



PR'19

Gérardmer

Photorefractive Photonics and beyond

Gérardmer (France)

June 18 – 21, 2019

Program

Tuesday June 18

17:00 Registration

18:30 Welcome Party

20:00 Dinner

Wednesday June 19

08:15 – 08:30 Conference Opening

08:30 – 10:05 Session 1: Charge and exciton generation and transport
Chair: Serguey Odoulov, National Academy of Sciences, Kyiv (Ukraine)

08:30 I. Biaggio (Invited)

Department of Physics, Lehigh University, Bethlehem (USA)

The life and times of excitons in organic semiconductors: fission, fusion, entanglement, transport, and dissociation

08:55 Ch. Merschjann (Invited)

Helmholtz-Zentrum-Berlin für Materialien und Energie GmbH, Berlin (Germany)

From photorefractive oxides to carbon-based photocatalysts: shedding light on transport and function by transient optical spectroscopy

09:20 S. Mansurova¹, N. Korneev¹, C. Miriam¹, A. K. Vega Salgado¹, C. Ismael¹, A. Seidenspinner², K. Meerholz²

¹ INAOE, Tonantzintla, Puebla (Mexico)

² University of Cologne (Germany)

In-depth investigation of photoconductive properties of hybrid organic-inorganic perovskite semiconductors by space charge grating technique

09:35 Y. Tanaka, K. Kinashi, W. Sakai, N. Tsutsumi

Kyoto Institute of Technology, Matsugasaki, Sakyo, Kyoto (Japan)

Poly(triarylamine)-based and Poly(N-vinyl carbazole)-based photorefractive polymers: An ESR and a PYS evaluation for photorefractive performances

09:50 X. Xu¹, Y. Liu¹, N. Gong¹, B. Shi², M. Ren¹, W. Cai¹, X. Zhang¹, J. Xu¹
¹ TEDA Institute of Applied Physics and School of Physics, Nankai University, Tianjin (China)
² Tianjin Institute of Power Source, Tianjin (China)
Efficient photodetection in a single-gate graphene P-N junction

10:05 – 10:30 Coffee Break

10:30 – 12:10 Session 2: Nonlinear light-matter interaction and applications
Chair: Rachel Grange, ETH Zürich (Switzerland)

10:30 M. Bazzan (Invited)
Università di Padova and VIRGO Collaboration, Padova (Italy)
Nonlinear optics for improved gravitational wave interferometry

10:55 Y. Minet¹, L. Reis¹, I. Breunig^{1,2}, K. Buse^{1,2}
¹ IMTEK, University of Freiburg (Germany)
² Fraunhofer Inst. for Physical Measurement Techniques IPM, Freiburg (Germany)
Changing the frequency of light in high-Q microresonators by the Pockels effect

11:10 M. Jazbinsek¹, U. Puc¹, M. Zgonik², T. Bach^{1,3}, C. Medrano³, O-Pil Kwon⁴
¹ Zurich University of Applied Sciences (ZHAW), Winterthur (Switzerland)
² Faculty of Mathematics and Physics, Univ. of Ljubljana (Slovenia)
³ Rainbow Photonics AG, Zurich (Switzerland)
⁴ Ajou University, Suwon (South Korea)
High-bandwidth terahertz-wave generation and detection in various organic electro-optic crystals

11:25 V. Pecheur¹, M. Chauvet¹, H. Porte², J. Hauden²
¹ FEMTO-ST, Université Bourgogne Franche-Comté – CNRS, Besançon (France)
² IXBlue, Besançon (France)
PPLN ridge waveguides for frequency conversion of high power CW beams

11:40 C. Lindner, S. Wolf, J. Kießling, F. Kühnemann
Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg (Germany)
Nonlinear interferometers for broadband MIR-spectroscopy

11:55 L. Ríos, C. Minor, N. Barboza, R. Cudney
CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada, (Mexico)
Q-switching and quasi-phase-matching using a domain structured LiNbO₃ crystal

