



8th International Workshop on Photoluminescence in Rare Earths: Photonic Materials and Devices

4-6 September 2019 | Nice, France



PROGRAM

4 September 2019

Tuesday, 3 September 2019

15:00-19:00

Registration

And all along the conference

Wednesday, 4 September 2019

8:30-9:00 **Opening Ceremony** | Room: Chagall

9:00-10:00 **Plenary** | Chair: Pieter Dorenbos | Room: Chagall

Non-luminescent defects in solids: enemies or friends?

Philippe F. SMET - LumiLab, Department of Solid State Sciences, Ghent University, Belgium

Coffee Break

10:30-12:00 **Structure and properties** | Chair: Dominik Dorosz | Room Chagall

10:30-11:00 *Rare earth elements in glasses, a multiscale approach* - invited

Maria Rita CICCONE - Institut de Physique du Globe, Paris, France

11:00-11:20 *Optical sensing properties based on a reversible redox process*

Véronique JUBERA - ICMCB - Université de Bordeaux, CNRS, Pessac, France

11:20-11:40 *Evidence of Ce⁴⁺ ions by XANES spectroscopy in the new fast scintillator crystal: Ce³⁺-Mg²⁺-co-doped Gd₃Al₂Ga₃O₁₂ garnet*

Georges BOULON - Institut Lumière Matière, CNRS- Université Claude Bernard Lyon 1, Université de Lyon, Villeurbanne, France

11:40-12:00 *Towards tetravalent praseodymium*

Mathias WICKLEDER - University of Cologne, Department of Chemistry, Germany

10:30-12:00 **Thermometry and scintillators** | Chair: Jumpei Ueda | Room: Dufy - Renoir

10:30-11:00 *Nd³⁺ doped garnet-type nanocrystals for temperature sensing at the nanoscale* - invited

Géraldine DANTELLE - Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, Grenoble, France

11:00-11:20 *Primary luminescent thermometer in the visible range based on Er,Yb:GdVO₄ microcrystals and its excitation power dependence*

Maria CINTA PUJOL - Universitat Rovira i Virgili, Departament de Química Física i Inorgànica, Física i Cristal·lografia de Materials i Nanomaterials (FiCMA-FiCNA) and EmaS, Tarragona, Spain

11:20-11:40 *Cerium concentration effect on scintillation properties and temperature dependence of (Gd, La)₂Si₂O₇ scintillator*

Masao YOSHINO - Institute for Materials Research, Tohoku University, Japan

11:40-12:00 *Difference of Mg²⁺ and Mo⁶⁺ co-doping effects on luminescence and scintillation properties of Ce:LuAG single crystal scintillators*

Kyoung JIN KIM - Institute for Materials Research, Tohoku University, Sendai, Japan

Lunch

13:30-15:00 **Fibers and glasses I** | Chair: Daniele Milanese | Room: Chagall

13:30-14:00 *Towards laser cooling in rare earth doped silicate glass fibers* - invited

Peter DRAGIC - Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, IL, USA

14:00-14:20 *Local field effect in structured optical fiber co-doped with noble metal nanoparticles and lanthanide ions*

Jacek ZMOJDA - Bialystok University of Technology, Faculty of Electrical Engineering, Bialystok, Poland

14:20-14:40 *Multicolor emission of polymer optical fibers co-doped with RE and fluorescent dyes*

Piotr MILUSKI - Bialystok University of Technology, Department of Electrical Engineering, Bialystok, Poland

14:40-15:00 *All optical methane sensor based on rare-earth doped fibers*

Imen HAFIENNE - CIMAP, CEA-CNRS-ENSICAen, Université de Caen Normandie, France

13:30-15:00 **Fundamentals and theory** | Chair: Mathias Wickleder | Room: Dufy - Renoir

- 13:30-14:00 *Nephelauxetic effect on the binding energy in the lanthanide 4^f ground states* - invited
Pieter DORENBOS - Delft University of Technology, Faculty of Applied Sciences, Delft, The Netherlands
- 14:00-14:20 *Pauli antisymmetry interactions between active center and host: The R1-line of Cr³⁺ in garnets*
Luis SEIJO - Departamento de Química, Instituto Universitario de Ciencia de Materiales Nicolás Cabrera, and Condensed Matter Physics Center (IFIMAC), Universidad Autónoma de Madrid, Madrid, Spain
- 14:20-14:40 *Evidence for intervalence charge-transfer (IVCT) states in Eu-doped phosphors*
Jonas JOOS - LumiLab, Dept. of Solid State Sciences, Ghent University, Ghent, Belgium
- 14:40-15:00 cancelled

