# SCIENTIFIC PROGRAM

| **WEDNESDAY, September 29** | |
|---|---|
| 8:30-18:00 | Registration |
| 10:00-10:15 | Opening Talks |
| 10:15<br>We-L1<br>*Keynote lecture* | A.I. Tovstolytkin, O.I. Nakonechna, I.V. Sharay, A.V. Bodnaruk, V.M. Kalita, S.M. Ryabchenko, Yu.Yu. Shlapa, S.O. Solopan and A.G. Belous, **Advanced Magnetic Nanostructures for Biomedical Applications** |
| 10:45-11:15 | Coffee break |
| 11:15-13:15 | **Session 1A • MATERIALS FOR QUANTUM AND OPTO-ELECTRONICS AND DETECTORS OF RADIATION I**<br>Chair – N. Galunov, Z. Yegingil |
| 11:15<br>We-L2<br>*Keynote lecture* | V. Gorbenko, A. Markovskyi, Y. Syrotych, S. Witkiewicz-Lukaszek, T. Zorenko, J.A. Mares, M. Nikl, O. Sidletskiy, S. Nizhankovskiy, K. Kamada, A. Yoshikawa and Yu. Zorenko, **Development of Advanced Composite Scintillators and LED Converters Based on the Epitaxial Structures of Garnet Compounds** |
| 11:45<br>We-L3<br>*Keynote lecture* | N. Galunov, Ya. Gerasimov, N. Karavaeva, A. Krech, T. Gorbacheva, I. Khromiuk, D. Kofanov, L. Levchuk and V. Popov, **Oxide Composite Scintillation Materials for High-Energy Radiation Detectors** |
| 12:15<br>We-O1 | O.M. Vovk, S. Nizhankovskyi, P. Dluzewski, A. Kozłowska and M. Chaika, **YAG:Ce-$Al_2O_3$ Eutectics Grown by Horizontal Directed Crystallization as Luminescent Converter of White SSL Driven by High Power Laser Diodes** |
| 12:30<br>We-O2 | Y. Syrotych, V. Gorbenko, S. Witkiewicz-Łukaszyk, T. Zorenko, M. Kaczmarek, A. Yoshikawa, K. Kamada, J.A. Mares, M. Nikl, R. Kucerkova, A. Fedorov and Yu. Zorenko, **Scintillation Properties of Composite Scintillators Based on TAG:Ce Single Crystalline Films and GAGG:Ce Crystal Substrates** |
| | |
| 12:45<br>We-O4<br>*online* | A. Altinkok and M. Olutas, **Electrothermal Properties in Highly Transparent and Resistive Thin Film of Thermally Evaporated Indium-Tin-Oxide** |
| 13:00-14:30 | Lunch |

| | |
|---|---|
| 14:30-16:15 | **Session 2A • MATERIALS FOR QUANTUM AND OPTO-ELECTRONICS AND DETECTORS OF RADIATION II**<br>Chair – A. Popov, Yu. Zorenko |
| 14:30<br>We-L4<br>*Keynote lecture* | A.I. Popov, E.A. Kotomin, V.N. Kuzovkov and A. Lushchik, **Thermal Annealing of Point Defects in Irradiated Functional Ceramics for Nuclear Applications** |
| 15:00<br>We-O5 | Ia. Gerasymov, O. Sidletskiy, Ya. Boyaryntseva, S. Tkachenko, P. Arhipov, E. Galenin, D. Kurtsev, O. Zelenskaya, V. Alekseev, S. Witkiewicz-Lukaszek, T. Zorenko and Yu. Zorenko, **Alkaline Earth and Alkali Metals Impurities Effect on Optical and Scintillation Properties of YAG:Ce Single Crystals** |
| 15:15<br>We-O6 | A. Markovskyi, V. Gorbenko, K. Bartosiewicz, T. Zorenko, S. Nizhankovskiy, A. Fedorov and Yu. Zorenko, **Development of Novel Film and Composite Color Converters for White LEDs Based on the Epitaxial Structures of $Lu_{3-x}Tb_xAl_5O_{12}$:Ce ($x$ = 1-2) Garnet Using Liquid Phase Epitaxy Growth Method** |
| 15:30<br>We-O7 | K. Bartosiewicz, V. Gorbenko, T. Zorenko, M. Nikl, K. Kamada, A. Yoshikawa and Yu. Zorenko, **Growth and Luminescent Properties of the Single Crystalline Films and Single Crystals of $Lu_{3-x}Gd_xAl_5O_{12}$:Ce Garnets** |
| 15:45<br>We-O8 | S. Witkiewicz-Lukaszek, V. Gorbenko, T. Zorenko, J.A. Mares, M. Nikl and Yu. Zorenko, **Three-Layered Composite Scintillator Based on the $Ce^{3+}$ and $Sc^{3+}$ Doped YAG and LuAG Garnets for Simultaneous Registration of α-, β-Particles and γ-Quanta** |
| 16:00<br>We-O9 | L.-I. Bulyk, A. Kumar Somakumar, P. Ciepielewski, Yu. Zorenko, Ya. Zhydachevskyy, I. Kudrjavtseva, V. Gorbenko, A. Lushchik and A. Suchocki, **High-Pressure Studies of $Ce^{3+}$ Luminescence in Epitaxial $LuAlO_3$ Single Crystalline Film** |
| 16:15-16:45 | Coffee break |
| 16:45-18:30 | **Session 3 • TECHNOLOGY OF FUNCTIONAL MATERIALS FABRICATION**<br>Chair – T. Prikhna, M. Godlewski |

| | |
|---|---|
| 16:45<br>We-L5<br>*Keynote lecture* | M. Godlewski, R. Pietruszka, A. Seweryn, M. Ożga and B.S. Witkowski, **Oxides by Atomic Layer Deposition - from Applications in Nano-Electronics to Photovoltaics** |
| 17:15<br>We-L6<br>*Keynote lecture online* | A. Zakutayev, **Wide Band Gap Oxide Semiconductors for Electronics that Can Operate at High Temperature and High Power** |
| 17:45<br>We-O10 | T.A. Prikhna, O.P. Ostash, A.S. Kuprin, V.Ya. Podhurska, T. Cabioc`h, T.B. Serbenyuk, M.V. Karpets, B. Matovic, S.S. Ponomarov, V.B. Sverdun, B.D. Vasyliv, V.E. Moshchil, G.N. Tolmachova, M.A. Bortnitskaya, P. Barvitskyi and O.V. Matsenko, **High-Temperature Oxidation of Ti-Al-C MAX Phases-Based Bulk Materials and Coatings, Variation of Their Electrical Conductivity** |
| 18:00<br>We-O11 | V. Gorbenko, T. Zorenko, A. Shakhno, S. Witkiewicz-Łukaszek, N. Majewska, T. Lesniewski, S. Mahlik and Yu. Zorenko, **Growth and Optical Properties of $Ce^{3+}$ Doped $Y_{3-x}Ca_xAl_2Al_{3-x}Si_xO_{12}$ (x=0-0.5) and $Gd_{3-x}Ca_xGa_2Al_{3-x}Si_xO_{12}$ (x=0-0.3) Single Crystalline Films** |
| 18:15<br>We-O12 | P. Sedzicki, E. Nowak, M. Szybowicz and B. Derkowska-Zielinska, **Influence of Thermal Treatment on the Elimination of Impurities in ZnO Thin Films on Glass** |
| 19:00-22:00 | Welcome Party |

| **WEDNESDAY, September 29** | |
|---|---|
| 11:15-13:15 | **Session 1B • INNOVATIVE OPTICAL/QUASIOPTICAL TECHNOLOGIES AND NANO ENGINEERING OF ANISOTROPIC MATERIALS I**<br>Chair – A. Andrushchak |
| 11:15<br>We-L7<br>*Keynote lecture* | A.V. Kityk, P. Huber, A. Andrushchak, R. Wielgosz, B. Sahraoui, M. Lelonek, P. Göring, N. Andrushchak, Ya. Shchur and P.Pawlik, **Liquid Crystal Nanocomposites: Optical Anisotropy, Dynamical Properties and Symmetry Aspects** |
| 11:35<br>We-L8<br>*Keynote lecture* | J. Sobolewski, P. Bajurko, D. Vynnyk, V. Haiduchok and Y. Yashchyshyn, **Investigation of the Millimeter Wave Coplanar Waveguide (CPW) Modulator Based on Semiconductor Substrates** |

| | |
|---|---|
| 11:55<br>We-L9<br>*Keynote lecture* | P. Bajurko, J. Sobolewski, D. Vynnyk, V. Haiduchok, N. Andrushchak and Y. Yashchyshyn, **Properties of $CaWO_4$ and $CaMoO_4$ Crystals in the Subterahertz Frequency Range** |
| 12:15<br>We-O13 | N. Andrushchak, D. Vynnyk, M. Melnyk, P. Bajurko, J. Sobolewski, V. Haiduchok, A. Andrushchak and Y. Yashchyshyn, **Modulation of Subterahertz Radiation by Bismuth Germanate Crystals** |
| 12:25<br>We-L10<br>*Keynote lecture* | Ya. Shchur, A.V. Kityk, V.V. Strelchuk, A.S. Nikolenko, G. Beltramo, S. Vitusevich, N. Andrushchak, V. Adamiv, I. Teslyuk, P. Huber and A.S. Andrushchak, **On the Issue of Nanoscale $KH_2PO_4$ and $Ba(NO_3)_2$ Crystals Grown in Porous $SiO_2$ Matrix: Raman Spectroscopy, X-Ray Diffraction and *Ab Initio* Lattice Dynamics Analysis** |
| 12:45<br>We-L11<br>*Keynote lecture* | I.I. Syvorotka, D. Guichaoua, I. Solskyy, N.Ya. Syvorotka, K. Waszkowska and B. Sahraoui, **Phase-Matched Magnetization-Induced Second-Harmonic Generation in Epitaxial Iron Garnet Thin Films** |
| 13:05<br>We-O14 | V. Adamiv, O. Yaremko, I. Teslyuk and A. Andrushchak, **Research of Nanocrystallites Based on $Al_2O_3$ Nanoporous Membranes from Saturated Aqueous Solutions of $KH_2PO_4$** |
| 13:15-14:30 | Lunch |
| 14:30-16:15 | **Session 2B • INNOVATIVE OPTICAL/QUASIOPTICAL TECHNOLOGIES AND NANO ENGINEERING OF ANISOTROPIC MATERIALS II**<br>Chair – A. Andrushchak |
| 14:30<br>We-L12<br>*Keynote lecture* | O. Buryy, N. Andrushchak, A. Danylov, B. Sahraoui and A. Andrushchak, **The Optimal Vector Phase Matching Conditions for Second Harmonic Generation in Biaxial Non-Linear Optical Crystals** |
| 14:50<br>We-O15 | A. Danylov, I. Sen'ko and A. Andrushchak, **Preliminary Studies of Second Harmonic Generation in Crystalline Nanocomposites** |
| 15:00<br>We-O16 | B. Mytsyk, N. Demyanyshyn, O. Buryy and A. Andrushchak, **The Peculiarities of Piezo-Optic Effect in Crystals with Periodical Change of Refractive Index** |

| | |
|---|---|
| 15:10<br>We-O17 | A. Ratych, I. Karbovnyk and N. Andrushchak, LabVIEW-**Powered Instrumentation for Accurate Interferometric Measurements of Refractive Indices** |
| 15:20<br>We-O18 | Z. Kohut, O. Korneyev, B. Olkhovyk, B. Mytsyk and A. Andrushchak, **Experimental Measurements of Electo-Optic Coefficients for $LiTaO_3$ Crystals** |
| 15:30<br>We-O19 | B. Venhryn, O. Balaban, I. Yidak and A. Andrushchak, **The Effect of Nanoconfinement in Functional Materials for Electrical Energy Storage Devices** |
| 15:40<br>We-O20 | V. Haiduchok, D. Vynnyk, Y. Yashchyshyn, **Investigation of monocrystalline and nanocomposite materials in the optical and subterahertz wave ranges** |
| 15:50<br>We-O21 | I. Solskyy, A. Kityk, **Aspects of manufacturing the nanostructures on monocrystalline silicon** |
| 16:00<br>We-O22 | I.V. Stasyshyn, T.I. Vorovyak, I. Martynyuk-Lototska and A.S. Andrushchak, **Study of the Process of Acoustic Wave Wear in Monocrystalline Materials** |
| 16:15-16:45 | Coffee break |

| **THURSDAY, September 30** | |
|---|---|
| 9:00-10:45 | **Session 4 • MATERIALS FUNDAMENTALS: CRYSTAL STRUCTURE, DEFECTS, INTERACTIONS I**<br>Chair – A. Senyshyn, L. Vasylechko |
| 9:00<br>Th-L1<br>*Keynote lecture* | A. Senyshyn, V. Kochtetov, M.J. Mühlbauer, A. Schökel and M. Hofmann, **Diffraction Computed Tomography and Its Applications** |
| 9:30<br>Th-L2<br>*Keynote lecture* | Y. Naumovich, **Quantitative Description of Oxygen Non-Stoichiometry in Mixed Ionic and Electronic Conductors Based on a Non-Ideal Solution Approach** |
| 10:00<br>Th-L3<br>*Keynote lecture online* | V.B. Mykhaylyk, **Foray into Non-Contact Luminescence Cryothermometry Enabled by Oxides** |

| | |
|---|---|
| 10:30<br>Th-O1 | Yu. Hizhnyi, S. Nedilko, V. Chornii, I. Tupitsyna, O. Dubovik and G. Yakubovskaya, **Revealing the Luminescence Mechanisms in $Li_2MoO_4$ Scintillation Crystals by Complex Experimental and Computational Studies** |
| 10:45<br>We-O3 | V. Guckan, V. Altunal, W. Abusaid, A. Ozdemir and Z. Yegingil, **Study of Enhancement the TL/OSL Intensities of $KMgF_3$ Perovskites** |
| 11:00-11:15 | Coffee break |
| 11:15-13:15 | **Session 5 • MATERIALS FUNDAMENTALS: CRYSTAL STRUCTURE, DEFECTS, INTERACTIONS II**<br>Chair – Ya. Zhydachevskii, Yu. Sugak |
| 11:15<br>Th-L4<br>*Keynote lecture online* | A. Lushchik, **Characterization of Radiation-Induced Point Defects via EPR and Optical Spectroscopy in Oxides** |
| 11:45<br>Th-L5<br>*Keynote lecture* | A. Yaremchenko, **Thermochemical Expansion: Constraints for the High-Temperature Processing and Operation of Perovskite-Related Oxides** |
| 12:15<br>Th-O2 | V. Chornii, V. Boyko, S.G. Nedilko, O. Petrenko, V. Prokopets, K. Terebilenko and M. Slobodyanyk, **Synthesis and Luminescence Properties of Pure and Doped with Europium(III) $A_{0.5x}Bi_{1-0.5x}Mo_xV_{1-x}O_4$ (A – Na, K) Compounds** |
| 12:30<br>Th-O3 | I. Shtablavyi, R. Ovsianyk, S. Mudry, B. Venhryn, Yu. Pashko and Yu. Kulyk, **Temperature Dependence of Nickel Oxide Wetting with Liquid Tin** |
| 12:45<br>Th-O4 | Yu.G. Kazarinov, V.T. Gritsyna and S.P. Gokov, **Optical Absorption of the Transparent Spinel Ceramics after High Energy Electron Irradiation and Thermal Annealing** |
| 13:00<br>Th-O5 | D. Kaya, H.S. Aydınoğlu, E.Ş. Tüzemen and A. Ekicibil, **Formation of p-Type NiO Thin Films on Different Substrates: Structural, Electrical, Optical, and Magnetic Properties** |
| 13:15-14:30 | Lunch |
| 14:30 | Conference photo |
| 14:45-16:00 | Main building & library excursion |
| 16:15-16:45 | Coffee break |

| | |
|---|---|
| 16:45-18:15 | **POSTER Session I** • TECHNOLOGY OF FUNCTIONAL MATERIALS FABRICATION • MATERIALS FUNDAMENTALS: CRYSTAL STRUCTURE, DEFECTS, INTERACTIONS • MATERIALS FOR SENSING AND CATALYSIS<br>Chair – A. Luchechko, D. Sugak |

| **FRIDAY, October 1** | |
|---|---|
| 9:00-10:45 | **Session 6 • MATERIALS FOR SENSING AND CATALYSIS**<br>Chair – A. Suchocki, H. Fritze |
| 9:00<br>Fr-L1<br>*Keynote lecture* | H. Fritze, H. Wulfmeier, T. Defferiere, S. Schröder and H.L. Tuller, **Nonstoichiometry and Chemical Expansion of Cerium Oxide Based Thin Films** |
| 9:30<br>Fr-O1 | Yu. Suhak, W. Johnson, A. Sotnikov, H. Schmidt, B. Sorokin and H. Fritze, **Contributions to Acoustic Loss in Piezoelectric CTGS ($Ca_3TaGa_3Si_2O_{14}$) Resonators** |
| 9:45<br>Fr-O2 | H. Wulfmeier, R. Feder, L. Zhao and H. Fritze, **High-Temperature Stable Thin-Film Oxide Electrodes for Langasite and Catangasite Resonators** |
| 10:00<br>Fr-O3 | I. Kogut, A. Wollbrink, C. Steiner, R. Moos and H. Fritze, **Non-Stoichiometry of Thin-Film $Ce_{1-x}Zr_xO_{2-\delta}$ Characterized by a Resonant Nanobalance** |
| 10:15<br>Fr-O4 | M. Čeh, L. Suhadolnik and Ž. Marinko, **$TiO_2$-Nanotubes-Based Reactors for Highly Efficient Photocatalytic and Photoelectrocatalytic Degradation of Organic Compounds** |
| 10:30<br>Fr-O5 | T. Sibilieva, A. Boyarintsev, B. Grinyov, A. Krech, T. Nepokupnaya, I. Nevliudov and I. Razumov-Fryziuk, **3D-Printed Scintillators with Inorganic Powders for X-Ray Imaging** |
| 10:45-11:15 | Coffee break |
| 11:15-13:15 | **Session 7 • NANOPARTICLES, NANO-CERAMICS AND NANO-COMPOSITES**<br>Chair – T. Prikhna , S. Nedilko |
| 11:15<br>Fr-L2<br>*Keynote lecture online* | L. Kovács, K. Lengyel, L. Kocsor, L. Péter and G. Corradi, **Lithium Niobate: from Single Crystals to Nanocrystals** |

| | |
|---|---|
| 11:45<br>Fr-O6 | T. Prikhna, M. Monastyrov, O. Prysiazhna, B. Halbedel, V. Moshchil and P. Brvitskyi, **Properties and Application of Nanopowders of Polyvalent Iron Oxides Obtained by Electroerosion Dispersion** |
| 12:00<br>Fr-O7 | S. Nedilko, O. Alekseev, V. Barbash, V. Chornii, K. Krolenko, M. Lazarenko, S. Revo, M. Schegeda and V. Scherbatskii, **Structure and Properties of Micro and Nanostructured Cellulose Films Incorporated with Oxides and Carbon Particles** |
| 12:15<br>Fr-O8 | O. Chukova, S.A. Nedilko, S.G. Nedilko, T. Voitenko, M. Androulidaki, K. Savva, E. Stratakis, H.S. Rahimi Mosafer, R. Minikayev and W. Paszkowicz, **Pulsed Laser Deposition of Luminescent Downshifting Coatings on Silicon Solar Cells** |
| 12:30<br>Fr-O9<br>*online* | Yu. Shlapa, S. Solopan, I. Timashkov and A. Belous, **Synthesis of $CeO_2$ Nanoparticles by Precipitation in the Solutions and Their Physical-Chemical Properties** |
| 12:45<br>Fr-O10<br>*online* | P.V. Torchyniuk, O.I. V'yunov, V.O. Yukhymchuk, O.M. Greshchuk and A.G. Belous, **Phase Transformations at the Synthesis of Organic-Inorganic Perovskites $CH_3NH_3PbI_3$** |
| 13:00<br>Fr-O11 | V. Stadnik, V. Hreb, Ya. Zhydachevskii and L. Vasylechko, **Sol-Gel Combustion Synthesis, Crystal Structure and Luminescence of Cr- and Mn-Doped $SrAl_4O_7$ Nanopowders** |
| 13:15-14:30 | Lunch |
| 14:30-16:45 | **Session 8 • MATERIALS FOR QUANTUM AND OPTO-ELECTRONICS AND DETECTORS OF RADIATION III**<br>Chair – O. Buryy, A. Luchechko |
| 14:30<br>Fr-L3<br>*Keynote lecture online* | G. Suchaneck, E. Artiukh and G. Gerlach, **The Different Magnetoresistance Mechanisms of $Sr_2FeMoO_{6-\delta}$ Ceramics** |
| 15:00<br>Fr-L4<br>*Keynote lecture online* | V. Pankratov, **Luminescence spectroscopy of oxide nanoparticles under synchrotron radiation excitations** |
| 15:30<br>Fr-O12 | U. Yakhnevych, D. Sugak, I.I. Syvorotka, O. Buryy and S. Ubizskii, **Determination of the Diffusion Incorporation Mechanism of Cu Ions into LiNbO3 by Studying of Spatial Changes of Crystal Properties** |

| | |
|---|---|
| 15:45<br>Fr-O13 | V. Altunal, V. Guckan, A. Ozdemir, W. Abusaid, A. Ekicibil, F. Karadag and Z. Yegingil, **Luminescence Characterization of $BeO:Na_{5\%},Ce_{0.01\%},Er_{0.01\%}$ Ceramic** |
| 16:00<br>Fr-O14 | N.V. Sokur, **AMoRE: a Low Temperature Bolometric Experiment to Search for Double Beta Decay of $^{100}Mo$ with Molybdate Crystal Scintillators** |
| 16:15<br>Fr-O15 | M. Sypniewska, R. Szczesny, L. Skowronski and B. Derkowska-Zielinska, **Optical and Structural Properties of $ZnO:Alq_3$ Thin Layers Dispersed in Various Polymer Matrices** |
| 16:30<br>Fr-O16 | B.V. Padlyak, I.I. Kindrat, B. Kukliński, A. Drzewiecki, V.T. Adamiv and I.M. Teslyuk, **Luminescence Properties of the $Sm^{3+}$ Centres in the Sm-Ag Co-Doped Glasses with $Li_2B_4O_7$ Composition** |
| 16:45-17:00 | Coffee break |
| 17:00-18:30 | **POSTER Session II** • MATERIALS FOR QUANTUM AND OPTO-ELECTRONICS AND DETECTORS OF RADIATION • NANOPARTICLES, NANO-CERAMICS AND NANO-COMPOSITES<br>Chair – A. Andrushchak, L. Vasylechko |
| 19:00-22:00 | Conference Gala Dinner |

| **SATURDAY, October 2** | |
|---|---|
| 10:00 | Excursions |

| **POSTER Session I** | **THURSDAY, September 30** |
|---|---|
| | **• TECHNOLOGY OF FUNCTIONAL MATERIALS FABRICATION** |
| Th-P1 | A. Altinkok and M. Olutas, **Structural Properties of Transparent IGZO Thin Films Produced by Thermal Evaporation Technique** |
| Th-P2 | G.A. Mumladze, I.G. Kvartskhava, V.V. Zhghamadze, N.G. Margiani and A.S. Kuzanyan, **Effect of $Pb(BO_2)_2$ Doping on Power Factor of $Bi_2Sr_2Co_{1.8}O_y$ Thermoelectric Ceramics** |
| Th-P3 | V.V. Zhghamadze, N.G. Margiani, A.I. Klyndyuk, G.A. Mumladze, A.S. Kuzanyan, I.G. Kvartskhava and G.R. Badalyan, **Improvement of $Bi_2Ca_2Co_{1.7}O_y$ Thermoelectric Properties by $Pb(BO_2)_2$ Doping** |

| | |
|---|---|
| Th-P4 | V. Sydorchuk, V. Hreb, S. Ubizskii, S. Khalameida and L. Vasylechko, **Hydrothermal Synthesis, Structure and Luminescence of $Cr^{3+}$-Doped Stannates $Li_2SnO_3$, $Na_2SnO_3$ and $Li_8SnO_6$** |
| Th-P5 | I. Lutsyuk, V. Hreb, S. Turchak, Ya. Zhydachevskyy, V.B. Mykhaylyk and L. Vasylechko, **Sol-Gel and Solid State Synthesis of Cation-Deficient Perovskites Formed in $CaTiO_3$-$La_{2/3}TiO_3$ Pseudo-Binary System** |
| Th-P6 | O. Izhyk, N. Mitina, A. Zaichenko, K. Volianiuk, I. Grygorchak and O. Balaban, **Unexpected Conductivity of Anionic and Cationic Polyelectrolyte Nanobrushes on Flat Ceramic Surfaces** |
| Th-P7 | T. Voronyak, D. Vynnyk, N. Andrushchak, I. Stasyshyn, I. Senko and A. Andrushchak, **The Peculiarities of Experimental Determination of the Acousto-Optic Efficiency of Oxide Crystals** |
| Th-P8 | V. Shulgov, **Investigation of the Electrophysical Properties of Dense Anodic Aluminum Oxide Films** |
| Th-P9 | O.O. Vovk, S. Nizhankovskiy, Yu. Siryk and P. Mateichenko, **Diffusion of Cobalt Ions into Crystals of Non-Stoichiometric Magnesium Aluminate Spinel $MgO \bullet xAl_2O_3$** |
| Th-P10 | V. Skvortsova, M. Zubkins, R. Kalendarev, H. Arslan and J. Purans, **Zinc-Iridium Oxide Thin Films Fabrication and Properties** |
| Th-P11 | S. Nizhankovskyi, A. Kozlovskyi, O. Vovk, N. Sidelnikova and Yu. Siryk, **Optical Properties of $MgAl_2O_4$ Crystals Grown by Iridium-Free Technology** |
| Th-P12 | V. Salapak, S. Kachan, O. Nahurskyy, I. Pirko and L. Salapak, **Theoretical Study of the Effectiveness of Radiation Coloring of the Thallium-Containing Fluorite Crystals** |
| Th-P13 | V. Kulyk, Z. Duriagina, B. Vasyliv, T. Kovbasiuk, P. Lyutyy, V. Vira and V. Vavrukh, **The Effect of Sintering Temperature on Crack Growth Resistance Characteristics of Yttria-Stabilized Zirconia Determined by Various Test Methods** |
| Th-P14 | D. Kaya, I. Adanur, M. Akyol, F. Karadag and A. