

ISCOM07

International School and Conference on Optics and Optical Materials

3-7 September 2007
Belgrade, Serbia

ABSTRACTS OF PLENARY AND INVITED
LECTURES AND
CONTRIBUTED PAPERS

Editors

Brana Jelenković, Slobodan Vuković, Aleksandra Strinić

Institute of Physics
Belgrade, Serbia

Belgrade, 2007

BOOK OF ABSTRACTS

ABSTRACTS OF PLENARY AND INVITED LECTURES AND
CONTRIBUTED PAPERS

of the

International School and Conference on Optics and Optical
Materials **ISCOM07**

3-7 September 2007

Belgrade, Serbia

Editors

Brana Jelenković
Slobodan Vuković
Aleksandra Strinić

Computer processing

Aleksandra Strinić, Zoran Grujić

Publisher

Institute of Physics
Pregrevica 118, P.O. Box 68
11080 Belgrade, Serbia

Printed by

CENTURIO d.o.o.
Hilandarska 22, Belgrade

Number of copies

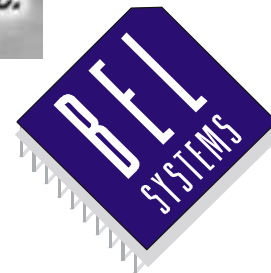
200

ISBN 978-86-82441-20-5

The ISCOM07 (International School and Conference on Optics and Optical Materials) has been approved by the European Physical Society (EPS). The Conference was organized by the Institute of Physics, University of Belgrade (www.phy.bg.ac.yu), Faculty of Physics, University of Belgrade (www.ff.bg.ac.yu), "Vinča" Institute of Nuclear Sciences, University of Belgrade (www.vin.bg.ac.yu) and Faculty of Electrical Engineering, University of Belgrade (www.etf.bg.ac.yu), under the auspices and with support of the **Ministry of Science, Republic Serbia**.

The support of the sponsors of the Conference is gratefully acknowledged:

1. Privredno društvo za distribuciju električne energije
Elektrodistribucija Beograd d.o.o.
2. Privredno društvo za proizvodnju, preradu i transport uglja
RUDARSKI BASEN «KOLUBARA» d.o.o. LAZAREVAC
3. **Bel Systems d.o.o.**
Skenderbegova 11a, Beograd
4. **Kryooprema d.o.o.**
Utve zlatokrile 9, 26000 Pančevo
5. **Advanced Research Systems, Inc.**
www.arscryo.com
6. **European Physical Society**
7. **FP6 project OPSA number 026283**
8. **FP6 INCO project QUPOM number 026322**



Scientific Committee

Milivoj Belić, Qatar
Ian Bennion, United Kingdom
Hans I. Bjelkhagen, United Kingdom
Nikola Burić, Serbia
Stefka Cartaleva, Bulgaria
Arlene D. Wilson-Gordon, Israel
Paul Harrison, United Kingdom
Ljupčo Hadžievski, Serbia
Kurt Hingerl, Austria
Brana Jelenković, Serbia
Nikola Konjević, Serbia
Gaetano Mileti, Switzerland
Dejan Milošević, Bosnia and Herzegovina
Marina Popova, Russia
Zoran Popović, Serbia
Jelena Radovanović, Serbia
Vladimir Škarka, France
Laurentius Windholz, Austria

Organizing Committee

Brana Jelenković (Chair)
Zoran Popović
Dejan Pantelić
Radoš Gajić
Slobodan Vuković
Aleksandra Strinić (Secretary)
Mirjana Popović-Božić
Milorad Kuraica
Jelena Radovanović
Jovan Elazar
Ljupčo Hadžievski
Zoran Grujić

Conference topics

1. Quantum and Atomic optics
2. Linear and nonlinear optics
3. Optical materials (nanostructures, fibers and waveguides)
4. Meta materials and photonic crystals
5. Holography
6. Optical metrology
7. Bio-optics
8. Optoelectronics and Optical communications

Preface

This book contains contributions to the first International school and conference on optics and optical materials, ISCOM. The meeting features plenary and invited lectures and poster sessions. Program of the meeting provides tutorials to the benefits of students and young researches. Ten plenary speakers will give lectures in quantum optics, nonlinear optics, optical materials and holography. Program also provides most recent results in several topics covered by this meeting. They will be presented by twenty invited lectures during afternoon sessions by scientists working in different but related fields of optics. There are two poster sessions, late afternoon on Tuesday and Thursday, where students and young researchers had opportunity to present their latest results.

ISCOM has been organized by Institute of Physics, Faculty of physics, VINCA Institute of nuclear sciences, and Faculty of Electrical Engineering, all members of the University of Belgrade. Organizers hope that ISCOM will promote and disseminate knowledge of modern and multidisciplinary field of optics, optical materials, and biophysics among researchers, particularly those working in our region. If the first ISCOM fulfills organizer's expectations there will be ISCOM 09.

August 2007

Brana Jelenković
ISCOM Organizing Committee

Table of Contents

Plenary and Invited lectures

Biomedical optical applications of liquid crystals devices <i>Ibrahim Abdulhalim</i>	3
Dark resonances in Quantum Optics <i>Ennio Arimondo</i>	4
Dancing light: Counterpropagating beams in photorefractive crystals <i>Milivoj Belić</i>	5
Optical nanomaterials for medical imaging <i>Aurelie Bessiere</i>	6
Colour Holography, colour HOEs and ultra-fine-grain silver halide emulsions <i>Hans I. Bjelkhagen</i>	7
Coherent inelastic backscattering of light by cold atoms <i>Andreas Buchleitner</i>	8
Coherent population trapping in alkali atoms <i>Stefka Cartaleva</i>	9
Spatial optical solitons, nonlinear waveguides and optically induced lattices in nonlinear refractive index media <i>Cornelia Denz</i>	10
Luminescence of lanthanides from xerogels embedded in mesoporous matrices <i>Nikolay Gaponenko</i>	11
High-resolution spectroscopy of cold atoms <i>Wojciech Gawlik</i>	12
Structural colours in biology <i>Ille Gebeshuber</i>	13

Attosecond physics: Tools for observing and controlling electrons on an attosecond time scale <i>Eleftherios Goulielmakis, M. Schultze, M. Uiberacker, R. Kienberger, U. Kleineberg and F. Krausz</i>	14
Atomic nanoscope <i>Jules Grucker, J.-C. Karam, V. Bocvarski, F. Perales, G. Dutier, J. Baudon, and M. Ducloy</i>	15
Transport in quantum cascade lasers <i>Paul Harrison, D. Indjin, I. Savić, Z. Ikonić, C. A. Evans, N. Vukmirović, R. W. Kelsall, J. McTavish and V. Milanovic</i>	16
Band structure calculation methods for complex and frequency dependent photonic crystals <i>Michael Bergmair and Kurt Hingerl</i>	17
Toward p-doped intersubband quantum cascade infrared emitters: SiGe and AlGaAs <i>Zoran Ikonic, R. W. Kelsall and P. Harrison</i>	18
Measuring the unmeasurable – Atomic clocks and the limits of accuracy <i>Steve Jefferts</i>	19
Nonlinear optics and light localization in periodic photonic structures <i>Yuri Kivshar</i>	20
The effect of disorder in 2D photonic crystals <i>Ronald Meisels and F. Kuchar</i>	21
Entanglement in multipartite Josephson systems <i>Rosanna Migliore and A. Messina</i>	22
Femtosecond laser frequency comb influence on the atom velocity distribution <i>Goran Pichler, Ticijana Ban, Damir Aumiler, Hrvoje Skenderović, Nataša Vujičić and Silvije Vdović</i>	23
Optical spectroscopy of the haldane chain compounds R_2BaNiO_5 <i>Marina Popova</i>	24
Symmetry and transport in a rocking ratchet for cold atoms <i>Ferruccio Renzoni</i>	25

Medical application of multi- wavelength lasers <i>Alexey P. Shkadarevitch</i>	26
Bending back light: The science of negative index materials <i>Costas Soukoulis</i>	27
Spatiotemporal dissipative solitons in optics <i>Vladimir Skarka and N. B. Aleksic</i>	28
Discrete breathers and solitons in left-handed metamaterials <i>Giorgos P. Tsironis</i>	29
Recent progress in high-speed optical fiber communications <i>Sergei Turitsyn</i>	30
Some equations of electrodynamics before and after appearance of negative refraction <i>Victor Veselago</i>	31
Near infrared ($\approx 1 \mu\text{m}$) high power and femtosecond lasers <i>Bruno Viana</i>	32

Contributed papers

Poster session TUESDAY

Topic: Quantum and Atomic optics

TU_1	Transient aspects of two-level atom in laser light <i>S. Bougouffa and S. Al-Awfi</i>	35
TU_2	Possibility of enhancement of amplitude-squared squeezing in mixing with coherent light beam using a Mach-Zehnder interferometer <i>Devendra Kumar Mishra</i>	36
TU_3	Narrowing of Zeeman coherences due to diffusion induced Ramsey effects <i>Z. D. Grujić, M. M. Mijailović, B. M. Panić, M. Minić, A. G. Kovačević and B. M. Jelenković</i>	37
TU_4	Sources of spontaneous narrow-band uv and vuv radiation <i>D.V. Schitz, V.F. Tarasenko and S.M. Avdeev</i>	38

TU_5	Interference phenomena in the Na^+ - He, Ar and He^+ - O_2 collisions <i>M.Gochitashvili, R.Kvizhinadze, <u>B.Lomsadze</u>, V.Kirtskhalia and R.Lomsadze</i>	39
TU_6	Narrowband Rb Resonant Downconversion Source for Quantum Memories <i><u>A. Predojevic</u>, J. M. Caballero, Z. Zhai, M. W. Mitchell, E. S. Polzik</i>	40
TU_7	On Applying the Integral of Motion Method and Quasi-energy Method to the Problem Radiation of Charges in Time-periodic Fields <i>E. V. Ivanova</i>	41
TU_8	Proposed experiment with Rydberg atoms to study the influence of particle size on quantum interference <i>M. Gondran, <u>M. Božić</u>, D. Arsenović and A. Gondran</i>	42
TU_9	Limitations of the generalized coupled two-level model during the multiphoton absorption in different gas mixtures <i><u>J.D. Nikolić</u>, M.D. Rabasović, D.D. Markushev</i>	43
TU_10	Calculation of the highly excited SF_6 vibrational state distributions and the dissociation yields in different gas mixtures <i><u>J.D. Nikolić</u>, M.D. Rabasović, D.D. Markushev</i>	44
TU_11	AC magnetic field influence on the Electromagnetically Induced Transparency resonance <i><u>D. Slavov</u>, T. Karaulanov, S. Cartaleva, and N. Petrov</i>	45
TU_12	Power dependence of the single frequency coherent-population-trapping resonances <i><u>S. Gateva</u>, E. Alipieva and E.Taskova</i>	46
TU_13	Electromagnetically Induced Absorption resonance sign reversal <i>J. Belfi, V. Biancalana, S. Cartaleva, Y. Dancheva, E. Mariotti, L. Moi, K. Nasyrov, D. Slavov, <u>P. Todorov</u>, K. Vaseva</i>	47

TU_14	Construction of Optical Tweezer Raman System <i>S. Kin , U. Parlatan and G. Basar</i>	48
TU_15	Energy levels scheme for $\text{Eu}^{3+}:\text{ZnGa}_2\text{O}_4$ <i>M. Vasile, I. Cherlea and N. M. Avram</i>	49
TU_16	Modulation of optical properties PbS quantum dots by 4,6-diamino-2-mercaptopyrimidine capping agent. <i>Piotr Piątkowski, Wojciech Gadomski</i>	50
TU_17	Geometry of the $^4\text{T}_{2g}$ excited state in $\text{Cs}_2\text{SiF}_6:\text{Mn}^{4+}$ <i>A. Reisz, C. N. Avram</i>	51
TU_18	Fluorescence spectra study in extremely thin Cs-vapor layers <i>K.Vaseva, P.Todorov, D. Slavov, S. Cartaleva, K. Koynov, S.Saltiel</i>	52
TU_19	Quantum time of flight distribution for cold trapped atoms <i>Md. Manirul Ali, Dipankar Home, A. S. Majumdar, and Alok K. Pan</i>	53
TU_20	Angular distortion around Cr^{3+} ions doped diammonium hexaaqua magnesium sulphate single crystal <i>M.Ciresan, M.Vaida and N.M.Avram</i>	54
TU_21	Effect of laser light ellipticity on Hanle EIA amplitude and linewidth <i>J. Dimitrijević, Z. Grujić, M. Mijailović, D. Arsenović, B. Panić and B. M. Jelenković</i>	55
TU_22	Experimental suppression of the coupling laser absorption below the one-photon-transition absorption level in electromagnetically induced transparency spectra <i>L. Spani Molella, R.-H. Rinkleff and K. Danzmann</i>	56
TU_23	Investigations on Coherent Population Trapping Resonances with coherently coupled Lasers <i>R. Lammegger, A. Krmpot, E. Breschi, I. Vasari and L. Windholz</i>	57

TU_24	Intrinsic optical bistability in a two-level system as switching in fluorescence and probe absorption spectra <i>M.G. Gladush, V.K. Roerich, A.A. Panteleev</i>	58
TU_25	Finding solitons by linear stability analysis in bifurcations of stationary solutions of complex Ginzburg-Landau equation <i>D.V. Timotijevic, M. Derbazi, and V. Skarka</i>	59

Topic: Holography

TU_26	Holographic interferometer as a correlator of phase distortions with response in the form of interference pattern. <i>L.A. Derzhypolska, O.V Gnatovskiy, P.V.Yezhov</i>	60
TU_27	A comparative analysis of associative properties of Fourier vs. Walsh digital holograms. <i>A. Derzhypolskyy, D. Melenevskyy and A. Gnatovskyy</i>	61
TU_28	SLM as a medium for digital holography <i>M.J. Matczak, L. Pyziak, M. Stochla, A. Szwagiel</i>	62

Topic: Optical metrology

TU_29	Wavefront fast recovering with an Achromatic Three Wave Lateral Shearing Interferometer (ATWLSI) <i>J.-C. Chanteloup</i>	63
TU_30	Realization of a phase noise measurement bench using cross correlation and double optical delay line <i>P. Salzenstein, J. Cussey, X. Jouvenceau, H. Tavernier, E. Rubiola and L. Larger</i>	64
TU_31	Birefringence dispersion measurement in nematic liquid crystals by using a Stockwell transform <i>E. Coşkun, Ö. Kocahan, O. Köysal, S. Özder</i>	65
TU_32	The influence of the particle scattering and the cameras' positions in performance of digital PIV systems <i>J. Ilić, Đ. Čantrak, M. Srećković</i>	66

TU_33	Moiré metrology technique to characterize the topography of a MW satellite antenna <i>A. R. Roldán Molina, <u>D. Hölck</u> and M. Garavaglia</i>	67
-------	---	----

Topic: Bio-optics

TU_34	A study of adsorption kinetics of ferritin and albumin on gold surface with ellipsometry <i><u>L. Vladimirova</u>, A. Paneva, V. Savov</i>	68
TU_35	Mapping and diagnostic of no melanoma skin cancer with laser induced fluorescence based in a fluorosensor BCDF <i><u>Paulina Romero</u>, Edy Ayala, Eduardo Avalos, Franklin Cabrera, Sonia Tello, Carlos Páez, Jaime Tenorio</i>	69
TU_36	Optical and Magneto-optical Properties of Clinical Dextran <i><u>M. Koralewski</u>, F. Reinholz, J. Karoń, K. Waraczewski</i>	70
TU_37	Development of low-cost photo dynamic therapy device <i><u>N. Momchilov</u>, I. Bliznakova, E. Borisova, P. Troyanova, L. Avramov</i>	71
TU_38	Laser- and light-induced autofluorescence spectroscopy of human skin in dependence on excitation wavelengths <i>I. Bliznakova, E. Borisova, L. Avramov</i>	72
TU_39	Optodynamic characterization of laser-induced bubbles <i><u>P. Gregorčič</u> and J. Možina</i>	73
TU_40	Holographic measurement of dental tissue contraction and stress, due to post-polymerization reaction <i><u>Dejan Pantelić</u>, Larisa Blažić, Svetlana Savić-Šević, Branka Murić, Darko Vasiljević, Bratimir Panić, Ilija Belić</i>	74
TU_41	Optical and electron spectrometry of molecules of biological interest <i><u>B. P. Marinkovic</u>, A. R. Milosavljevic, J. Maljkovic, D. Šević, B. Petrušev, D. Pavlovic, D. M. Filipovic, M. Terzic and V. Pejčev</i>	75
TU_42	Influence of laser pulse spatial profile on optodynamic source shape in liquid media <i>D. Horvat and M. Terzić</i>	76

Poster session THURSDAY

Topic: Linear and nonlinear optics

THU_1	Saturable discrete vector solitons: theory and experiments <i>M. Stepić, R. A. Vicencio, E. Smirnov, C. E. Rüter, V. Shandarov and D. Kip</i>	79
THU_2	Interactions of two co-propagating beams near the edge of one-dimensional nonlinear waveguide arrays <i>M. Stepić, C. E. Rüter, D. Kip, A. Maluckov and Lj. Hadžievski</i>	80
THU_3	Dynamics of spatial solitons of nonlinear Schrodinger equation in inhomogeneous media <i>A. Gharaati and P. Elahi</i>	81
THU_4	4. Using 2D Distributed Feedback in Optical Laser <i>V.R. Baryshev, N.S. Ginzburg, A.M. Malkin, A.S. Sergeev</i>	82
THU_5	Images forming and analysis in the fractional Fourier transform domain: approach on the basis of a generalized ambiguity function <i>Yu. Kozlovskii</i>	83
THU_6	On bright and dark breathers in lattices with saturable nonlinearity <i>A. Maluckov, Lj. Hadžievski and M. Stepić</i>	84
THU_7	Third-order nonlinear optical characterization and optical limiting behavior of Pb(II), In(III) chloride, Ni(II) metallated 1,4,8,11,15,18,22,25-Octaalkylphthalocyanines <i>Ayhan Elmali, Hüseyin Ünver, Asli Karakas</i>	85
THU_8	Third order nonlinear optical properties of donor substituted 4'-methoxy chalcone <i>S. M. Dharmaprasanth, K. Chandrasekharan, and H. J. Ravindra</i>	86

THU_9	Novel nonlinear optical material: 2-[(3-nitrophenyl)carbamoyl]benzoic acid <i>H. J. Ravindra, M. R. Suresh Kumar, N. P. Rath and S. M. Dharmaparakash</i>	87
THU_10	Intense Femtosecond Pulsed Laser Interaction with SK3 Glass (II): Optical Properties Modification <i>Kazem Jamshidi-Ghaleh and Abdolrahman Namdar</i>	88
THU_11	Transition rate dependence on the non-zero initial momentum in the ADK-theory <i>V.M. Ristić, T.B. Miladinović and M.M. Radulović</i>	89
THU_12	Spectroscopic studies, structure and calculated third-order nonlinear optical properties of <i>N</i> -(2-hydroxy-4-methoxybenzalidene)3-nitroaniline <i>Hüseyin Ünver, Aslı Karakaş, Ayhan Elmalı</i>	90
THU_13	Three-frequency wave interactions in the field of 100-fs Ti:sapphire laser pulse in PPLN <i>I.V. Shutov, A.V. Shumitsky, I.A. Ozheredov</i>	91
THU_14	Symmetry properties of Molecular and Nanomaterials <i>V.K. Valev, J. Wouters, S. Foerier, M.A. Van der Veen, D.E. De Vos and T. Verbiest</i>	92
THU_15	”Necklace-ring” beams in saturable Kerr media with square-root nonlinearity <i>M. Petrović</i>	93
THU_16	A spectroscopic study on the nonlinear optical susceptibilities of a series of organic molecules. <i>Stijn Foerier, Ventsislav Valev and Thierry Verbiest</i>	94
THU_17	Models of interactions of laser beams with materials of interest for optical components and provoked damages <i>M. Srećković, J. Ilić, A. Kovačević, S. Pantelić, Z. Latinović, N. Borina, V. Čosović</i>	95
THU_18	Stable one-dimensional dissipative solitons predicted using analytical stability criterion and confirmed by numerical simulations <i>G. Pavlovic, B.N. Aleksic, N.B. Aleksic and V. Skarka</i>	96

THU_19	Counterpropagating dipole beams in nematic liquid crystals <i>A. I. Strinić, D. M. Jović, M. S. Petrović, M. R. Belić</i>	97
THU_20	Beam propagation in nematic liquid crystals <i>A. I. Strinić, M. S. Petrović, M. R. Belić</i>	98

Topic: Optical materials (nanostructures, fibers and waveguides)

THU_21	The Bechgaard salts - an example of optically nonlinear materials <i>V. Čelebonović</i>	99
THU_22	Diffusion profile of multi-step core fibers for variable diffusion coefficient <i>M. Kovačević, D. Nikezić and A. Djordjevich</i>	100
THU_23	Surface plasmon-polariton assisted metal-dielectric multilayers as passband filters for ultraviolet range <i>Zoran Jakšić, Milan Maksimović, Milija Sarajlić and Dragan Tanasković</i>	101
THU_24	Far-infrared study of DX-like centers in $\text{Pb}_{0.95}\text{Mn}_{0.05}\text{Te}(\text{Ga})$ <i>D. Stojanovic, J. Trajic, M. Romcevic, R. Kostic, B. Hadzic, Z. Lazarevic, I.I. Ivanchik, D.R. Khokhlov and N. Romcevic</i>	102
THU_25	Charge screening and exciton spectra for single-walled carbon nanotubes (SWCNTs) <i>O. A. Smyrnov</i>	103
THU_26	Boundary influence on permittivity in molecular films <i>S.M.Vučenović, J.P.Šetrajić and D.Lj.Mirjanić, B. Škipina</i>	104
THU_27	Optical and thermal investigation of sol-gel derived $\text{Eu}^{3+}:\text{Y}_2\text{SiO}_5$ nanoparticles <i>R. Krsmanović, Ž. Andrić, M. Marinović-Cincović, I. Zeković, B. Viana and M. D. Dramićanin</i>	105

THU_28	Investigation on the crystallization process of Eu ³⁺ :CaSiO ₃ gel using optical and thermal methods <i>Ž. Andrić, R. Krsmanović, M. Marinović-Cincović, T. Dramićanin, M. Mitrić and <u>M. D. Dramićanin</u></i>	106
THU_29	Electroluminescence of porous silicon built in alumina matrix <i><u>P.S. Katsuba</u>, S.K. Lazarouk, D.A. Sasinovich, V.A. Labunov, A.A. Leshok, B.E. Borisenko</i>	107
THU_30	Si-based led microdisplays for NTE applications <i><u>P. Katsuba</u>, S. Lazarouk, P. Jaguiro, V. Labunov, B. Borisenko</i>	108
THU_31	Group delay in semiconductor structures with energy dependent effective mass <i><u>S. Kočinac</u> and V. Milanović</i>	109
THU_32	Refractive and dispersive properties of acrylic materials <i><u>S. Kasarova</u>, N. Sultanova and I. Nikolov</i>	110
THU_33	Loosing of lightguiding properties of an optical fiber exposed to axial extensions <i><u>Lj. Brajovic</u>, Z. Mišković R. Aleksić,</i>	111
THU_34	Time delay in thin slabs with Kerr-type nonlinearity <i><u>J. Radovanovic</u>, V. Milanović, G. Isić, Z. Ikonić and D. Indjin</i>	112
THU_35	Imaging properties of laser – produced, parabolic profile, microlenses <i><u>D. Vasiljević</u>, B. Murić, D. Pantelić, B. Panić</i>	113
THU_36	Surface solitons in two-dimensional anisotropic lattices <i><u>Rodrigo A. Vicencio</u>, Mario I. Molina, Sergej Flach, and Yuri S. Kivshar</i>	114
THU_37	Thermoluminescent mechanism in lilac spodumene <i><u>S. O. Souza</u>, S. Watanabe, A. F. Lima and M. V. Lalic</i>	115
THU_38	The systematic variation of optical properties of alkali halides: an ab-initio study <i>G. C. Gonçalves, <u>M. V. Lalic</u> and O. L. Malta</i>	116

THU_39	Influence of various impurities on the optical properties of YbF ₃ -doped CaF ₂ crystals <i>M. Stef, A. Pruna, N. Pecingina-Garjoaba and I. Nicoara</i>	117
THU_40	The effects of nonstoichiometry on optical properties of oxide nanopowders <i>M. Šćepanović, M. Grujić-Brojčin, Z. Dohčević-Mitrović, K. Vojisavljević, T. Srećković and Z. V. Popović</i>	118
THU_41	Silicon Photonic Waveguides for Near- and Mid-Infrared Regions <i>S. Stankovic, B. Timotijevic, P. Y. Yang, J. Crnjanski, M. Milosevic, T. Keca, P. Matavulj, and G. Z. Mashanovich</i>	119
THU_42	Scanning near-field optical microscope detection of surface phonons and their role in nano-optics <i>G. Isić, R. Gajić, B. Novaković, Z. V. Popović and K. Hingerl</i>	120
THU_43	Laser – PMMA interaction and mechanical stresses <i>A. Kovačević, M. Srećković, R. Gospavić, S. Ristić, P. Jovanić</i>	121

Topic: Meta materials and photonic crystals

THU_44	Wave propagation in finite one-dimensional Thue-Morse superlattices containing negative refractive index metamaterials <i>M. Maksimovic, Z. Jaksic</i>	122
THU_45	Probing of surface properties of droplets of suspension with optical methods <i>G. Derkachov, K. Kolwas, D. Jakubczyk, M. Zientara and M. Kolwas</i>	123
THU_46	Giant Goss-Hanchen effect at the reflection from a one-dimensional photonic crystal containing left-handed metamaterials <i>Abdolrahman Namdar and Kazem Jamshidi-Ghaleh</i>	124

THU_47	Surface optical waves in semi-infinite one-dimensional photonic crystals containing alternating layers of positive and negative media with a cap layer <i>J Barvestani, M Kalafi, A Soltani-Vala</i>	125
THU_48	Crystal field analysis of Cr ³⁺ in the LiGa ₅ O ₈ spinel <i>M.G. Brik, N.M. Avram, C.N. Avram</i>	126
THU_49	Dispersion of Bloch modes in a multilayer structure with alternating left-handed and right-handed materials <i>S. Vuković, N. Aleksic and D. Timotijevic</i>	127
THU_50	Gaussian-induced rotation in trigonal photonic lattices <i>D. Jović, S. Prvanović, R. Jovanović and M. Petrović</i>	128
THU_51	Aperiodically poled nonlinear crystals as sources of multi-frequency laser radiation <i>A.A. Novikov, G.D. Laptev</i>	129
THU_52	Holographic fabrication of periodic microstructures in dichromated pullulan <i>S. Savić-Šević, D. Pantelić, R. Gajić, G. Isić</i>	130

Topic: Optoelectronics and Optical communication

THU_53	Calculation of diffusion current in tunnel diode by a quantum mechanical approach <i>Mehdi Roostaie, Rosa Beigagha</i>	131
THU_54	Electroluminescence and the Photo-Trigger Effect in mono-Crystals of GaS ₂ Solid Solutions <i>Mohammad Karimi, Abdolali Moghaddam Sarai and Kazem Jamshidi-Ghaleh</i>	132
	Author INDEX	133

