilardy¹, C. Torres¹, L. Mattos¹

¹Universidad Popular del Cesar. Colombia.

V_024

THE APPLICATION OF THE THERAPY LOW LEVER LASER USING EQUIPMENTS PRODUCED IN CEADEN

A.A. Orellana Molina,

A.M. Combarro Romero, O. Morales Valdés, A. Hernández Díaz, C.A. Corcho Corcho, S. Fernández Yanes, J. Arteché Díaz, A. Porrúa García, P.J. Larrea Cox
CEADEN. Cuba.

V_025

EXPERIENCE IN DEVELOPMENT AND INTRODUCTION OF EQUIPMENT FOR LOW POWER LASER THERAPY

A.M. Combarro-Romero,

O. Morales-Valdés, A. Porrúa-García, C.A. Corcho-Corcho, A.A. Orellana-Molina, A. Hernández-Díaz, S. Fernández-Yanes, P.J. Larrea-Cox, M. Cunill-Rodríguez, J. Arteché-Díaz

Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear. Cuba.

V_026

RECENT DEVELOPMENTS IN LASER INSTRUMENTS IN CEADEN, CUBA
DESARROLLOS RECIENTES DE INSTRUMENTOS LÁSER EN EL CEADEN, CUBA

C. Fonfría Bragado, V. Fájér Ávila,

O. Morales Valdés, L. Bally Gil,

H. Luvian de Iraola

Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear. Cuba

V_027

ADVANCES IN THE DEVELOPMENT OF A LUMINESCENCE DATING LABORATORY AT CEADEN, CUBA

L. Baly, R. Arteché, J. Arteché,

I. Quesada, T. Cepero, M. García,

H. Lubian

Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear. Cuba.

V_028

PORTABLE NEONATAL KERATOMETER

A. Estrada Molina¹, R. Díaz Uribe¹,

M. Ramírez Ortiz²

¹Univ. Nac. Autónoma de México. Mexico.

²Hospital Infantil de México Federico Gómez. Mexico.

V_029

CONSTRUCTION OF AN ELLIPTICAL-CYLINDRICAL MOLD USING CIRCULAR ROTATING TEFLON® TOOL

B. Villalobos Mendoza¹,

A. Cordero-Dávila¹, J. González García²

¹Benemérita Universidad Autónoma de Puebla. Mexico.

²Univ. Tecnológica de la Mixteca. Mexico.

V_032

BUILDING OF A SOLAR PARABOLIC CONCENTRATOR PROTOTYPE

J.F. Escobar Romero¹, S. Vázquez y Montiel¹,

F. Granados Agustín¹,

E. Percino Zacarías¹, J. Pedraza Chávez¹,

J.Á. Cuachitl Huitzil¹, V.M. Cruz Martínez²,

J. Arriaga Petrona¹, E. Rodríguez Rivera,

L. Martínez Yáñez

¹INAOE. Mexico.

²Univ. Tecn. de la Mixteca. Mexico.

V_033

PC-BASED SYSTEM FOR EXPERIMENTS IN OPTICAL CHARACTERIZATION OF MATERIALS

J.A. Andrade-Lucio, M.Trejo-Duran,

E.Alvarado-Méndez, R.Rojas-Laguna,

E.Vargas-Rodríguez, J.M. López-Hernández,

J.M. Estudillo-Ayala, A.García-Pérez,

O.G. Ibarra-Manzano

Universidad de Guanajuato. Mexico

V_035

MEASUREMENT OF DRAGGING FORCE ON OPTICAL SURFACE POLISHING BY USING TEFLON® TOOLS

R. Izazaga-Pérez¹, A. Cordero-Dávila¹,

J. González-García², Jorge Cuautle-Cortés¹

¹Benemérita Univ. Autón. Puebla. Mexico.

²Univ. Tecnológica de la Mixteca. Mexico.

V_037

STRESS AND DEFORMATION IN TUBULAR METALLIC PARTS OF AUTO SEATS

M.F.M. Costa¹, B.V. Dorrio²,

F.J. Queirós de Melo³,

J.A.O. Carneiro²

¹Universidade do Minho. Portugal.

²Universidad de Vigo. Spain.

³University of Aveiro. Portugal.

V_038

SIMPLE MODEL OF THE BIDIRECTIONAL TRANSMITTANCE DISTRIBUTION FUNCTION FOR LAMINAR DIFFUSIVE MATERIALS

D. Corregidor¹, M. Jaén¹, J. Arasa²,

E. Colombo¹

¹Univ. Nacional de Tucumán. Argentine.

²Univ. Politécnica de Cataluña, Spain.

V_039

OPTICAL CHARACTERIZATION OF INTRAOCULAR LENSES

L. Remón¹, A. Calatayud¹,

J.A. Monsoriu¹, C. Casanova², A. Pons²,

W.D. Furlan²

¹Univ. Politécnica de Valencia. Spain.

²Universitat de València. Spain.

V_041

PHANTOMS WITH BALLISTIC GEL MODELING THE OPTICAL PARAMETERS OF HUMAN SKIN

K. Bravo, A. Muñoz, E. Orozco, M Araujo

Universidad de Carabobo. Venezuela.

V_042

MORPHOLOGICAL CHARACTERIZATION OF ASPHALTENE FILMS ON GOLD SUBSTRATES BY SCANNING ELECTRON MICROSCOPY

D. Fonseca, E. Alvarado, A. Muñoz,

J.C. Pereira

Universidad de Carabobo. Venezuela.

V_043

CHARACTERIZATION OF ASPHALTENE DISSOLUTIONS FROM THE CRUDE OIL AYACUCHO TO START PROCESSING OF COLOR DIGITAL

E. Alvarado, D. Fonseca, A. Muñoz, J. Pereira

Universidad de Carabobo. Venezuela.

V_044

SIMULACIÓN DEL INTERFERÓMETRO DE DIVISIÓN DE FASE DE MÚLTIPLES

F. Narea, A. Muñoz

UC. Venezuela.

V_045

OPTICAL SYSTEM DESIGN FOR CLASSIFYING HUMAN SKIN PIGMENTATION AS YOUR LEVEL

L. Marín-Mireles, E. Orozco-Guillen,

A. Muñoz-Morales, M. Araujo-Marcano

Universidad de Carabobo. Venezuela.

Poster Session Group 3

V_046

STUDY OF RAT PAPILLARY MUSCLE DEFORMATION BY LASER DIFFRACTION
A. Apolinar Iribe¹, A. Virgen-Ortiz¹, M.E.Ríos-Martínez²

¹Universidad de Sonora. Mexico.

²Universidad de Colima. Mexico.

VII_001

GROUND BASED MEASUREMENTS OF SO₂ AND NO₂ EMISSIONS FROM THE OIL REFINERY “LA TEJA” IN MONTEVIDEO CITY

E. Frins¹, O. Ibrahim², N. Casaballe¹, M. Osorio¹, F. Arismendi¹, T. Wagner², U. Platt³

¹Universidad de la República. Uruguay.

²Max-Planck Institut für Chemie. Germany.

³Universität Heidelberg. Germany.

VII_003

MULTIWAVELENGTH LIDAR NODE DEVELOPMENT AND SIMULATION FOR A REGIONAL TROPOSPHERIC AEROSOL MONITORING NETWORK

E. Pawelko, P. Ristori, L. Otero, J. Pallotta, E. Quel

CEILAP (CITEFA-CONICET). Argentine.

VII_004

BIOMASS BURNING AEROSOL DETECTION OVER BUENOS AIRES CITY, AUGUST 2009

L. Otero, P. Ristori, E. Pawelko, J. Pallotta, R. D’Elia, E. Quel

CEILAP (CITEFA-CONICET). Argentine.

VII_005

ALTERNATIVE METHODS FOR CALIBRATION OF NARROW BAND RADIOMETER USING RADIATIVE TRANSFER MODEL

J. Salvador¹, E. Wolfram¹, R. D’Elia¹, F. Zamorano², C. Casiccia², A. Rosales³, E. Quel¹

¹CEILAP (CITEFA-CONICET). Argentine.

²Universidad de Magallanes. Chile.

³Universidad Nacional de la Patagonia San Juan Bosco. Argentine.

VII_006

CALCULATION OF ERYTHEMAL IRRADIANCE AND SYNTHESIS OF VITAMIN D WITH A MULTIBAND FILTER RADIOMETER AND ANNUAL VARIATION ANALYSIS

F. Orte¹, E. Wolfram², J. Salvador J.², R. D’Elia², N. Paes Leme³, E. Quel²

¹ANPCyT. Argentine.

²CEILAP (CITEFA-CONICET). Argentine.

³Instituto Nac. Pesquisas Espaciais. Brazil.

VII_007

CONSTRUCTION AND IMPLEMENTATION OF THE ELASTIC-BACKSCATTER LIDAR “LIPAZ”

F. Calderón, R. Forno

Universidad Mayor de San Andrés. Bolivia.

VII_008

DESIGNS AND MANUFACTURES OF A LIDAR SYSTEM FOR ENVIRONMENTAL, METEOROLOGICAL AND AIR POLLUTION APPLICATIONS

D. Nisperuza, D. Gómez, A. Bastidas

Univ. Nac. de Colombia. Colombia.

VII_009

CONSTRUCTION OF MONOSTATIC-COAXIAL ELASTIC BACKSCATERING LIDAR SYSTEM

E. Reynoso¹, A. Dávila¹, F. Montoya¹, P. Nanco¹, Y. Bravo^{3,1}, D. Iturbe², C. Treviño²

¹BUAP. México.

²INAOE. México.

³IPN. México.

VII_010

NONIMAGIN SOLAR CONCENTRATOR APPLICATION IN PHOTOCHEMICAL TEXTIL DYE DEGRADATION

I. Rendón¹, J. Castillo¹, F. Hernández²

¹CAOfF. México.

²CAQA. México.

Ben. Univ. Autónoma de Puebla. México.

VII_013

DEVELOPMENT OF A DOAS SYSTEM FOR TOTAL-DOAS APPLICATIONS WITH TEMPERATURE CONTROL

J. Ramos, E. Frins

Universidad de la República. Uruguay.

VIII_001

NONLINEAR EFFECTS COMPENSATION IN DISPERSION SHIFTED FIBER LINKS

C. Lambert, P. Costanzo, R. Duchowicz

Centro de Invest. Ópticas. Argentine.

Univ. Nacional de La Plata. Argentine.

VIII_002

PULSE PROCESSING IN OPTICAL FIBERS USING THE TEMPORAL RADON-WIGNER TRANSFORM

L. Bulus¹, P. Costanzo Caso¹, R. Duchowicz¹, E. Sicre²

¹CONICET – CIC y Universidad Nacional de La Plata. Argentine.

²Univ. Argentina de la Empresa. Argentine.

VIII_003

SHRINKAGE MEASUREMENT OF BIS-GMA RESINS BY EMBEDDED FBG

N. Russo¹, G. Arenas², S. Noriega^{1,3}, R. Duchowicz^{1,3}

¹CONICET – CIC. Argentine.

²Univ. Nacional Mar del Plata. Argentine.

³Univ. Nacional de La Plata. Argentine.

VIII_005

HYBRID OPTOELECTRONIC DEVICE WITH MULTIPLE BISTABLE OUTPUTS

P. Costazo^{1,2}, Y. Jin¹, M. Gelh¹, S. Granieri¹, A. Siahmakoun¹

¹Rose-Hulman Inst. of Technology. USA.

²CONICET-CIC and Univ. Nac. de La Plata.

Argentine.

VIII_006

DUAL SPECTRA MODULATION INSTABILITY INDUCED BY CROSS-PHASE-MODULATION IN LOSSLESS FIBER WITH DELAYED NONLINEAR RESPONSE

A. Canabarro^{1,3}, B. Santos², I. Gleria¹, M. Lyra¹, A. Sombra⁴

¹Universidade Federal de Alagoas. Brazil.

²Observatório Nacional. Brazil.

³UFAL. Brazil.

⁴Universidade Federal do Ceará. Brazil.

VIII_009

40 GB/S RZ DQPSK DWDM UNREPEATERED TRANSMISSION OVER 160 KM OF SSMF

E. Ceragioli, S. Susskind, E. De Souza

Univ. Presbiteriana Mackenzie. Brazil.

VIII_010

PRACTICAL METHOD FOR ENGINEERING ERBIUM-DOPED FIBER LASERS FOR TELECOM APPLICATIONS FROM STEP-LIKE PULSE EXCITATIONS

J. Causado, N. Gomez, P. Torres

Univ. Nacional de Colombia. Colombia.

VIII_011

OPTOELECTRONIC SYSTEM MODEL FOR ENCODING INFORMATION THROUGH THE ORBITAL ANGULAR MOMENTUM

C. Díaz, Y. Torres, J. Barrero

Univ. Industrial de Santander. Colombia.

VIII_012

DESIGN AND IMPLEMENTATION OF A SENSOR FOR ENVIRONMENTAL CONTROL BASED ON FIBER OPTICS

Y. Navarro, C. Torres, F. Giacometto

Universidad Popular del Cesar. Colombia.

VIII_013

MODELING THE VIDEO DISTRIBUTION LINK IN THE NEXT GENERATION OPTICAL ACCESS NETWORKS

F. Amaya¹, A. Cárdenas², I. Tafur³

¹Univ. Pontificia Bolivariana. Colombia.

²Universidad de Antioquia. Colombia.

³Technical Univ. of Denmark. Denmark.

VIII_015

ANALYSIS OF DISPERSION AND LOSSES IN OPTICAL FIBERS BY FRACTIONAL ORDER FOURIER TRANSFORM

Z. Lizarazo^{1,4}, P. Pellat-Finet^{2,3}, Y. Torres¹, R. Torres¹

¹Univ. Industrial de Santander. Colombia.

²Université de Bretagne Sud. France.

³UMR CNRS. France.

⁴Universidad de Santander. Colombia.

VIII_019

REFRACTIVE INDEX SENSOR USING A TWIN-HOLE FIBER

D. López¹, W. Margulis², J. Sánchez¹, D. May³

¹INAOE. Mexico.

²ACREO AB. Sweden.

³Universidad Autónoma de Tamaulipas. México.

VIII_020

FIBER OPTIC TEMPERATURE SENSOR BASED ON MULTIMODE INTERFERENCE EFFECTS

J. Aguilar¹, J. Antonio¹, J. Sánchez¹, D. May²

¹INAOE. Mexico.

²Univ. Autónoma de Tamaulipas. Mexico.

Poster Session Group 3

VIII_021

EXPERIMENTAL ARRANGEMENT TO MEASURE DISPERSION ON OPTICAL FIBER DEVICES
DESARROLLO EXPERIMENTAL PARA LA MEDICIÓN DE LA DISPERSIÓN EN DISPOSITIVOS DE FIBRA ÓPTICA
I. Armas¹, G. Beltrán², J. Castillo², S. Muñoz², P. Zaca³

Benemérita Universidad Autónoma de Puebla. Mexico.

¹ *Facultad de Ciencias de la Electrónica*

² *Facultad de Ciencias Físico Matemáticas*

³ *Fisicoquímica de Materiales ICUAP*

VIII_022

STUDY OF LINEAR AND NON-LINEAR TRANSMISSION OF A FIBER OPTIC SAGNAC INTERFEROMETER AS A BIDIRECTIONAL DEVICE
J. Ramos¹, G. Beltran¹, J. Castillo¹, S. Muñoz¹, P. Zaca², C. Felipe³

¹ *Benemérita Univ. Aut.de Puebla. Mexico.*

² *Fisicoquímica de materiales, ICUAP*

³ *Instituto Politécnico Nacional. Mexico.*

VIII_023

ESTUDIO DE LA DEPENDENCIA DE LA SEÑAL DE PHOTO-EMF RESPECTO DEL ESTADO DE POLARIZACIÓN DE LA LUZ EN FIBRA ÓPTICA PARA SER EMPLEADA EN UN SISTEMA DE COMUNICACIÓN ÓPTICO COHERENTE

A. Palma, J. Castillo, G. Beltrán, S. Muñoz
Ben. Univ. Autónoma de Puebla. México.

VIII_024

FIBER OPTIC PRESSURE SENSOR USING MULTIMODE INTERFERENCE
V. Ruiz¹, M. Basurto¹, P. LiKamWa³, J. Sanchez¹, D. May⁴

¹ *INAOE, Mexico.*

² *Univ. Aut. del Estado de Morelos. Mexico.*

³ *University of Central Florida. USA.*

⁴ *Univ. Autónoma de Tamaulipas. Mexico.*

VIII_026

SECURE OPTOELECTRONIC COMMUNICATION USING LASER DIODE DRIVING BY CHAOTIC RÖSSLER OSCILLATORS

R. Jaimes¹, A. Pisarchik², R. Sevilla¹, G. Huerta¹, J. García¹, D.Lopez¹

¹ *Universidad de Guadalajara. Mexico.*

² *CIO. Mexico.*

IX_001

LASER GENERATED PLASMAS IN LIQUIDS. INTERFERENCE ON THE VOLTAGE – CURRENT CHARACTERISTIC OF THE CONDUCTION CELL

V. Espejo¹, D. Bertuccelli^{2,3}

H.F. Ranea-Sandoval^{2,3}

¹ *UNESCO. Argentine.*

² *UNCPBA, Argentine.*

³ *CONICET. Argentine.*

IX_002

LASER GENERATED PLASMAS IN LIQUIDS. POSSIBLE INTERFERENCE ON THE CONDUCTION CELL ELECTRODES DIPOLAR LAYER

V. Espejo¹, D. Bertuccelli^{2,3}

H.F. Ranea-Sandoval^{2,3}

¹ *UNESCO. Argentine.*

² *UNCPBA, Argentine.*

³ *CONICET. Argentine.*

IX_003

LASER GENERATED PLASMAS IN LIQUIDS. INTERFERENCE ON SOLUTION'S Ph

D. Bertuccelli, H.F. Ranea-Sandoval

UNCPBA, Argentine.

CONICET. Argentine

IX_004

APPLICATION OF LASER INDUCED BREAKDOWN SPECTROSCOPY AND NEURAL NETWORK TO OLIVE OILS ANALYSIS

D. Marcos-Martinez¹, M. Del Valle¹,

F.C. Alvira², G.M. Bilmes^{2,3}

F.J. Manuel de Villena¹, J.O. Caceres¹

¹ *Univ. Complutense de Madrid. Spain.*

² *CONICET La Plata- CIC. Argentine.*

³ *Univ. Nacional de La Plata. Argentine.*

IX_005

MICROMAPPING OF STRONTIUM TRACES IN HUMAN TEETH BY FEMTO LIBS

F.C. Alvira¹, F. Ramirez Rozzi², G.A. Torchia¹,

G.M. Bilmes^{1,3}

¹ *CONICET La Plata -CIC.Argentine.*

² *UPR2147-CNRS. France.*

³ *Univ. Nacional de La Plata. Argentine.*

IX_008

REMOTE SENSING OF STRATOSPHERIC O₃ AND NO₂ USING A PORTABLE AND COMPACT DOAS SPECTROMETER
M. Raponi¹, R. Jiménez², E. Wolfram¹,

J.O. Tocho³, E. Quel¹

¹ *CEILAP (CITEFA-CONICET). Argentine.*

² *Univ. Nacional de Colombia. Colombia*

³ *Centro de Inv. Ópticas. Argentine.*

IX_010

STUDY OF THE KINETICS OF THE CCl₂ RADICAL REACTION

N.D. Gomez, V.M. Freytes, J. Codnia,

F. Manzano, M.L. Azcárate

CEILAP (CITEDEF-CONICET). Argentine.

IX_011

INFLUENCE OF THE ENERGY EXCHANGE BETWEEN OXYGEN AND METHANE IN AN OPO-BASED PHOTOACOUSTIC SYSTEM

N.L. Barreiro¹, A.S. Vallespi¹, V.B. Slezak¹,

A.L. Peuriot¹, G.D. Santiago²

¹ *CEILAP (CITEFA-CONICET). Argentine.*

² *Universidad de Buenos Aires. Argentine.*

IX_012

AN ASSESSMENT THROUGH RADIATION TRAPPING OF THE DYNAMIC POPULATIONS IN NEON

V. D'Accurso, F.A. Manzano,

CEILAP (CITEDEF-CONICET). Argentine.

IX_013

ANALYSIS Si/Al RATIO IN ZEOLITES TYPE FAU BY LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS)

L. Muñoz, W.A. Contreras, S. Villamizar,

R. Cabanzo, E. Mejía-Ospino

Univ. Industrial de Santander. Colombia.

IX_014

QUALITATIVE STUDY OF METAL CONTENT IN HONEY SAMPLES BY LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS)

C. Chacín, J. Guerrero, E. Mejía-Ospino,

R. Cabanzo

Univ. Industrial de Santander. Colombia.

IX_015

LASER INDUCED BREAKDOWN SPECTROSCOPY WITH MULTIPULSE EXCITATION. PROTOTYPE AND APPLICATIONS

L. Moreira¹, L.V. Ponce¹, M.A. Arronte¹,

Y. Pérez¹, T. Flores¹, B. Lambert¹,

O. Cruzata¹, J. L. Cabrera¹, A. Borges¹,

A. Ponce¹, I. Ravelo²

¹ *Havana University. Cuba.*

² *National Center for Conservation, Restoration*

and Museology. Cuba.

IX_016

LASER-INDUCED BREAKDOWN SPECTROSCOPY ANALYSIS WITH MULTI-PULSE EXCITATION FOR ABLATION PROCESS OF TUNA AREOLAS

T. Flores¹, L. Ponce^{1,2}, E. Rodríguez,

E. De Posada, M. Arronte^{1,2}

¹ *CICATA-IPN, Unidad Altamira. México*

² *IMRE-Universidad de La Habana. Cuba*

IX_017

APPLICATION OF LIBS AND THE TAGUCHI METHOD IN RECYCLING OF ALUMINUM JUNK BY MELTING

G. Tufiño Zúñiga¹, C. Costa Vera

Escuela Politécnica Nacional. Ecuador.

IX_018

A BASIS OF PENCIL AS A SUBSTRATE FOR ANALYSIS OF DISSOLVED SALTS IN LIQUIDS BY LIBS

J.D. Jijón Valdivieso, C. Costa Vera

Escuela Politécnica Nacional. Ecuador.

IX_019

OPTICAL SPECTROSCOPY OF ZINC OXIDE LASER PRODUCED PLASMA

E. de Posada¹, M. Arronte¹, L. Ponce¹,

E. Rodríguez¹, T. Flores¹, J. G. Lunney²

¹ *Centro de Investigación en Ciencia Aplicada y*

Tecnología Avanzada. Mexico

² *School of Physics, Trinity College Dublin.*

Ireland

IX_021

OPTICAL SPECTROSCOPY OF SYNTHETIC AND NATURAL EMERALDS

M.A. Sánchez-Alejo¹, H. Murrieta¹,

J.M. Hernández¹, E. Camarillo García¹,

T. Calderón²

¹ *UNAM. Mexico.*

² *Univ. Autónoma de Madrid. Spain.*

IX_022

COOPERATIVE EMISSION IN ION IMPLANTED Yb:YAG WAVEGUIDES

V. Vázquez¹, H. Desirena¹,

E. De la Rosa¹, E. Flores-Romero²,

H. Márquez³, J. Rickards², R. Trejo-Luna²

¹ *CIO. Mexico.*

² *UNAM. Mexico.*

³ *Centro de Investigación Científica y de*

Educación Superior de Ensenada. Mexico.

Poster Session
Group 3

IX_023

SIMULATION STUDY OF LIGHT TRANSPORT IN MEXICAN NOPAL LEAVES

J.A. Delgado Atencio¹, M.A. López², S. Vázquez¹

¹*Instituto Nacional de Astrofísica Óptica y Electrónica, México*

²*Benemérita Universidad Autónoma de Puebla, Mexico*

IX_025

INFRARED SPECTROSCOPY IN THE ANALYSIS OF ADULTERATION OF BEE HONEY BY SUGAR SYRUPS

M. A. Rios, M. Rojas, R. Delgado, A. Orduña, V. L. Gayou, M. Bibbins

CIBA Instituto Politécnico Nacional, Tlaxcala, México

IX_026

INFRARED SPECTROSCOPY APPLIED ON IN VIVO CHARACTERIZATION OF EFFECTS OF ABSCISIC ACID DURING THE DESICCATION OF PLAGIOMNIUM CUSPIDATUM

R. Delgado Macuil, A. Chamorro Flores, F. Cervantes Díaz, M. Rojas López, A. L. Arroyo Becerra, M. A. Villalobos Lopez¹

¹*Centro de Investigación en Biotecnología Aplicada del IPN, México*

IX_027

STUDY OF SiO₂ SPHERES BY LASER NEPHELOMETRY

R.Y. Sato Berrú, J.O. Flores Flores, A.R. Vázquez Olmos, J.M. Saniger
UNAM, Mexico.

IX_028

ANALYSIS OF THE PARTICLE LIBERATION OF SiO₂ FROM RICE HUSK, USING SPECTROSCOPY DRIFT

V. López Gayou¹, V. E. López y López¹, J. D. Tellez Giron¹, F. Ortiz Gutiérrez¹, R. Delgado Macuil¹, M. Rojas López¹, A. Orduña Díaz¹

¹*Centro de Investigación en Biotecnología Aplicada del IPN, México*

IX_029

BIOSYNTHESIS OF GOLD NANOPARTICLES USING FERMENTED BROTH OF THE FUNGUS *PLEUROTUS OSTREATUS*

V. López Gayou¹, R. Delgado Macuil¹, F. Ortiz Gutiérrez¹, G. Díaz Godínez², R. Díaz Godínez², M. Rojas López¹

¹*Centro de Investigación en Biotecnología Aplicada del IPN, México*

²*Centro de Investigación en Ciencias Biológicas, Universidad Autónoma de Tlaxcala, México*

IX_030

OPTICAL INSTRUMENTATION FOR THE LASER SPECTROSCOPY SYSTEM LIBS

R. Sánchez, M. Asmad, G. Baldwin
PUCP, Peru.

IX_031

DETERMINATION OF METALIC ALLOY COMPOSITION IN MOCHE FUNERAL MASKS FROM ELEMENTAL ANALYSIS TECHNIQUE WITH LASER SPECTROSCOPY LIBS

R. Sánchez¹, M. Asmad¹, G. Baldwin¹, A.C. Mauricio Llonto², L.J. Castillo²

¹*PUCP, Peru.*

²*Programa Arqueológico San José de Moro, PUCP, Peru.*

IX_032

STUDY AND IDENTIFICATION OF SECRETED PROTEASES FROM *TAENIA SOLIUM* ONCOSPHERES *IN VITRO* USING FLUORESCENCE MICROSCOPY

D. Rueda¹, J. Rivero¹, M. Verastegui¹, R. Gilman², M. Zimic¹

¹*Univ. Peruana Cayetano Heredia, Peru.*

²*Johns Hopkins Bloomberg School of Public Health, USA.*

IX_033

MEASUREMENTS OF TWO-PHOTON ABSORPTION CROSS-SECTION OF Xe FOR LASER SPECTROSCOPIC TECHNIQUES CALIBRATION

M.C. Pérez, M.I. De la Rosa, K. Grützmacher, L.M. Fuentes
Univ. de Valladolid, Spain.

IX_035

STRATEGIES FOR THE QUANTITATIVE ELEMENTAL ANALYSIS BY LASER INDUCED BREAKDOWN SPECTROSCOPY

R.J. Lasheras, C. Bello-Gálvez, J. Anzano
Univ. of Zaragoza, Spain.

IX_039

DESIGN AND CHARACTERIZATION OF A LASER INDUCED BREAKDOWN SPECTROSCOPY MICROSCOPE IN COLLINEAR DOUBLE PULSE CONFIGURATION

V. Piscitelli^{1,2}, A. Fernandez¹, J. Gonzalez², R. Russo²

¹*Univ. Central de Venezuela, Venezuela.*

²*Lawrence Berkeley National Lab, USA.*

IX_040

CHARACTERIZATION OF LASER – INDUCED PLASMAS BY ATOMIC EMISSION SPECTROSCOPY

D.M. Díaz Pace, G. Bertuccelli, C.A. D'Angelo
UNCPBA, Argentine.



GROUP 4: Quantum Optics, ...

Lasers. Quantum Optics. Non-Linear Optics. Light-Matter Interaction. Optical Traps. Optoelectronics Materials. Optical Thin Films. Optoelectronics Devices. Photonic Crystals.



MONDAY, SEPTEMBER 20



Edificio Mac Gregor, Oficina de eventos • 08:00 – 10:30h • Registration Open

Edificio Mac Gregor, Aula N-402 • 10:30 – 12:00h • Technical Sessions

D.V.G. L.N. Rao, Chair

J. L. Paz • 10:30h

Invited

**NONLINEAR OPTICAL PROPERTIES OF
MOLECULAR SYSTEMS COUPLED TO THE
SOLVENT: STUDY BASED IN FOUR-WAVE MIXING**

J.L. Paz, A. Romero, A. Mendoza

Universidad Simón Bolívar. Venezuela.

III_042 • 11:00h

**PHOTONIC APPLICATIONS OF
BACTERIORHODOPSIN**

D.V.G. L.N. Rao

University of Massachusetts. USA.

X_023 • 11:15h

**A NUMERICAL SOLUTION OF MULTICHANNEL
PHOTOREFRACTIVE OPTICAL AMPLIFIERS**

J.E. Rueda, L.J. Mendoza, L.M. Castro

Universidad de Pamplona. Colombia.

X_056 • 11:30h

**NONLINEAR SPECTROSCOPY OF ISOTROPIC AND
ANISOTROPIC METALLIC NANOCOMPOSITES**

R.C. Fernández¹, J.A. Reyes¹, R. Gleason¹, C. Torres²,
R. Rangel³, J.C. Cheang¹, A. Crespo¹, L. Rodríguez¹,
A. López¹, A. Oliver¹

¹*Univ. Nac. Autónoma de México. Mexico.*

²*ESIME-Z. Mexico.*

³*CICESE. Mexico.*

XI_016 • 11:45h

**CHARACTERIZATION AND OPTIMIZATION OF A
SPATIAL LIGHT MODULATOR**

M. Álvarez, A. Arias, N. Correa, R. Castañeda

Univ. Nac. de Colombia. Colombia.

12:00 – 13:30h. • Lunch

Edificio Mac Gregor, Aula N-402 • 13:30 – 15:00h • Technical Sessions

F. Villa-Villa, Chair

XI_019 • 13:30h

**DESIGN AND FABRICATION OF A
BIDIMENSIONAL MICROBOLOMETER ARRAY
FOR TERAHERTZ DETECTION CHARACTERIZED
AT DIFFERENT TEMPERATURES**

A. Orduña, E. Castillo, A. Torres,
F. De la Hidalga-Wade, C. Treviño

INAOE. Mexico.

X_007 • 14:00h

MULTI FUNCTIONS ERBIUM-DOPED FIBER LASER

C. Barros, H.G. Rosa, E.A. de Souza

Univ. Presbiteriana Mackenzie. Brazil.

X_064 • 14:15h

**ALL-FIBER LASERS ACTIVELY Q-SWITCHED AND
MODELOCKED**

C. Cuadrado¹, A. Díez², J.L. Cruz², M.V. Andrés²

¹*Centro de Inv. Ópticas. Argentine.*

²*Universidad de Valencia. Spain.*

X_062 • 14:30h

**DELAY-COUPLED SEMICONDUCTOR LASERS:
DYNAMICS AND APPLICATIONS**

M. Cornelles¹, N. Oliver¹, X. Porte¹, R. Vicente²,
I. Fischer¹, C. R. Mirasso¹

¹*IFISC, CSIC-UIB. Spain.*

²*Max-Planck Institute. Germany.*

RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...	RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...
--	--

I_086 • 11:30h

**PERIODIC GREEN FUNCTIONS AND THE
INTEGRAL METHOD FOR GRAZING INCIDENCE
IN TWO-DIMENSIONAL PHOTONIC CRYSTALS**

**A. Mendoza-Suárez¹, F. Villa-Villa²,
J.A. Gaspar-Armenta³**

¹*Universidad Michoacana de San Nicolás de Hidalgo,
Mexico.*

²*CIO. Mexico.*

³*Universidad de Sonora. Mexico.*

15:00 – 15:30h. • Coffee Break

Auditorio de Derecho, 15:30 – 15:45h • Welcome

Auditorio de Derecho, 15:45h • Plenary

GRADIENT-INDEX MATERIALS MANUFACTURING IN NATURE AND MANMADE

D.T. Moore

University of Rochester. USA.

Auditorio de Derecho, 16:45h • Plenary

VARIABLE COHERENCE SENSING

A. Dogariu

University of Central Florida USA.

TUESDAY, SEPTEMBER 21



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

PRECISION INTERFEROMETRIC MEASUREMENTS IN NON-IDEAL ENVIRONMENTS

J. C. Wyant

University of Arizona. USA.

Auditorio de Derecho, 09:30h • Plenary

THE DESIGN OF OPTICAL SYSTEMS WITH OFF-AXIS SPHERICAL MIRRORS

D. Malacara

Centro de Investigaciones en Óptica. Mexico.

10:00 – 10:30h • Coffee Break

Edificio Mac Gregor, Aula N-402 • 10:30 – 12:00h • Technical Sessions

M. Martínez, Chair

J. Castillo • 10:30h

Invited

PREPARATION OF METALLIC NANOPARTICLES
(Au y Fe-a) AND HIS APPLICATION IN REAL
SYSTEMS

J. Castillo, P. Rodriguez, H. Rojas, Y. Francisco,
F. Dager, A. Fernandez, Y. Vitta, J. Chirinos,
M. Caetano

Universidad Central de Venezuela, Venezuela.

XI_004 • 11:00h

OPTICAL RECORDING MECHANISMS IN
PHOTOREFRACTIVE SILLENITE CRYSTALS

J. Frejlich¹, V. Jerez², R. Montenegro¹, I. De Oliveira¹

¹Univ. Estadual de Campinas. Brazil.

²Univ. Industrial de Santander. Colombia.

X_001 • 11:15h

TAILORING THE PLASMON RESONANCE OF
METAL NANOPARTICLES SUPPORTED WITHIN
MESOPOROUS THIN FILMS

E. Martínez^{1,2}, M. Martínez², M. Bellino², G. Soler²

¹Univ. Nacional de San Martín. Argentine.

²Consejo Nacional de Investigaciones Científicas y Técnicas.
Argentine.

X_041 • 11:30h

TWO PHOTON ACTIVITY IN NANOPARTICLE
COLLOIDS SYNTHESIZED FROM ORGANIC
MOLECULES

G. Ramos¹, M. Rodríguez¹, J. Maldonado¹, C. Jim²,
M. Häußer², M. Meneses¹, O. Barbosa¹, B. Tang²

¹CIO. Mexico.

²The Hong Kong University of Science & Technology.
China.

X_054 • 11:45h

ENHANCEMENT OF THE OPTICAL KERR
EFFECT EXHIBITED BY AN INTEGRATED
CONFIGURATION OF SILICON QUANTUM DOTS
AND SILVER NANOPARTICLES

A. López¹, R. Rangel², C. Torres³, A. Benami¹,
L. Tamayo², J. A. Reyes¹, J. C. Cheang¹, L. Rodríguez¹,
A. Crespo¹, A. Oliver¹

¹Univ. Nac. Autónoma de México. Mexico.

²Centro de Investigación Científica y de Educación
Superior de Ensenada. Mexico.

³ESIME-Z. Mexico.

12:00 – 13:30h • Lunch

C. Gómez, Chair

XI_006 • 13:30h

STUDY ON THE INFLUENCE IN THE
FLUORESCENCE IN Er^{3+} -DOPED TELLURITE
TRANSPARENT GLASS CO-DOPED AG NANO-
PARTICLES

V. Rivera¹, Y. Messaddeq², L. Nunes¹, E. Marega¹

¹USP. Brazil.

²UNESP. Brazil.

XI_025 • 13:45h

QD OBTAINED BY LPE FROM SUBSATURATED IN-
AS LIQUID PHASES ON GAAS SUBSTRATE

F. Ortiz¹, V. Michournyi¹, A. Gorbachev¹, F. De Anda¹, T.
Prutskij²

¹Inst. Inv. en Comunicación Óptica. Mexico.

²Ben. Univ. Autónoma de Puebla. Mexico.

XI_029 • 14:00h

HOLOGRAPHIC CHARACTERIZATION AND
APPLICATIONS OF PHOTOREFRACTIVE ORGANIC
POLYMERS BASED ON CYANO AND NITRO NON-
LINEAR CHROMOPHORES

V. Herrera¹, J. Maldonado¹, M. Rodríguez¹, G. Ramos¹, D.
Rodríguez², M. Meneses¹, O. Barbosa¹, R. Santillán³, N.
Farfán⁴

¹CIO. Mexico

²Universidad de Guanajuato. Mexico.

³CINVESTAV- IPN. Mexico

⁴UNAM, Mexico.

XI_039 • 14:15h

PROPAGATION OF GAUSSIAN BEAMS THROUGH
ACTIVE GRIN MATERIALS

C. Gómez, A. Gómez, C. Bao, M. Pérez,

X. De la Fuente, M. Flores

Universidade de Santiago. Spain.

XI_036 • 14:30h

DETERMINATION OF THE OPTICAL BANDGAP
AND DISORDER ENERGIES OF THIN
AMORPHOUS SIC AND ALN FILMS PRODUCED
BY RADIO FREQUENCY MAGNETRON
SPUTTERING

J. Guerra¹, O. Erlenbach², G. Galvez¹, F. De Zela¹,
A. Winnacker², R. Weingärtner R.^{1,2}

¹PUCP. Peru.

²University of Erlangen. Germany.

XI_021 • 14:45h

EFFECTIVE OPTICAL RESPONSE OF
NANOSTRUCTURED METAMATERIALS

B.S. Mendoza¹, G. Ortiz², B.E. Martínez-Zérega^{1,3},
W.L. Mochán⁴

¹CIO. Mexico.

²Univ. Nac. del Nordeste. Argentine.

³Univ. de Guadalajara. Mexico.

⁴Univ. Nac. Autónoma de México. Mexico.

WEDNESDAY, SEPTEMBER 22



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

A KEY EXPERIMENT OF QUANTUM OPTICS: THE TRANSFER OF SPIN ANGULAR MOMENTUM FROM PHOTONS TO A BIREFRINGENT PARTICLE

W. Dultz

University Frankfurt. Germany.

Auditorio de Derecho, 09:30h • Plenary

MANIPULATING THE CONTINUOUS QUANTUM VARIABLES OF LIGHT

U. Lund Andersen

Technical University of Denmark. Denmark.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-402 • 10:30 – 12:00h • Technical Sessions

F. De Zela, Chair

C. Monken • 10:30h

Invited

MEASUREMENT OF THE GOUY PHASE SHIFT OF A TWO-PHOTON CORRELATION BEAM

M. V. Da Cunha, L. Perez, C.H. Monken

Univ. Federal de Minas Gerais. Brazil.

L. Orozco • 11:00h

Invited

CONTROL IN CAVITY QED

D.G. Morris¹, A.D. Cimmarrusti¹, H.J. Carmichael^{1,2}, P. Barberis^{1,3}, L.A. Orozco¹

¹University of Maryland. USA.

²University of Auckland. New Zealand.

³Univ. Nac. Autónoma de México. Mexico.

X_059 • 11:30h

MEASUREMENT OF GEOMETRIC PHASES BY ROBUST INTERFEROMETRIC AND POLARIMETRIC METHODS

J. Loredo, O. Ortiz, A. Ballón, S. Chávez, F. De Zela
PUCP. Peru.

X_066 • 11:45h

IMAGING THE SPATIAL MODE OF SINGLE PHOTONS

E. Gálvez, L. Coyle

Colgate University. USA.

12:00 – 13:30h. • Lunch

Edificio Mac Gregor, Aula N-402 • 13:30 – 15:00h • Technical Sessions

C. Saavedra, Chair

X_016 • 13:30h

RECONSTRUCTION OF PHOTONIC QUDIT STATES USING MUBs

G. Lima^{1,2}, L. Neves^{1,2}, R. Guzmán^{1,3}, E. S. Gómez^{1,2},
W. Nogueira^{1,2}, A. Delgado^{1,2}, A. Vargas^{1,3},

C. Saavedra^{1,2}

¹Universidad de Concepción. Chile.

²Universidad de Concepción. Chile.

³Univ. de La Frontera, Temuco. Chile.

X_020 • 13:45h

NON-CLASSICAL BEHAVIOUR OF SCALAR WAVE FIELDS IN ANY STATE OF SPATIAL COHERENCE AND POINT SOURCES IN THE PHASE-SPACE REPRESENTATION

G. Cañas, R. Castañeda, H. Vinck

Univ. Nacional de Colombia. Colombia.

RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...	RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...
--	--

X_022 • 14:00h

THEORETICAL AND EXPERIMENTAL ANALYSIS OF A SURFACE PLASMON POLARITON

C. Hernando, J. Meneses

Univ. Industrial de Santander. Colombia.

X_026 • 14:15h

TIME DEPENDENT DENSITY FUNCTIONAL STUDY OF THE ABSORPTION SPECTRA OF 1,3-BENZOXAZOLE AND THREE SUBSTITUTED BENZOXAZOLE IN GAS PHASE AND LIQUID PHASE

R. Carrasquilla, O. Neira

Universidad Popular del Cesar. Colombia.

X_043 • 14:30h

FABRICATION OF PDMS/SWCNT THIN FILMS AS SATURABLE ABSORBERS

I. Hernandez¹, D. May², J. Sánchez¹

¹*INAOE. Mexico.*

²*Univ. Autónoma de Tamaulipas. Mexico.*

XI_038 • 14:45h

AMORPHOUS CARBON NITRIDE THIN FILM AS BUFFER LAYER IN OLED WITH GADOLINIUM COMPLEX

R. Reyes¹, M. Cremona², C. Achete³, H. Brito⁴

¹*Univ. Nacional de Ingeniería. Peru.*

²*PUC-Rio. Brazil.*

³*UFRJ. Brazil.*

⁴*USP. Brazil.*

15:00 – 17:00h • P2-Posters Session and Exhibit / Coffee

THURSDAY, SEPTEMBER 23



Edificio Mac Gregor, Oficina de eventos • 08:00 – 09:00h • Registration Open

Auditorio de Derecho, 09:00h • Plenary

OPTICAL TWEEZERS AND ANGULAR MOMENTUM OF LIGHT

T. Asavei, A. Stligoe, Maucort, T. Nieminen, N. Heckenberg, H. Rubinsztien
University of Queensland. Australia.

Auditorio de Derecho, 09:30h • Plenary

CAVITY OPTOMECHANICS

P. Meystre
University of Arizona. USA.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-402 • 10:30 – 12:00h • Technical Sessions

J. P. Galaup, Chair

J. Pérez Torrez • 10:30h

Invited

**SPONTANEOUS PARAMETRIC DOWNCONVERSION:
A VERSATILE TOOL FOR ENGINEERING QUANTUM
LIGHT**

J.P. Torres, M. Hendrych, A. Valencia
¹ICFO. Spain.

X_052 • 11:00h

**DEPOSITION OF TITANIA NANOTUBES ON
OPTICAL FIBER VIA OPTICAL MANIPULATION**

P. Zaca¹, F. Chavez¹, T. Prutskij¹, N. Morales¹,
J. G. Ortega², C. Felipe³, O. Goiz⁴

^{1,2}Ben. Univ. Autónoma de Puebla. Mexico.

^{3,4}Instituto Politécnico Nacional. Mexico.

X_030 • 11:15h

**TRAPPING, MANIPULATION AND RAPID
ROTATION OF NBD-C8 FLUORESCENT SINGLE
CRYSTALS IN OPTICAL TWEEZERS**

J. P. Galaup¹, M. Rodriguez^{1,2}, A. Augier³, J. Lamère⁴, S.
Fery⁴

¹Université Paris 11. France.

²CEADEN. Cuba,

³INTEC. Cuba.

⁴Université Paul Sabatier France.

V_040 • 11:30h

**MANIPULATION OF HELICAL,
MAGNETOTACTIC BACTERIA IN AN OPTICAL
TRAP**

H. Schmitzer¹, M. Henstridge¹, H.P. Wagner²,
W. Dultz³, D. Tierney¹

¹Xavier University. USA.

²University of Cincinnati, Cincinnati. USA.

³Goethe University, Germany.

III_039 • 11:45h

**MOVEMENTS ON ANGULAR POINCARÉ SPHERE
DURING BEAM PROPAGATION**

T. Alieva¹, M.J. Bastiaans²

¹Univ. Complutense de Madrid. Spain.

²Eindhoven Univ. Technology. Netherlands.

12:00 – 13:30h. • Lunch

RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...	RIAO-OPTILAS 2010 GROUP 4: Quantum Optics, ...
--	--

Auditorio de Derecho, 13:30h • Plenary

THE HIDDEN SIDE OF THE LASER STORY

M. Bertolotti

University of Roma “La Sapienza”. Italy.

Auditorio de Derecho, 14:15h • Plenary

LASER SPECTROSCOPY APPLIED TO ENVIRONMENTAL AND MEDICAL RESEARCH

S. Svanberg

Lund University. Sweden.

15:00 – 15:30h. • Coffee Break

15:30 – 17:45h • SPIE & OSA awards announcement • General Assembly

21:00 h • Artistic Show and dinner

FRIDAY, SEPTEMBER 24



Auditorio de Derecho, 09:00h • Plenary

DIAGNOSTICS AND TREATMENT OF TUMOURS USING LASER TECHNIQUES

K. Svanberg

Lund University. Sweden.

Auditorio de Derecho, 09:30h • Plenary

MAGNETO- AND MULTIFERROIC PHOTONICS AND THEIR APPLICATION TO SPATIAL LIGHT MODULATORS

M. Inoue

Toyohashi University of Technology. Japan.

10:00 – 10:30h. • Coffee Break

Edificio Mac Gregor, Aula N-402 • 10:30 – 12:00h • Technical Sessions

M. Levy, Chair

A. Grishin • 10:30h

Invited

TOWARDS MAGNETO-OPTICAL LASING MEDIA

A.M. Grishin, S.I. Khartsev

Royal Institute of Technology, Sweden.

M. Levy • 11:00h

Invited

FUNCTIONAL GYROTROPIC PHOTONIC CRYSTALS

M. Levy¹, N. Dissanayake¹, Z. Wu¹, A. Jalali¹,

V. Fratello²

¹*Michigan Technological University. USA.*

²*Integrated Photonics, Inc. USA.*

XI_024 • 11:45h

**REFRACTIVE INDEX PLANAR OPTICAL
SENSOR BASED ON THE MIRAGE EFFECT**

C. Sánchez

Univ. Nac. Autónoma de México. Mexico.

XI_018 • 11:30h

**OPTICAL AND MAGNETO-OPTICAL RESPONSES OF
PLASMONIC COMPOSITE STRUCTURES WITH
GOLD PARTICLES AND GARNET THIN FILM**

H. Uchida¹, Y. Mizutani², M. Inoue²

¹*Tohoku Institute of Technology. Japan.*

²*Toyohashi University of Technology. Japan.*

12:00 – 13:30h. • Lunch

13:30 – 15:00h • Ancient Peruvian culture conference

15:00 – 18:00h • Museum // Archeological site visit

Poster Session
Group 4

WEDNESDAY, SEPTEMBER 22

15:00 – 17:00h • P2-Posters Session and Exhibit / Coffee Break

X_003

TRANSVERSE MODE SELECTION AND BIESTABILITY IN VERTICAL-CAVITY SURFACE-EMITTING LASERS INDUCED BY PARALLEL POLARIZED OPTICAL INJECTION

M. Salvide¹, M.S. Torre¹, A. Valle², L. Pesquera²

¹Univ. Nac.del Centro de la Pcia. de Bs. As. Argentine.

²Universidad de Cantabria. Spain.

X_004

MODELING MUTUALLY COUPLED VCSEL's VIA POLARIZATION-ROTATED OPTICAL COUPLING

M.S. Torre¹, C. Masoller²

¹Universidad Nacional del Centro de la Provincia de Buenos Aires. Argentine.

²Univ. Politecnica de Catalunya. Spain.

X_005

EXPERIMENTAL TESTS OF NON ERGODIC HIDDEN VARIABLE THEORIES BY TIME STAMPING

M. Agüero¹, A. Hnilo¹, M. Kovalsky¹, M. L.arotonda¹

¹CEILAP- CITEFA- CONICET. Argentine.

X_006

HOW “COLD” A MARKOVIAN DISSIPATIVE CAVITY QUANTUM ELECTRODYNAMICS SYSTEM CAN BE

A. Dodonov

Universidade de Brasília. Brazil.

X_008

PHOTOACOUSTIC SPECTROSCOPY WITH CO₂ LASER FOR DETECTION OF GASEOUS MOLECULES

G. Lima, M. Sthel, M. Gomes, D. Schramm, M. De Castro, H. Vargas

Univ. Estadual do Norte Fluminense. Brazil

X_009

A PHOTOTHERMAL STUDY ON PRASEODYMIUM DOPED LOW SILICA CALCIUM ALUMINATE GLASS

M. Filadelpho, J. Aparecido, A. Aparecido

Univ. Estadual do Norte Fluminense Darcy Ribeiro. Brazil.

Univ. Federal de Uberlândia. Brazil.

X_010

A NUMERICAL STUDY OF AN EDFL MODE-LOCKED BY SWCNT AS SATURABLE ABSORBERS

P.G. Komninos, H.G. Rosa, E.A. De Sousa

Mackenzie University. Brazil.

X_011

REPORT ON A VERY STABLE TRANSPORTABLE DIODE LASER SYSTEM FOR LONG TERM EXPERIMENTS WITH COOLED AND TRAPPED CESIUM ATOMS

J. Chreim¹, E. Magnavita¹, A. Naves², L. Soares¹, R. Cavasso¹

¹Univ. Federal do ABC. Brazil.

²Univ. de Brasília. Brazil.

X_012

ADVANCES ON SYNCHROTRON SPECTROSCOPY OF LASER COOLED AND TRAPPED ATOMS

E. Magnavita¹, J. Chreim¹, A. Naves², R. Cavasso¹

¹Univ. Federal do ABC. Brazil.

²Univ. de Brasília. Brazil.

X_013

THERMO-OPTICAL CHARACTERIZATION OF SPECIAL OPTICAL GLASSES USING THE THERMAL LENS SPECTROSCOPY

S. Barreto, D. Ribeiro, J. Aparecido

Univ. Estadual do Norte Fluminense Darcy Ribeiro. Brazil.

X_014

PHOTOREFRACTIVE AXICON: STUDY OF LIGHT-INDUCED EFFECTS BY BESSEL BEAM IN PHOTOREFRACTIVE CRYSTALS

T.A. Vieira¹, M.R.R. Gesualdi¹, M.Z. Rached¹, M. Muramatsu²

¹UFABC. Brazil.

²USP. Brazil.

X_017

FAST ENTANGLEMENT DETECTION OF TWO SPATIAL QUTRITS

G. Lima¹, E. Gómez¹, A. Vargas², R. Vianna³, C. Saavedra¹

¹Universidad de Concepción. Chile.

²Universidad de La Frontera. Chile.

³Univ. Federal de Minas Gerais. Brazil.

X_018

PROPAGATION CHARACTERISTICS OF BEAM LASER WITH AMPLITUDE MODULATIONS AND PHASE FLUCTUATIONS ON SYSTEM APERTURED FRACTIONAL FOURIER TRANSFORMING SYSTEM

D. Jiménez, C. Torres, L. Mattos

Univ. Popular del Cesar. Colombia.

X_019

DESIGN AND PERFORMANCE OF A SEALED CO₂ LASER FOR INDUSTRIAL APPLICATIONS

D. Gómez, D. Nisperuza, A. Bastidas

Univ. Nacional de Colombia. Colombia.

X_021

STUDY OF ELECTRONIC STRUCTURE OF 1,3- BENZIMIDAZOLE AND SOME MOLECULES DERIVED IN THE CONTEXT OF THE FUNCTIONAL THEORY OF THE DENSITY

H. Posada, O. Neira, R. Carrasquilla

Univ. Popular del Cesar. Colombia.

X_024

ESTIMATE OF THE OPTICAL-GAP THROUGH OF TRANSMISSION MEASURES USING OPTOELECTRONIC DEVICE OF LOW COST

K. Beleño, I. Torres

Universidad de Pamplona. Colombia.

X_025

ENHANCEMENT OF THE STIMULATED RAMAN SCATTERING OF BENZENE, ACETONITRILE AND PYRIDINE

L. Muñoz, W. Contreras, R. Cabanzo, E. Mejia

Univ. Industrial de Santander. Colombia.

X_027

TIME DEPENDENT DENSITY FUNCTIONAL STUDY OF THE ABSORPTION AND EMISSION SPECTRA OF 1, 2-BENZOPYRONE AND SEVERAL SUBSTITUTED COUMARINS

T. Mercado¹, O. Neira¹, R. Carrasquilla¹, O. Ventura², M. Kieninger²

¹Univ. Popular del Cesar. Colombia.

²Univ. de la República. Uruguay.

X_031

STIMULATED EMISSION ON SPECIFIC VIBRONIC TRANSITIONS OF TETRA-PYRROLIC PIGMENTS IN THIN FILMS OF RARE GAS OR NITROGEN MATRICES AT 8K

C. Crépin¹, N. Shafizadeh¹, W. Chin¹, J. Galaup¹, S. Arabei³, J. McCaffrey⁴

¹Université Paris 11, France.

²Belarussian Agricultural Technical University.

Belarus.

³National University of Ireland. Ireland.

X_032

THIRD ORDER OPTICAL NON-LINEARITY IN METALLIC NANO-STRUCTURES

R. Domínguez¹, D. May¹, O. Baldovino¹, R. Selvas², O.V. Kharissova², M. Osorio²

¹Univ. Autónoma de Tamaulipas. Mexico.

²Univ. Autónoma de Nuevo León. Mexico.

X_033

IMPACT OF DYES ON THE NONLINEAR OPTICAL RESPONSE OF LIQUID CRYSTALS IMPLEMENTING THE Z-SCAN TECHNIQUE

A.A. Rodríguez¹, R. Ortega¹, O.G. Morales¹

¹UNAM. Mexico.

X_034

MODIFICATION TO THE Z-SCAN TECHNIQUE THROUGH OF THE MENSURATION OF WIDTH

J. Dávila, E. Reynoso, A. Balbuena

Ben. Univ. Autónoma de Puebla. Mexico.

X_035

HYBRID TITANIUM-SAPPHIRE:DYE LASER

C. Treviño, O. Zapata, M. Iturbe

INAOE. Mexico.

X_036

PROPERTIES OF THE WAVEGUIDES GENERATED WITH SPATIAL SOLITONS IN KERR MEDIA

D. Ramírez¹, M. Méndez¹, M. L.Arroyo¹, M.D. Iturbe¹

¹Universidad Autónoma de Puebla. Mexico.

²INAOE. Mexico.

Poster Session Group 4

X_037

EXPERIMENTAL OBSERVATION OF SELF-DIFFRACTION RINGS IN CUMARINE DERIVATES

E. Alvarado¹, J.A. Andrade¹, M. Trejo¹, E. Vargas¹, M.L. Sánchez¹, M.A. Vázquez¹, Y. Alcaraz¹.

¹Universidad de Guanajuato. Mexico.

X_038

STUDY OF LASER PRODUCED PLASMA EXPANSION

E. De Posada¹, M. Arronte¹, E. Rodríguez¹, L. Ponce¹, T. Flores¹, J. G. Lunney²

¹Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada. Mexico.

²Trinity College Dublin. Ireland.

X_039

RARE-EARTH ENHANCEMENT OF RAMAN FIBER LASERS

E. Mejía¹, L. De la Cruz²

¹CIO. Mexico.

²Univ. Autónoma del Carmen. Mexico.

X_040

STUDY OF SELF-PHASE MODULATION IN NONLOCAL NONLINEAR MEDIUM

E.V. García¹, M.M. Méndez¹, M.L. Arroyo¹, S. Chávez², M.D. Iturbe²

¹Ben. Univ. Autónoma de Puebla. Mexico.

²INAOE. Mexico.

X_042

OPTICAL PROPERTIES AND LASER PROCESSING OF THE YSZ CERAMIC

G. Castillo¹, S. Camacho¹, E. Penilla², J. Alaniz², F. Perez², G. Aguilar², J. Garay²

¹Centro de Investigación Científica y de Educación Superior de Ensenada. Mexico.

²Univ. of California Riverside. USA.

X_044

NONLINEAR COHERENT STATES FOR GENERAL POTENTIALS

O. De los Santos, J. Récamier

UNAM. Mexico.

X_045

KONDO EFFECT IN NANOPARTICLES ARRAYS

J. Juarez, J. Munoz, G. Martínez

INAOE. Mexico.

X_046

ANALYSIS OF THE ABSORPTION COEFFICIENT BY ANNEALING IN CARBON IMPLANTED Nd: YVO₄

E. Sánchez¹, G. Vázquez², G. Lifante³, E. Cantelar⁴, J. Rickards⁴, R. Trejo¹

¹Univ. de Guadalajara. Mexico.

²CIO. Mexico.

³Univ. Autónoma de Madrid. Spain.

⁴Univ. Nac. Autónoma de México. Mexico.

X_047

ONE-POT SYNTHESIS AND NONLINEAR OPTICAL PROPERTIES OF NOVEL ORGANIC CRYSTALS

M. Rodríguez¹, G. Ramos¹, J. Maldonado¹, M. Meneses¹, O. Barbosa¹, R. Santillan², N. Farfán³

¹CIO. Mexico.

²Centro de Investigación y de Estudios Avanzados del IPN. Mexico.

³Univ. Nac. Autónoma de México. Mexico.

X_048

SHOCK WAVE VELOCITY MEASUREMENTS IN LASER INDUCED PLASMAS

M. Villagrán¹, C. Sánchez¹, M. Bolaños¹

¹Univ. Nac. Autónoma de México. Mexico.

X_050

m-MoO₃ GROWN IN MOLYBDENUM THIN FILMS THROUGH FEMTOSECOND LASER IRRADIATION

M. Cano¹, S. Camacho¹, M.A. Camacho².

¹Centro de Investigación Científica y de Educación Superior de Ensenada. Mexico.

²Univ. Autónoma del Estado de México. Mexico.

X_051

DETERMINATION OF NONLINEAR OPTICAL PROPERTIES IN IONIC LIQUIDS

M. Trejo, E. Alvarado, J. Andrade, C. Valencia, K. Barrera

Universidad de Guanajuato. Mexico.

X_053

EMITTED FLUX IN THE PROCESS OF PHOTON-PAIR GENERATION BY SPONTANEOUS FOUR WAVE MIXING

K. Garay¹, R. Rangel¹, A.B. U'Ren²

¹CICESE. Mexico.

²Univ. Nac. Autónoma de México. Mexico.

X_055

SOLITON FILTERING FROM A SUPERCONTINUUM: A TUNABLE FEMTOSECOND PULSE SOURCE

J. Licea, K. Garay, R. Rangel

Centro de Investigación Científica y de Educación Superior de Ensenada. Mexico.

X_057

PIEZOELECTRIC PHOTOACOUSTIC DETECTION DURING LASER CLEANING

W. Aldama¹, E. Mejía², Z. Ramírez², M. Villagrán²

¹Univ. Nacional de Trujillo. Peru.

²Univ. Nac. Autónoma de México. Mexico.

X_058

RAMAN SPECTROSCOPY AMPLIFIED BY PLASMONS ON ORDERED SILVER NANOSTRUCTURES

E. Zegarra¹, N. Tognalli²

¹Univ. Nacional de Ingeniería. Peru.

²Instituto Balseiro. Argentine.

X_060

INVESTIGATION AND DEVELOPMENT OF AN ERBIUM-DOPED FIBER LASER

J. Villarreal, M. Yarlequé, R. Coello

PUCP. Peru.

X_061

MEASUREMENT OF PANCHARATNAM'S PHASE BY ROBUST INTERFEROMETRIC AND POLARIMETRIC METHODS

J. Loredo, O. Ortiz, R. Ballón,

S. Chávez, F. De Zela

PUCP. Peru.

X_065

SUPERCONTINUUM GENERATION IN GE-DOPED Y-SHAPED MICROSTRUCTURED TAPERED FIBER

J. Cascante¹, A. Díez², J.L. Cruz²,

M.V. Andrés²

¹Universidad de Costa Rica. Costa Rica.

²Universidad de Valencia. Spain.

X_067

SEMICLASSICAL TIME-INDEPENDENT DESCRIPTION OF RAPIDLY OSCILLATING FIELDS ON A LATTICE IN THE KAPITZA APPROXIMATION

L. Martínez, J. Gallinar

Univ. Simón Bolívar. Venezuela.

X_068

ELECTROMAGNETICALLY-INDUCED CONICAL EMISSION

E. Becerra, L.E.E. De Araujo

Univ. Estadual de Campinas. Brazil.

X_069

OPEN LOOP CONTROL OF A Nd:YVO₄ Q-SWITCHED SLAB LASER

E. Sevilla, J. H. García, R. Jaimes

Universidad de Guadalajara. Mexico.

XI_001

CHARACTERIZATION AND CONTROL OF A MICRODISPLAY AS A SPATIAL LIGHT MODULATOR

A. Burman¹, M. Garea¹, A. Lutenberg¹, F. Pérez^{2,3}

¹Universidad de Buenos Aires. Argentine.

²Universidad del Comahue. Argentine.

³CONICET. Argentine.

XI_002

SURFACE PLASMON RESONANCE TECHNIQUE APPLIED TO MEASUREMENT

OF Ag₂O THIN FILMS

J. Santillán¹, L. Scaffardi^{1,2}, D. Schinca^{1,2}, F. Videla^{1,2}

¹CIOp. Argentine.

²Univ. Nacional de La Plata. Argentine.

XI_003

USING PHOTOSENSITIVE DYE TO IMPROVE MULTI WALLED CARBON NANOTUBES DISPERSION

G. Costanzo, S. Goyanes, S. Ledesma

Universidad de Buenos Aires. Argentine.

XI_005

EFFECT OF AU NANOPARTICLES AND RHODAMINE 6G CONCENTRATIONS ON THE THERMO-OPTICAL PROPERTIES OF RHODAMINE 6G IN DISTILLED WATER

U. Silva¹, L. Armas¹, C. Jacinto¹, J. Jimenez², J. Sanchez², A. Cruz²

¹Universidade Federal de Alagoas. Brazil.

²UPIITA-IPN. Mexico.

³CINVESTAV-IPN. Mexico.

XI_007

ANALYSIS OF THE WAVELENGTH DEPENDENCE OF A SPATIAL LIGHT MODULATOR FOR OPTIMIZE THE PHASE-ONLY MODULATION DEPTH

A. Arias, M. Álvarez, R. Castañeda

Univ. Nac. de Colombia. Colombia.

XI_008

PREPARATION AND CHARACTERIZATION OF LOW-CARBON IRON ULTRA-THIN FILMS PRODUCED BY PULSED LASER DEPOSITION

B. Cruz¹, H. Riascos², J. Torres¹

A. García², J. Muñoz², L. Tirado³

¹Univ. Tecnológica de Pereira. Colombia.

²Centro de Investigación y Estudios Avanzados del I.P.N. Mexico.

³Universidad del Quindío. Colombia.

Poster Session Group 4

XI_011

OPTICAL PROPERTIES DEPENDENCE AS FUNCTION OF THE TEMPERATURE IN AIN FILMS DEPOSITED BY PLD

J. Pérez¹, H. Riascos¹, J. Caicedo², L. Yate³

¹Univ. Tecnológica de Pereira. Colombia.

²Universidad del Valle. Colombia.

³Universitat de Barcelona. Spain.

XI_013

CONTROL MECHANISM OF THE COUPLING BETWEEN CRYSTAL-PHOTONIC CAVITIES

A. Gonçalves¹, J. Vasco², P. Guimaraes¹, H. Vinck³

¹Univ. Federal de Minas Gerais. Brazil.

²Univ. de Antioquia. Colombia.

³Univ. Nacional Bogotá. Colombia.

XI_014

ANALYSIS OF BEHAVIOR PALLADIUM THIN FILMS ON PRESENCE HYDROGEN

K. Salcedo¹, H. Riascos¹, C. Rodríguez¹, F. Perez²

¹Univ. Tecnológica de Pereira. Colombia.

²West Virginia University. USA.

XI_015

MODELING AND CALCULATION OF LIGHT ABSORPTION IN SILICON/METAL NANOCOMPOSITES

L. Santacruz¹, E. Solarte¹, H. Garcia²

¹Universidad del Valle. Colombia.

²Southern Illinois University. USA.

XI_017

PHOTONIC BAND STRUCTURE OF A 2D HONEYCOMB LATTICE UNDER THE ACTION OF TEMPERATURE AND APPLIED HYDROSTATIC PRESSURE

N. Porras¹, C. Duque²

¹Universidad del Valle. Colombia.

²Universidad de Antioquia. Colombia.

XI_020

OPTOELECTRONICS CHARACTERISTICS OF InP PHOTODETECTORS IN THE NEAR INFRARED

A. Muñoz¹, J. Campos², A. Pons²,

A. Shcherbakov³

¹Univ. Autónoma de Coahuila. Mexico.

²IFA-CSIC. Spain.

²INAOE. Mexico.

XI_022

PREPARATION OF GaP NANOWIRES USING CSVT TECHNIQUE

C. Felipe¹, P. Zaca, F. Chavez², O. Goiz³,

R. López⁴, K. Sapag⁴, M. Nazzarro⁴

¹CIEMAD-IPN. Mexico.

²ICUAP-BUAP. Mexico.

³CINVESTAV-IPN, Mexico.

⁴INFAP-UNSL. Argentine.

XI_023

SIMPLE TECHNIQUE FOR OPTICAL CHARACTERIZATION OF TWISTED NEMATIC LIQUID CRYSTAL DISPLAYS

C. Rickenstorff¹, A. Ostrovsky

Universidad Autónoma de Puebla. Mexico.

XI_026

FROM MULTICOLOR TO WHITE LIGHT BY UPCONVERSION IN Tm³⁺-Ho³⁺-Yb³⁺ CO-DOPED TELLURITE GLASSES

H. Desirena¹, E. De la Rosa, O. Meza, L. Díaz

CIO. Mexico.

XI_027

DESIGN, FABRICATION AND CHARACTERIZATION OF OPTICAL WAVEGUIDES USING COMBINATION OF HYDROGENATED AMORPHOUS SILICON GERMANIUM AND HYDROGENATED AMORPHOUS SILICON NITRIDE FILMS

W. Hernández¹, I. Zaldívar, C. Zuñiga,

A. Torres, A. Itzmoyotl

INAOE. Mexico.

XI_028

WOODS METAL AS A CATHODE AND XE LIGHT SOURCE FOR TESTING ORGANIC SOLAR (OPVs) CELLS SENSITIZED WITH FULLERENE PC₆₁BM

J. Salinas¹, J. Maldonado², M. Rodríguez¹,

G. Ramos¹, M. Meneses¹, O. Barbosa¹,

R. Santillan², N. Farfán³

¹CIO. Mexico.

²CINVESTAV del IPN. Mexico.

³UNAM. Mexico.

XI_030

CHARACTERIZATION OF AMORPHOUS SIGE THIN FILMS FOR APPLICATIONS IN MICROSTRUCTURE MEMS

M. Galindo¹, R. Palomino¹, C. Zuñiga²

¹BUAP. Mexico.

²INAOE. Mexico.

XI_031

LATTICE PARAMETER OF ALGASB THIN FILMS AS A FUNCTION OF GROWTH TIME IN PREPARED LAYERS BY LIQUID PHASE EPITAXY AT LOW TEMPERATURES

P. Prieto¹, M. Rojas², R. Delgado²,

A. Orduña², V.L. Gayou², A.G. Rodríguez³

¹Ben. Univ. Autónoma de Puebla. Mexico.

²Instituto Politécnico Nacional. Mexico.

³Univ. Aut. de San Luis Potosí. Mexico.

XI_032

SYNTHESIS OF POLYMER DISPERSED MATERIAL BY USING SU-8 PHOTORESIST AND 5CB LIQUID CRYSTAL

M. Torres^{1,2}, P. LiKamWa¹, D. May³,

O. Ibarra²

¹CREOL. EUA.

²Universidad de Guanajuato. Mexico.

³UAM Reynosa Rodhe. Mexico.

XI_033

HOMOGENEITY DETERMINATION OF SPIROPYRAN SELF-ASSEMBLED FILMS AS OPTICAL TRANSDUCERS

A. Ortiz¹, R. Delgado¹, M. Rojas¹, V. López¹,

A. Orduña¹, V. Camacho²

¹IPN. Mexico.

²Univ. Politécnica de Puebla. Mexico.

XI_034

PRINCIPAL COMPONENTS ANALYSIS APPLICATION TO A PH SENSOR BASED ON LONG PERIOD GRATINGS IN OPTICAL FIBER

S. Rosete¹, G. Beltrán², J. Castillo², S. Muñoz²

¹Ben. Univ. Autónoma de Puebla. Mexico.

XI_035

OBTAINING OF SEMICONDUCTOR LAYERS FOR ITS APPLICATION IN POLLUTION ATMOSPHERIC DETECTION

Y. Bravo^{1,3}, P. Rodríguez², J. Mendoza², J. Herrera¹,

E. Reynoso³, J. Dávila³, E. Molina³

¹CICATA-IPN. Mexico.

²CINVESTAV-IPN.Mexico.

³BUAP. Mexico.

XI_037

DETERMINATION OF THE EMISSION PATTERN OF AN ALUMINUM NITRIDE TARGET FOR RADIO FREQUENCY DUAL MAGNETRON SPUTTERING

G. Gálvez^{1,2}, S. Zitzlsberger²,

R. Weingärtner^{1,2}, J. A. Guerra¹,

O. Erlenbach^{1,2}, F. De Zela¹, A. Winnacker²

¹PUCP. Peru.

²University of Erlangen. Germany.

XI_042

LOW COST, SINGLE-USE PLASTIC OPTICAL FIBER SENSOR BASED ON SURFACE PLASMON RESONANCE IN METAL-DIELECTRIC INTERFACES: THEORY AND EXPERIMENTS

V. Muñoz¹, A. López¹, A. García², J. Costa²,

B. Alèn², M. Lomer¹, J. López¹

¹Universidad de Cantabria. Spain.

²IMM-CNM CSIC. Spain.

XI_044

A CLASSICAL INTERPRETATION OF THE THEORY OF LINES ON THE NONLINEAR REFRACTIVE INDEX

K. Yukimitu¹, W. Alves

Univ. Estadual Paulista Julio de Mesquita Filho.

Brazil.