15:15-16:15 **Energy transfer and clustering** | Chair: Géraldine Dantelle | Room: Chagall

- 15:15-15:35 *Luminescence properties of Eu²⁺-Mn²⁺ co-doped Ba₂MgSi₂O₇*
Atul SONTAKKE - Debye Institute for Nanomaterials Science, Utrecht University, Utrecht, the Netherlands
- 15:35-15:55 cancelled
- 15:55-16:15 *Luminescence and energy transfer in fluoroindate glasses co-doped with Er³⁺/Ho³⁺*
Marcin KOCHANOWICZ - Bialystok University of Technology, Bialystok, Poland

15:15-16:15 **Organic and inorganic I** | Chair: Animesh Jha | Room: Dufy - Renoir

- 15:15-15:35 *Molecular logical arrays through Ln³⁺-ions using exclusively physical inputs*
Carlos BRITES - CICECO-Institute of Materials, Physics Department, Universidade de Aveiro, Portugal
- 15:35-15:55 *Cellulose fibres and paper modified by nanophosphors based on rare earth elements activated by UV and IR radiation*
Agata SZCZESZAK - Adam Mickiewicz University in Poznan, Poznan, Poland
- 15:55-16:15 *RE³⁺ based phosphors embedded into organic polyethylene films*
Salvador CARMONA-TELLEZ - Cátedras CONACyT/Benemérita Universidad Autónoma de Puebla, Facultad de Ciencias Físico-Matemáticas, Puebla Mexico

Coffee break

16:30:19:30 **Poster session** | Room: "Lunch"

Thursday, 5 September 2019

8:00-9:30 Nanoparticles and phosphors I | Chair: Claudia Wickleder | Room: Chagall

- 8:00-8:30 *Inorganic nanomaterials and doping strategies for future perspectives in scintillation applications and biomedicine* - invited
Irene VILLA - Department of Materials Science, University of Milano-Bicocca, Milano, Italy
- 8:30-8:50 *Structural modification of nanohydroxyapatite $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ related to Eu^{3+} and Sr^{2+} ions doping and its spectroscopic and antimicrobial properties*
Katarzyna SZYSZKA - Institute of Low Temperature and Structure Research PAS, Wroclaw, Poland
- 8:50-9:10 *Novel Microemulsion approach for the synthesis of Eu^{2+} doped nanoparticles*
Adrian MATTNER - Inorganic Chemistry, Faculty of Science and Technology, University of Siegen, Germany
- 9:10-9:30 *Controlled synthesis and photoluminescence properties of hexagonal Eu^{3+} activated $\text{Na}(\text{Y,Gd})\text{F}_4$ microphosphors*
Suryanarayan DASH - Dept. of Physics and Astronomy, National Institute of Technology Rourkela, Odisha, India

8:00-9:30 Organic and inorganic II | Chair: Ciro Falcony | Room: Dufy - Renoir

- 8:00-8:30 *Metal-organic frameworks as near-infrared emitting materials based on lanthanide cations: from fundamental science to biological imaging* - invited
Stéphane PETOUD - Centre de Biophysique Moléculaire CNRS, Orléans, France & Department of Chemistry, University of Pittsburgh, Pittsburgh, PA, USA
- 8:30-8:50 *Mixed Eu^{3+} - Tb^{3+} metal-organic frameworks built on isophthalic acid ligand as ratiometric luminescent thermometer*
Hélène BRAULT - Institut des Matériaux Jean Rouxel, Université de Nantes, CNRS, Nantes, France
- 8:50-9:10 *Microwave assisted synthesis of Tb-metal-organic frameworks with luminescent properties*
Gilberto ALARCÓN-FLORES - Instituto Politécnico Nacional, Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada, Ciudad de México, México
- 9:10-9:30 *Lanthanide-doped organic-inorganic materials for downshifting layers in solar cars*
Sandra CORREIA - Department of Physics and CICECO-Aveiro Institute of Materials, University of Aveiro, Portugal

Coffee break

10:00-11:10 Lasers and applications | Chair: Peter Dragic | Room: Chagall

- 10:00-10:30 *Erbium doped GaN for Laser Applications* – invited
John ZAVADA - Tandon School of Engineering, New York University, New York, USA
- 10:30-10:50 *Rare earth doped transparent ceramics for laser gain medium*
Simon GUENE-GIRARD - ICMCB - Université de Bordeaux, CNRS, Pessac, France
- 10:50-11:10 *Numerical investigation of simultaneous lasing at three different wavelengths in an Yb:Er:Tm:Ho co-doped germanate glass*
Francesco PRUDENZANO - Department of Electrical and Information Engineering, Politecnico di Bari, Bari, Italy

10:00-11:10 Persistent and phosphors | Chair: Luis Seijo | Room: Dufy - Renoir

- 10:00-10:30 *Traps with controllable depths in persistent luminescence phosphors* – invited
Yixi ZHUANG - College of Materials, Xiamen University, China
- 10:30-10:50 *Hexagonal $\text{Sr}_{1-x/2}\text{Al}_{2-x}\text{Si}_x\text{O}_4:\text{Eu}^{2+},\text{Dy}^{3+}$ transparent ceramics exhibiting white persistent luminescence excitable by visible light*
Victor CASTAING - PSL Research University, Chimie ParisTech – CNRS, Institut de Recherche de Chimie Paris, Paris, France
- 10:50-11:10 *Afterglow phosphors based on lanthanide-doped germanates in the system $\text{CaO}-\text{GeO}_2-\text{Y}_2\text{O}_3$*
Ivan LEONIDOV - Institute of Solid State Chemistry, UB RAS, Ekaterinburg, Russia

11:10-11:30 **Plenary** | Chair: Wilfried Blanc | Room: Chagall

In memory of Marc De Micheli - Contribution to rare-earth doped Lithium Niobate integrated devices

Pascal BALDI – Institut de Physique de Nice, Université Côte d'Azur, CNRS, Nice, France

11:30-12:30 **Plenary** | Chair: Fiorenzo Vetrone | Room: Chagall

Lanthanide-based thermometers at the cutting-edge of luminescence thermometry: from biomedical applications to the Internet of Things

Luis CARLOS - Physics Department and CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal

Lunch

14:00-15:30 **Nanoparticles and phosphors II** | Chair: Bruno Viana | Room: Chagall

14:00-14:30 *New directions in luminescent nanoparticles – invited*

Claudia WICKLEDER - Inorganic Chemistry, School of Science and Technology, University of Siegen, Siegen, Germany

14:30-14:50 *Precursor-directed synthesis of upconverting $\text{LiYF}_4:\text{Yb}^{3+}, \text{Tm}^{3+}$ nanoparticles and their composites designed for near infra-red driven photocatalysis*

Bhagyesh PUROHIT - Univ Lyon, ILM CNRS-Univ Lyon 1, Villeurbanne, France

14:50-15:10 *Rare earth based nanomaterials; dopant variations and its luminescent properties*

Rajesh KOMBAN - Fraunhofer Center for Applied Nanotechnology CAN (Fraunhofer CAN)*, Hamburg, Germany

15:10-15:30 *Bi^{3+} influence on physicochemical properties of $\text{Ba}_2\text{RE}_2\text{O}_{11}$ upconverting nanoparticles*

Nina KACZOROWSKA - Adam Mickiewicz University in Poznań, Faculty of Chemistry, Department of Rare Earths, Poznań, Poland

14:00-15:30 **Sustainability** | Chair: Franck Mady | Room: Dufy - Renoir

14:00-14:30 *Rare earth elements and urban mines: critical strategies for sustainable development – invited*

Maurizio FERRARI - IFN-CNR CSMFO Lab. and FBK Photonics Unit, Trento, Italy

14:30-14:50 *Spectroscopic Analysis of Rare-Earth-ion (RE^{3+}) and Mn^{2+} ions in CdS Q-Dot bearing Silicate Glasses*

Animesh JHA - School of Chemical and Process Engineering, University of Leeds, Leeds, U.K.

14:50-15:10 *Advances in Rare Earth characterization by optical spectroscopy*

Célia OLIVERO, Horiba Scientific

15:10-15:30 cancelled

Coffee break

16:00-17:30 **Fibers and glasses II** | Chair: Luiz Jacobsohn | Room: Chagall

16:00-16:30 *Specific mechanisms associated with rare-earth dopants (Yb, Er, Ce) in the radiation-induced attenuation of silica-based optical fibers – invited*

Franck MADY - Université Côte d'Azur, CNRS, INPHYNI, Nice, France

16:30-16:50 *New insights into the spectroscopic properties of Yb-doped YAG-derived all-glass optical fibers*

Magnus ENGHOLM - Mid Sweden University, Sundsvall, Sweden

16:50-17:10 *Electrons and protons irradiation of $\text{Er}^{3+}, \text{Yb}^{3+}$ codoped phosphate glasses*

Laetitia PETIT - Photonics Laboratory, Tampere University, Tampere, Finland

17:10-17:30 *Drawing of glass containing rare-earth-doped oxide nanoparticles : A study by Molecular dynamics simulations*

Jorel FOURMONT - Laboratoire de Photonique d'Angers (LPhiA), Université d'Angers, Angers, France

16:00-17:30 Nanoparticles and bio-applications | Chair: Maria Cinta Pujol Baiges | Room: Dufy - Renoir

- 16:00-16:30 *Lanthanide ions activated optical nanothermometers* - invited
Adolfo SPEGHINI - NRG, Department of Biotechnology and INSTM, RU Verona, University of Verona, Verona, Italy
- 16:30-16:50 *Dye-sensitized blue-to-UVB upconversion nanocrystals for phototherapy*
Yu DECHAO - Condensed Matter and Interfaces, Debye Institute for Nanomaterials Science, Utrecht, University, Utrecht, The Netherlands
- 16:50-17:10 *Rare-Earth codoped nanocrystals $Cr^{3+}, RE^{3+}:ZnGa_2O_4$ for bioimaging applications*
Bruno VIANA - PSL Research University, Chimie ParisTech – CNRS, Institute de Recherche de Chimie Paris, France
- 17:10-17:30 *Up-conversion luminescence of nanoparticles sensitized by Nd^{3+} , Ho^{3+} , Er^{3+} and Tm^{3+} ions*
Tomasz GRZYB - Adam Mickiewicz University in Poznań, Faculty of Chemistry, Department of Rare Earths, Poznań, Poland

19:30-23:30 Conference diner

Friday, 6 September 2019

8:30-10:30 **Phosphors** | Chair: Francesco Prudenzeno | Room: Chagall

- 8:30-8:50 cancelled
- 8:50-9:10 *Spectroscopic investigation of the $YV_xAs_{1-x}O_4$ doped with Tb^{3+} ions*
Rafael WIGLUSZ - Institute of Low Temperature and Structure Research PAS, Wrocław, Poland
- 9:10-9:30 *Highly-transparent efficient sol-gel-derived silica-(Gd,Pr)PO₄ glass-ceramic narrow-band UVB phosphors*
Koichi KAJIHARA - Department of Applied Chemistry for Environment, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University, Tokyo, Japan
- 9:30-9:50 *Optical properties of novel nitridic and oxidic phosphors doped with Eu^{2+}*
Jasmin SCHMIDT - Inorganic Chemistry, Faculty for Science and Technology, University of Siegen, Siegen, Germany
- 9:50-10:10 *Effect of post-preparation annealing on powder and pulsed laser deposited thin film phosphors of oxyorthosilicate doped with rare-earths*
Martin NTWAEABORWA - School of Physics, University of the Witwatersrand, Johannesburg, South Africa
- 10:10-10:30 *Synthesis of orange emitting Sm^{3+} doped sodium calcium silicate phosphor by sol-gel method for photonic device applications*
M. JAYASIMHADRI - Luminescence Materials Research Lab (LMRL), Department of Applied Physics, Delhi Technological University, Delhi, India

8:30-10:30 **Glass and applications** | Chair: Laetitia Petit | Room: Dufy - Renoir

- 8:30-8:50 *Luminescence performance of Eu^{3+} ions doped Alkaline-Earth Boro Tellurite glasses*
Koneru SWAPNA - Department of Physics, Koneru Lakshmaiah Education foundation, Green Fields, Vaddeswaram, Guntur, Andhra Pradesh, India
- 8:50-9:10 *Up-conversion luminescence of erbium ion in sodium-germanate glasses*
Vladimir ASEEV - ITMO University, Saint-Petersburg, Russia
- 9:10-9:30 *Radiative analysis of orange emitting silica borate glasses for photonic applications*
Allam S. RAO - Department of Applied Physics, Delhi Technological University, Shahbad Daultpur, New Delhi, India
- 9:30-9:50 *Er^{3+}/Yb^{3+} doped 1-D Microcavity based on alternating aluminosilicate glass and titania sol-gel layers for visible emission and efficient up-conversion*
Rojas HERNANDEZ ROCIO - Department of Materials Engineering, Tallinn Univ. of Technology, Tallinn, Estonia
- 9:50-10:10 *Tb^{3+} and Sm^{3+} doped $Ga_5Ge_{20}Sb_{10}Se_{65}$ fibers long-wave IR luminescence around $8\mu m$*
Florent STARECKI - CIMAP, CEA-CNRS-ENSICAEN, Université de Caen, Caen, France
- 10:10-10:30 *Fabrication, structural and spectroscopic characterizations of first translucent ceramics from cubic nano-crystalline La_2MoWO_9 activated by Nd^{3+} ions*
Malgorzata GUZIK - Faculty of Chemistry, University of Wrocław, Wrocław, Poland

Coffee break

11:00-12:50 Nanocomposite glasses | Chair: Véronique Jubera | Room: Chagall

- 11:00-11:30 *Progress on the preparation of glass-based phosphate materials for photonics* – invited
Laeticia PETIT - Photonics Laboratory, Tampere University, Tampere, Finland
- 11:30-11:50 *Transparent oxyfluoride glass-ceramics prepared by Spark Plasma Sintering (SPS) for optical applications*
Singarapu BABU - Dept.of Coating Processes, FunGlass, Alexander Dubcek Univ. of Trencín, Trencín, Slovakia
- 11:50-12:10 *Chemical Characterization of LaF₃:Tm³⁺ Doped Phase-Separated Dielectric Nano- Particles (DNPs) via Secondary Ion Mass Spectrometry (SIMS) Imaging*
Wilfried BLANC - Université Côte d'Azur, CNRS, INPHYNI, Nice, France
- 12:10-12:30 *Crystallization study of Er³⁺ doped glasses in NaPO₃-CaF₂-TiO₂/MgO/ZnO system*
Nirajan OJHA - Photonics Laboratory, Tampere University, Tampere, Finland
- 12:30-12:50 cancelled

11:00-12:50 Scintillators | Chair: Georges Boulon | Room: Dufy - Renoir

- 11:00-11:30 *Understanding the luminescence properties of Ce³⁺-doped garnet phosphors on the basis of composition, crystal and electronic structure* - invited
Jumpei UEDA - Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan
- 11:30-11:50 *Comparison of Mo ion co-doping effects in Ce:Y₃Al₅O₁₂ and Ce:YAlO₃ single crystal scintillators*
Mutsumi UENO - Institute for Materials Research, Tohoku University, Sendai, Japan
- 11:50-12:10 *Melt growth and luminescence properties Lu₂O₃ based high dense single crystals grown by indirect heating method using arc plasma*
Kei KAMADA - New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan
- 12:10-12:30 *Characterization of Ce³⁺ or Pr³⁺- single doped type III KGd(PO₃)₄ bulk crystals as scintillator materials*
Maria CINTA PUJOL - Universitat Rovira i Virgili, Departament Química Física i Inorgànica, Física i Cristal·lografia de Materials i Nanomaterials (FiCMA-FiCNA) - EMaS, Tarragona, Spain
- 12:30-12:50 *Optical study on garnet-type scintillator with longer-wave-emitting*
Shunsuke KUROSAWA - New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan

12:50-13:10 Best paper award ceremony and closing session | Chair: Giancarlo Righini | Room: Chagall

Lunch

List of posters

- P1 *The pathway to an optimum luminescent thermometer – Bending the Boltzmann distribution*
Markus SUTA, Condensed Matter and Interfaces, Debye Institute for Nanomaterials Science, Department of Chemistry, Utrecht University, Utrecht, Netherlands
- P2 *Luminescence investigation of Ln³⁺-doped inorganic materials in high-pressure*
Przemysław WOŹNY, Adam Mickiewicz University in Poznań, ul. Uniwersytetu Poznańskiego 8, Poznań, Poland
- P3 *Up-conversion luminescence and energy transfer mechanism of ZnTiO₃:Er³⁺,Yb³⁺ phosphor*
Mokhotjwa DHLAMINI, Department of Physics, College of Science Engineering and Technology, University of South Africa, Johannesburg, South Africa
- P4 *Influence of the synthesis route on the structural and spectroscopic properties of Nd³⁺-doped YPO₄ nano and micro-powders*
Jakub PAWLOW, Faculty of Chemistry, University of Wrocław, Wrocław, Poland
- P5 *Site selective spectroscopy as an efficient tool for structural and spectroscopic studies of Nd³⁺-doped LuPO₄ nano/micro-powders*
Kacper PROKOP, Faculty of Chemistry, University of Wrocław, Wrocław, Poland
- P6 *Tb₂(BDC)₃ high-quality luminescent metal-organic framework films*
Ciro FALCONY, Centro de Investigación en Materiales Avanzados, Unidad Monterrey, Apodaca, Nuevo León, México
- P7 *Dy³⁺ ions as optical probes for structural study of K₂SrGe₃O₉*
Ivan LEONIDOV, Institute of Solid State Chemistry, UB RAS, Ekaterinburg, Russia
- P8 *Core-Shell architecture to enhance RE doped UC NanoCrystals Luminescence Emissions for Photocatalytic Applications*
Pablo ACOSTA-MORA, Departamento de Física, Universidad de La Laguna, Tenerife, Spain
- P9 *Structural and optical characterization of Tm³⁺-doped apatite related NaLa₉(GeO₄)₆O₂ phosphors*
Olga A. LIPINA, Institute of Solid State Chemistry, UB RAS, Ekaterinburg, Russia
- P10 *Synthesis and spectroscopic properties of red-emitting lithium tantalate garnet phosphors for solid state lighting*
Olga A. LIPINA, Institute of Solid State Chemistry, UB RAS, Ekaterinburg, Russia
- P11 *Rare earth-doped phosphate and germanate glasses for near-infrared power amplifiers and laser sources*
Daniel Milanese, DIA and RU INSTM, Università di Parma, Parma, Italy
- P12 *Insight into the effect of Li⁺ concentration on the structure and photoluminescence properties of Ca₁₀(PO₄)₆(OH)₂: Sm³⁺ intended for theranostic application*
Paulina SOBIERAJSKA, Institute of Low Temperature and Structure Research, PAS, Wrocław, Poland
- P13 *Study of luminescence properties of Eu²⁺ ion depending on changes of Eu³⁺ ion concentration in the silicate-substituted apatite*
Sara TARGOŃSKA, Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wrocław, Poland
- P14 *The effects of local symmetry on the upconversion emission intensity, color and dynamics under ns pulsed excitation*
Daniel AVRAM, Faculty of Physics, University of Bucharest, Magurele, Ilfov, Romania
- P15 *Spectral, luminescent, laser and holographic properties of photo-thermo-refractive glass doped with rare earth ions*
Nikolay NIKONOROV, ITMO University, Saint Petersburg, Russia
- P16 *Praseodymium-doped Type III KGd(PO₃)₄ nanocrystals: synthesis and characterization*
Maria Cinta PUJOL BAIGES, Universitat Rovira I Virgili, Departament Química Física I Inorganica, Física i Cristal·lografia de Materials i Nanomaterials–EMaS, Campus Sescelades, Tarragona, Spain

- P17 *The changes of the photoluminescence properties caused by ion implantation of erbium into single-crystalline and nano-crystalline ZnO*
 Pavla NEKVINDOVÁ, Department of Inorganic Chemistry, University of Chemistry and Technology, Prague, Czech Republic
- P18 *Experimental and theoretical study of erbium incorporation in various crystal materials – ZnO, LiNbO₃ and Al₂O₃*
 Jakub CAJZL, Department of Inorganic Chemistry, University of Chemistry and Technology, Prague, Czech Republic
- P19 *beta-NaYF₄ nanoparticles with core@shell morphology doped with Er³⁺, Tm³⁺ and Yb³⁺ ions: their synthesis, characterisation and photoluminescence study*
 Piotr KAMINSKI, Adam Mickiewicz University in Poznań, Faculty of Chemistry, Department of Rare Earths, Poznań, Poland
- P20 *Detailed analysis of Nd³⁺, X³⁺ (X=Gd, Y, Sc, Lu, Ce, La) codoped CaF₂ laser crystals for broadband laser operation*
 Cesare MERONI, Centre de recherche sur les Ions, les Matériaux et la Photonique (CIMAP), UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen, 6 Blvd Maréchal Juin, 14050 Caen, France
- P21 *Concentration dependence of spectroscopic properties and energy transfer analysis of the fluorophosphate glasses with small phosphates additives doped with Er³⁺/Yb³⁺ ions*
 Elena KOLOBKOVA, ITMO University, Saint-Petersburg, Russia
- P22 *Study of persistent luminescence in SrSi₂N₂O₂:Eu²⁺, M (M=Ce, Cr, Er, Dy, Nd)*
 Natalia MAJEWSKA, Institute of Experimental Physics, Faculty of Mathematics, Physics and Informatics, University of Gdansk, Gdansk, Poland
- P23 *Tm³⁺ photoluminescence in Si_{0.75}Al_{1-x}N libraries grown by combinatorial magnetron sputtering*
 Giacomo BOSCO, Delft University of Technology, Faculty of Applied Sciences, Delft, The Netherlands
- P24 *Up-conversion emission in strontium fluoride doped with erbium ions upon 1532 nm excitation*
 Sylwia WASILEWSKA, Department of Rare Earth, Faculty of Chemistry, Adam Mickiewicz University, Uniwersytetu Poznańskiego, Poznań, Poland
- P25 *Radioluminescence of Lu₃Al₅O₁₂:Ce single crystal and transparent polycrystalline ceramic at high temperatures*
 Luiz JACOBSON, Department of Materials Science and Engineering, Clemson University, Clemson, SC, USA
- P26 *Up-conversion phenomenon of core@shell nanoparticles based on SrF₂, doped with Yb³⁺, Er³⁺ and Nd³⁺ ions excited at 808 nm and 975 nm wavelength*
 Dominika PRZYBYLSKA, Department of Rare Earths, Faculty of Chemistry, Adam Mickiewicz University in Poznań, ul. Uniwersytetu Poznańskiego, Poznań, Poland
- P27 *Scintillation properties of Tm-doped GdAlO₃ crystals doped with different Tm concentrations*
 Masaki AKATSUKA, Nara Institute of Science and Technology, Nara, Japan
- P28 *A NIR emitting scintillator material YAlO₃:Re³⁺ (Re=Er, Ho, Pr, Tm)*
 Masaki AKATSUKA, Nara Institute of Science and Technology, Nara, Japan
- P29 *Rare-earth doped optical fiber employing in-situ metal oxidation*
 Courtney KUCERA, Center for Optical Materials Science and Engineering Technologies (COMSET) and the Department of Materials Science and Engineering, Clemson University, Clemson, SC, 29625, USA
- P30 *Photoluminescence and photoluminescence excitation spectra of Eu and Si co-doped AlN films for visible light-emitting devices*
 Hiroshi KATSUMATA, School of Science and Technology, Meiji University, Kawasaki, Japan
- P31 *Luminescent properties of Titania doped with nanoparticles of Gadolinium oxide and Europium*
 Pablo Marco TREJO GARCÍA, Facultad de Ciencias Físico Matemáticas, Benemerita Universidad Autonoma de Puebla, C.P. 72570 Puebla, México

- P32 *Synthesis and characterization of an hybrid SiO₂-PMMA material doped with luminescent Eu doped Gd₂O₃ nanoparticles*
Pablo Marco TREJO GARCÍA, Facultad de Ciencias Físico Matemáticas, Benemerita Universidad Autonoma de Puebla, C.P. 72570 Puebla, México
- P33 *The effect of Zn, Al and Ge on the phonon energy and Er³⁺ photoluminescence in silicate glasses*
Petr VARAK, Department of Inorganic Chemistry, University of Chemistry and Technology, Prague, Czech Republic
- P34 *Surface modification of NaYF₄: Yb³⁺, Er³⁺@NaYF₄ up-conversion nanoparticles for biological applications*
Natalia JURGA, Adam Mickiewicz University in Poznań, Faculty of Chemistry Department of Rare Earths Uniwersytetu Poznańskiego, Poznań, Poland
- P35 *How to tune the UC luminescence in YPO₄ nanoparticles doped with lanthanide ions?*
Artur TYMIŃSKI, Department of Rare Earths, Faculty of Chemistry, Adam Mickiewicz University in Poznań, Uniwersytetu Poznańskiego, Poznań, Poland
- P36 *Photoluminescence and scintillation properties of Cs₃PrCl₆ crystal*
Yutaka FUJIMOTO, School of Engineering, Tohoku University, Aramaki, Aoba-ku, Sendai, Japan
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