12:30 Lunch

14:15 – 16:20 ***Session 3: Holography, optical processing and imaging***
Chair: George Valley, The Aerospace Corporation, El Segundo (USA)

14:15 **M. Gross (Invited)**

Université de Montpellier II, CNRS, Montpellier (France)

Holographic methods (Digital and Dynamic holography) applied to acousto optic imaging in scattering media

14:40 **B. Rahmani¹, U. Tegin^{1,2}, D. Psaltis², Ch. Moser¹ (Invited)**

¹ Laboratory of Applied Photonics Device, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne (Switzerland)

² Optics Laboratory, EPFL Lausanne, (Switzerland)

Multimode fibers: learning image transmission and spatio-temporal lasers

15:05 **S. Residori^{1,2}, U. Bortolozzo^{1,2}, B. J. Little^{3,4}, J. Martinez-Rincón^{3,4,5}, J. C. Howell^{3,4,6,7}**

¹ Institut de Physique de Nice, CNRS, Nice (France)

² HOASYS, Sophia Antipolis (France)

³ Department of Physics and Astronomy, University of Rochester (USA)

⁴ Center for Coherence and Quantum Optics, University of Rochester (USA)

⁵ Department of Physics, Stanford University (USA)

⁶ Institute for Quantum Studies, Chapman University, Orange (USA)

⁷ Racah Institute of Physics, The Hebrew University of Jerusalem (Israel)

Femtometer displacement resolution with phase-insensitive Doppler sensing

15:20 **D. Kim¹, T. Shimura¹, M. Endo¹, Y. Tanaka¹, R. Fujimura²**

¹ The University of Tokyo, Tokyo (Japan)

² Utsunomiya University, Tochigi (Japan)

Servo signal generation in collinear holographic memory

15:35 **K. Müller¹, G. Pariente¹, A. Briane¹, I. Poli¹, C. Brossollet¹, F. Krzakala^{1,2}, I. Carron¹, L. Daudet¹, S. Gigan^{1,3}**

¹ LightOn, Paris (France)

² Lab. de Physique Statistique, Université Pierre et Marie Curie, ENS, CNRS, Paris (France)

³ Laboratoire Kastler Brossel, Sorbonne Université, ENS, CNRS, Paris (France)

Diffusion as a calculation - random projections in optical processing of information

15:50 **M. Bocoum¹, J.-L. Gennisson², J.-M. Tualle³, J.-P. Huignard^{1,4}, A. Louchet-Chauvet⁵, A. Grabar⁶, F. Ramaz¹**

¹ Institut Langevin - Ondes et Images, CNRS, ESPCI Paris, Paris (France)

² Université Paris-Sud - Paris 11, CNRS, Orsay (France)

³ Laboratoire de Physique des Lasers, CNRS, Université Paris Nord (France)

⁴ Jphopto, Paris (France)

⁵ Laboratoire Aimé Cotton, CNRS, Université Paris-Saclay, Orsay (France)

⁶ Uzhhorod National University, Uzhhorod (Ukraine)

Two-waves mixing in photorefractive SPS crystal for Ultrasound Optical Tomography with a structured plane wave ultrasonic excitation

16:05 **Y. Tomita¹, A. Kageyama¹, Y. Iso¹, K. Umemoto², J. Klepp³, C. Pruner⁴, M. Fally³**
¹ University of Electro-Communications, Department of Engineering Science, Tokyo (Japan)
² Central Research Center, Daicel Corp, Hyogo (Japan)
³ Faculty of Physics, University of Vienna, Vienna (Austria)
⁴ Department of Material Science and Physics, University of Salzburg, Salzburg (Austria)
Photopolymerizable nanocomposite materials: toward holographic manipulation of slow-neutron beams and their spin states

16:20 – 16:40 **Coffee Break**

16:40 – 18:40 **Poster Session**

19:00 **Dinner (Vosges style)**

20:45 – 22:10 **Special evening session**
Chair: Marko Zgonik, University of Ljubljana and Josef Stefan Institute, Ljubljana (Slovenia)

20:45 **Introduction**

20:50 **P. Günter**
ETH Zürich, Zürich (Switzerland)
Photorefraction, a workhorse for nonlinear optics

21:10 **M. Klein**
Intelligent Optical Systems, Torrance (USA)
Adaptive laser ultrasonic receivers for industrial inspection: a PR crystal in every one

21:30 **J.-P. Huignard^{1,2}**
¹ Institut Langevin - Ondes et Images, CNRS, ESPCI Paris, Paris (France)
² Jphopto (France)
Seminal contributions of photorefractive nonlinear optics

21:50 **R. Ryf**
Nokia Bell Labs, Holmdel (USA)
Nonlinear effects in km-long multimode fibers

22:10 **Meeting of the international scientific committee**

08:15 – 10:20

Session 4: Materials micro- and nano-engineering

Chair: Irena Drevensek-Olenik, University of Ljubljana and
Josef Stefan Institute, Ljubljana (Slovenia)

08:15

R. Grange (Invited)

Optical Nanomaterial Group, IQE, ETH Zürich, Zürich (Switzerland)

Beyond metals and semiconductors: nano-oxides for nonlinear photonic devices

08:40

D. Evans (Invited)

Air Force Research Laboratory, Wright-Patterson (USA)

Understanding the mysteries of ferroelectricity in zero dimensional nanoparticles and their role in electro-optical applications

09:05

**P. Agruzov¹, A. Ionov², S. Chekmazov², S. Bozhko², I. Ilichev¹,
A. Tronev^{1,3}, M. Parfenov^{1,4}, A. Shamrai^{1,3,4}**

¹ Ioffe Institute, Saint-Petersburg (Russia)

² Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka (Russia)

³ ITMO University, Saint-Petersburg (Russia)

⁴ Peter the Great Saint-Petersburg Polytechnic University, Saint-Petersburg (Russia)

Waveguide superconducting single-photon detectors on lithium niobate substrates

09:20

V. Bobkova, A. Goenner, R. Runde, C. Denz

Institute of Applied Physics and CeNoS, University of Münster (Germany)

Spatial dynamics in a single optomechanic feedback system based on dielectric nanospheres

09:35

R. Zamboni¹, M. Altin¹, M. Chauvet², L. Lucchetti¹, C. Sada¹, A. Zaltron¹

¹ University of Padova, Physics and Astronomy Dept. “G. Galilei”, Padova (Italy)

² FEMTO-ST, Université Bourgogne Franche-Comté – CNRS, Besançon (France)

Fully-integrated optofluidic device on lithium niobate for liquid crystals actuation

09:50

**S. Shandarov¹, E. Savchenkov¹, S. Smirnov¹, A. Akhmatkhanov², A. Esin²,
V. Shur²**

¹ Tomsk State University of Control Systems and Radioelectronics, Tomsk (Russia)

² Ural Federal University, Ekaterinburg (Russia)

Diffraction of light waves on periodically poled structures with conducting domain walls in lithium niobate crystals

10:05 L. Vittadello^{1,2}, C. Kijatkin^{1,2}, B. Bourdon^{1,2}, D. Dzikonski^{1,2}, M. Imlau^{1,2},
K. Koempe^{2,3}, M. Haase^{2,3}, K. Lammers^{2,3}, A. Paululat^{2,3}
¹ School of Physics, Osnabrück University, Osnabrück (Germany)
² Center for Cellular Nanoanalytics, Osnabrück University, Osnabrück (Germany)
³ Department of Biology/Chemistry, Osnabrück University, Osnabrück (Germany)
Niobate (nano-)crystals beyond photorefraction: towards understanding heart valve morphogenesis

10:20 – 10:45 Coffee Break

10:45 – 12:50 Session 5: Photorefractive and hybrid materials, photovoltaics
Chair: Ivan Biaggio, Lehigh University, Bethlehem (USA)

10:45 E. Deleporte (Invited)
Laboratoire Aimé Cotton, Ecole Normale Supérieure Paris-Saclay, CNRS, Université Paris-Sud, Orsay (France)
Excitons in hybrid halide perovskites

11:10 A. Grabar¹, A. Molnar¹, A. Kohutych¹, K. Glukhov¹, M. Tsyhyka¹,
Y. Vysochanskii¹, D. Evans², S. Basun² (Invited)
¹ Inst. of Solid State Physics, Uzhhorod National University, Uzhhorod (Ukraine)
² Air Force Research Laboratory, Wright-Patterson AFB, Ohio (USA)
How doping and post-growth treatments modify the photorefractive performance of Sn₂P₂S₆

11:35 C. Sebastián-Vicente, E. Muñoz-Cortés, A. García-Cabañes,
M. Carrascosa
Department of Physics of Materials, Universidad Autónoma de Madrid (Spain)
Real-time operation of photovoltaic optoelectronic tweezers: manipulation of dielectric and metallic particles

11:50 V. Yu. Reshetnyak¹, T. J. Bunning², M. E. McConney², D. R. Evans²
¹ Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)
² Air Force Research Laboratory, Wright-Patterson Air Force Base (USA)
Controlling Tamm plasmons using cholesteric liquid crystal

12:05 E. Muñoz-Cortés¹, A. Blázquez-Castro¹, L. Arizmendi¹, M. Carrascosa¹,
J. Bella², C. López-Fernández¹, A. García-Cabañes¹
¹ Department of Physics of Materials, Universidad Autónoma de Madrid, Madrid (Spain)
² Department of Biology, Universidad Autónoma de Madrid, Madrid (Spain)
Generation of pico/femto-droplets of water and biological solutions based on the bulk photovoltaic effect

- 12:20 **B. Bourdon¹, F. Freytag¹, M. Imlau¹, A. Shumelyuk², S. Odoulov²**
¹ School of Physics, Osnabrück University, Osnabrück (Germany)
² Institut of Physics, National Academy of Sciences, Kyiv (Ukraine)
Recording of space-charge gratings in Fe:LiNbO₃ with trains of sub-picosecond infrared pulses
- 12:35 **D. Bošnjaković^{1,2}, M. Čopič^{1,3}, V. Domenici⁴, A. Sánchez-Ferrer⁵, I. Drevenšek-Olenik^{1,3}**
¹ University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana (Slovenia)
² Josip Juraj Strossmayer University of Osijek (Croatia)
³ Jozef Stefan Institute, Ljubljana (Slovenia)
⁴ Dip. di Chimica e Chimica Industriale, Università degli studi di Pisa, Pisa (Italy)
⁵ Department of Health Sciences and Technology, ETH Zurich, Zurich (Switzerland)
Peculiar Behaviour of Holographic Gratings in Light-Sensitive Liquid Crystalline Elastomers

13:10 Lunch

14:50 – 20:00 Excursion

20:30 Conference Dinner

Friday June 21

08:15 – 10:05 Session 6: Wave mixing, signal processing and lattice photonics

Chair: Michel Gross, Univ. Montpellier II, Montpellier (France)

- 08:15 **G. Zhang, J. Liu, J. Liu (Invited)**
School of Physics and TEDA Applied Physics Institute, Nankai University, Tianjin (China)
Coherent optical field manipulation and optical information processing via EIT-induced atomic coherence gratings
- 08:40 **G. C. Valley¹, G. A. Sefler¹, U. Paudel¹, T. J. Shaw¹, A. C. Scofield² (Invited)**
¹ Photonics Technology Department, The Aerospace Corporation, El Segundo (USA)
² Rockley Photonics, Pasadena (USA)
Optical signal processing from photorefractive materials to speckle in multimode waveguides
- 09:05 **U. Tegin^{1,2}, B. Rahmani¹, E. Kakkava², N. Borhani², Ch. Moser¹, D. Psaltis²**
¹ Laboratory of Applied Photonics Devices, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne (Switzerland)
² Optics Laboratory, EPFL Lausanne (Switzerland)
Deep Neural Networks for Controlling Spatiotemporal Nonlinearities in Graded-index Multimode Fibers
- 09:20 **H. Hanafi, M. Rüschenbaum, A. Zannotti, C. Denz**
Inst. of Applied Physics and Center for Nonlinear Science, University of Münster, (Germany)
Photonic graphene superlattices in photorefractive media
- 09:35 **P. Berger¹, L. Morvan¹, M. Schwarz¹, C. Vaneph¹, A. Louchet-Chauvet², Y. Attal¹, V. Crozatier¹, P. Nouchi¹, D. Dolfi¹**
¹ Thales Research & Technology, THALES, Palaiseau (France)
² Laboratoire Aimé Cotton, CNRS, Université Paris-Saclay, Orsay (France)
Ultra-wideband “Rainbow” RF spectral analyzer based on spectral hole-burning in Tm:YAG crystal
- 09:50 **I. Pinkevych¹, V. Reshetnyak¹, M. E. McConney², D. R. Evans²**
¹ Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)
² Air Force Research Laboratory, Wright-Patterson Air Force Base, Ohio (USA)
Two-beam energy exchange in hybrid photorefractive cholesteric cells with the helicoidal polymer network

10:05 – 10:30 Coffee Break

10:30 – 11:40 ***Session 7: Optical processing, new materials and effects***
Chair: Roland Ryf, Nokia – Bell Labs, Holmdel (USA)

10:30 **M. Matthès¹, Ph. del Hougne¹, J. De Rosny¹, G. Lerosey³, S. Popoff¹,
(Invited)**

¹ Institut Langevin, CNRS, ESPCI Paris, PSL University, Paris (France)

² Institut de Physique de Nice, Université Côte d'Azur, CNRS, Nice (France)

³ Greenerwave, ESPCI Paris Incubator PC'up, Paris (France)

Wavefront shaping in complex media for analog computation

10:55 **N. Kukhtarev, T. Kukhtareva**

Department of Physics, Alabama A&M University, Huntsville (USA)

Enhancement of longitudinal EM waves in a graded Epsilon Near Zero (ENZ) materials

11:10 **T. Bouchet, N. Marsal, M. Sciamanna, D. Wolfersberger**

Chaire Photonique, LMOPS, CentraleSupélec, Université de Lorraine and Université Paris-Saclay, Metz (France)

Experimental propagation in biased photorefractive medium of a two-dimensional Airy beam

11:25 **S. Stepanov¹, N. Casillas¹, M. Ocegueda², E. Hernandez¹**

¹ Optica, CICESE, Ensenada (Mexico)

² Fisica, UABC, Ensenada (Mexico)

Self-reference optical phase demodulation in acetylene at 1530nm

11:40 **Conference Closing**

11:55 **Lunch**

13:30 **Departure**

LIST OF POSTERS

- P1 S. Mansurova¹, N. Korneev¹, M. Cuatecatl¹, A. K. Vega Salgado¹, C. Ismael¹, A. Seidenspinner², K. Meerholz²**
¹ INAOE, Tonantzintla, Pueblo (Mexico)
² University of Cologne (Germany)
Study of correlation between perovskites thin film morphology and the minority carriers' diffusion length
- P2 O. Nouredine¹, N. Redjidal-Ouarab¹, B. Mahmoudi¹, H. Menari¹, F. Hayed², G. Bendiba², A. Manseri¹, S. Mezghiche¹**
¹ Semiconductor Technology Research Center for Energetic-(CRTSE), Algiers (Algeria)
² Advanced Development Technologies Center, Algiers (Algeria)
Structural and optical properties of neodymium doped silicon nitride nanoparticles deposited on Si (100) substrate
- P3 L. Vittadello, S. Messerschmidt, D. Brinkmann, A. Krampf, B. Bourdon, M. Imlau²**
School of Physics, Osnabrück University (Germany)
Optical fingerprint of long-lived, trapped excitonic states in Fe-doped Lithium Niobate
- P4 A. Semkin, S. Sharangovich**
Tomsk State University of Control Systems and Radioelectronics, Tomsk (Russia)
Holographic photonic structures formation by Bessel-like light beams in photopolymer materials
- P5 A. Semkin, S. Sharangovich**
Tomsk State University of Control Systems and Radioelectronics, Tomsk (Russia)
Modelling of waveguide channels localization in holographic photopolymer-liquid crystalline composition due to absorption changing
- P6 R. Alrifai¹, V. Coda¹, A. A. Rangelov², G. Montemezzani¹**
¹ LMOPS, Univ. of Lorraine and CentraleSupélec, Metz (France)
² Department of Physics, Sofia University, Sofia (Bulgaria)
Broadband integrated polarization beam splitting based on anisotropic adiabatic transfer of light
- P7 A. Perin**
Tomsk State University of Control Systems and Radioelectronics, Tomsk (Russia)
Experimental investigation of effects of the interaction of bright solitons in lithium niobate crystals under the pyroelectric effect contribution
- P8 N. Kokanyan^{1,2}, F. Bartoli^{2,3}, Th. Aubert^{1,2}, O. Elmazria³, Ph. Pigeat³, E. Kokanyan^{4,5}, M. Aillerie^{1,2}**
¹ LMOPS, Université de Lorraine, Metz (France)
² LMOPS, CentraleSupélec, Université de Paris-Saclay, Metz (France)
³ Institut Jean Lamour, Université de Lorraine, CNRS, Nancy (France)
⁴ Institute for Physical Researches, National Academy of Sciences of Armenia, Ashtarak (Armenia)
⁵ Armenian State Pedagogical University after Kh. Abovyan, Yerevan (Armenia)
ScAlN thin films studied by Raman spectroscopy

- P9 E. Kokanyan^{1,2}, A. Yeganyan^{1,2}, N. Kokanyan^{3,4}, M. Aillerie^{3,4}, Th. Aubert^{3,4}**
¹ Institute for Physical Researches, National Academy of Sciences of Armenia, Ashtarak (Armenia)
² Armenian State Pedagogical University after Kh. Abovyan, Yerevan (Armenia)
³ LMOPS, Université de Lorraine, Metz (France)
⁴ LMOPS, CentraleSupélec, Université de Paris-Saclay, Metz (France)
Estimation of the thermal expansion coefficient of graphene in the temperature range of 100-700K
- P10 K. Masumura, K. Kinashi, W. Sakai, N. Tsutsumi**
Kyoto Institute of Technology, Kyoto (Japan)
High performance Poly(triarylamine)-based photorefractive polymers: effect of second electron trap
- P11 T. Tian¹, X. Yan¹, Y. Kong², S. Liu², S. Chen², J. Xu¹**
¹ Shanghai Institute of Technology, Shanghai (China)
² Nankai University, Tianjin (China)
Improvement in the Photorefractive Response Speed of Pure Congruent Lithium Niobate Crystals by Changing the Polarization Conditions
- P12 A. Shumelyuk¹, A. Volkov¹, Y. Skrypka¹, A. A. Grabar², Yu. Vysochanskii², S. Odoulov¹, S. Basun³, D. R. Evans³**
¹ Institut of Physics, National Academy of Sciences, Kyiv (Ukraine)
² Uzhgorod National University, Uzhgorod (Ukraine)
³ Air Force Research Laboratory, Materials and Manufacturing Directorate, Ohio (USA)
Bridgman grown photorefractive tin hypophosphite ($Sn_2P_2S_6$, SPS)
- P13 R. A. Rupp^{1,2,3}, M. Fleisch¹, S. Gao², D. Bosnjakovic³, L. Cmok⁴, P. Medle-Rupnik⁴, A. Mertelj⁴, D. Lisjak⁴, X. Zhang², I. Drevenšek-Olenik^{4,5}**
¹ Faculty of Physics, University of Vienna (Austria)
² TEDA Institute of Applied Physics & School of Physics, Nankai Univ., Tianjin (China)
³ Josip Juraj Strossmayer Univ. of Osijek, Osijek (Croatia)
⁴ Jozef Stefan Institute, Ljubljana (Slovenia)
⁵ Faculty of Mathematics and Physics, Univ. of Ljubljana (Slovenia)
Magnetically tunable optical diffraction gratings based on a ferromagnetic liquid crystal
- P14 A. Tronev^{1,2}, M. Parfenov^{2,3}, P. Agruzov², I. Ilichev², A. Shamrai^{1,2,3}**
¹ ITMO University, Saint-Petersburg (Russia)
² Ioffe Institute, Saint-Petersburg (Russia)
³ Peter the Great Saint-Petersburg Polytechnic University, Saint-Petersburg (Russia)
Additive fiber-optic micro-machining for precise high performance lithium niobate photonic integrated circuits fabrication
- P15 J. Mávita, L. Ríos, C. Minor, R. Cudney**
CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada, (Mexico)
Switchable phase/intensity sensor made with ring-shaped and hexagonal ferroelectric domains
- P16 M. Carrillo-Fuentes, R. Cudney**
CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada, (Mexico)
Production of pairs of synchronized pulses by optical parametric generation and oscillation using aperiodically poled lithium niobate

- P17 F. Denis-Le Coarer^{1,2}, D. Rontani^{2,1}, M. Sciamanna^{1,2}**
¹ Chaire Photonique, CentraleSupélec, Université Paris-Saclay, Metz (France)
² LMOPS, CentraleSupélec and Université de Lorraine, Metz (France)
Silicon photonic chip for all-optical delay-based reservoir computing
- P18 M. Carrascosa, A. Blázquez-Castro, A. García-Cabañes**
 Department of Physics of Materials, Universidad Autónoma de Madrid, Madrid (Spain)
Enhanced tumoral cell death induction on z-cut vs. x-cut iron-doped lithium niobate under visible light excitation
- P19 J. F. Muñoz Martínez¹, M. Carrascosa², A. Alcázar¹**
¹ Escuela de Ingeniería Aeronáutica y del Espacio, Universidad Politécnica de Madrid (Spain)
² Department of Physics of Materials (ONL-UAM), Madrid (Spain)
Time evolution of photovoltaic fields generated by arbitrary light patterns in z-cut lithium niobate crystals: application to optoelectronic nanoparticle manipulation
- P20 A. Puerto¹, A. Mendez², C. Aragón¹, L. Arizmendi¹, A. García-Cabañes¹, M. Carrascosa¹**
¹ Department of Physics of Materials, Universidad Autónoma de Madrid, Madrid (Spain)
² Dept. de Mecánica de Fluidos y Propulsión Aeroespacial, Univ. Politécnica de Madrid (Spain)
Determination of the photovoltaic field by particle trapping experiments
- P21 A.-L. Pointel^{1,2}, J. Hauden¹, F. Devaux², C. Guyot¹, H. Porte¹**
¹ iXblue Photonics, Besançon (France)
² Institut FEMTO-ST, CNRS, Université de Franche-Comté, Besançon (France)
Reduced pyroelectric sensitivity in titanium indiffused lithium niobate waveguides
- P22 J. Imbrock, H. Hanafi, M. Ayoub, C. Denz**
 Institute of Applied Physics, University of Münster (Germany)
Ferroelectric domain engineering in lithium niobate by pyroelectric field-assisted femtosecond laser lithography
- P23 C. Venet¹, Th. Chaneliere¹, M. Bocoum², F. Ramaz², A. Louchet-Chauvet¹**
¹ Lab. Aimé Cotton, Univ. Paris-Sud, CNRS, ENS Cachan, Univ. Paris-Saclay, Orsay (France)
² Institut Langevin - Ondes et Images - ESPCI Paris, PSL Research Univ., CNRS, Paris (France)
Narrow spectral filtering detection techniques for Ultrasound Optical Tomography of biological tissues with a Tm:YAG crystal submitted to a weak magnetic field
- P24 L. Drouzi^{1,2}, N. Marsal^{1,2}, M. Sciamanna^{1,2}, D. Wolfersberger^{1,2}**
¹ Chaire Photonique, CentraleSupélec, Université Paris-Saclay, Metz (France)
² LMOPS, CentraleSupélec and Université de Lorraine, Metz (France)
Self-organization process using counter propagating Airy beams

- P25 S. Kostritskii¹, M. Aillerie², E. Kokanyan^{3,4}, O. Sevostyanov⁵**
¹RPC Optolink, Moscow (Russia)
²LMOPS, Université de Lorraine and CentraleSupélec, Metz (France)
³Institute for Physical Researches, National Academy of Sciences of Armenia, Ashtarak (Armenia)
⁴Armenian State Pedagogical University after Kh. Abovyan, Yerevan (Armenia)
⁵Phys. Dept., Kemerovo State University, Kemerovo (Russia)
Z-scan and nonlinear scattering in photorefractive LiNbO₃ crystals
- P26 A. Zannotti, D. Ehrmanntraut, V. Bobkova, C. Denz**
 Inst. of Applied Physics and Center for Nonlinear Science (CeNoS), Univ. of Münster (Germany)
Rogue waves by caustic networks in random media
- P27 J. Vatin^{1,2}, D. Rontani^{2,1}, M. Sciamanna^{1,2}**
¹Chaire Photonique, CentraleSupélec, Université Paris-Saclay, Metz (France)
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Photonic machine learning using laser polarization dynamics
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Plasmonic nanofibers for enhanced Brillouin scattering
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Slow-down light methods in photorefractive material
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Optical mapping of oscillatory stresses in diffusely scattering media
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Effect of spatial orientation and thickness of the crystal Bi₁₂GeO₂₀ on the gain: theory and experiment
- P32 A. Zlobin, A. Shmidt, S. Shmakov, S. Shandarov, N. Burimov**
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Two-wave interaction of circularly polarized Gaussian light beams on photorefractive gratings in the (110)-cut BSO crystal
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Phase-conjugate feedback enables wideband chaotic laser sources
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Phase-modulated two-wave mixing in Sb-doped Sn₂P₂S₆ photorefractive crystals

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Digitally assisted two-wave mixing
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Two-wave mixing amplification spectrum and adaptive interferometry in CdTe under dc-bias
- P37 Th. Frank¹, O. Buchnev¹, G. Stenning², M. Kaczmarek¹, V. Fedotov¹**
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Specular optical activity from a metasurface at optical wavelengths
- P38 J. Gill, E. Perivolari, G. D'Alessandro, M. Kaczmarek**
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Photoalignment of thin PAAD films for optical control of light
- P39 W. Li¹, D. Zheng¹, W. Wang², Y. Kong^{1,2}, J. Xu^{1,2}**
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P-type lithium niobate thin films fabricated by nitrogen-doping
- P40 W. Wang¹, Y. Zhong¹, D. Zheng², H. Liu¹, Y. Kong^{1,2}, L. Zhang¹, J. Xu^{1,2}**
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Exploring the defect structure and mechanism of p-type nitrogen-doped LiNbO₃ from First-Principle calculation
- P41 PHRESCO Partners**
PHRESCO partners formed by Coordinator of the PHRESCO project, Katholieke Universiteit Leuven, Belgium and partners: Universiteit Gent, Belgium, IHP, Germany, IBM Research GmbH, Switzerland, and the CentraleSupélec, France
Overview on the PHRESCO project: PHotonic REServoir Computing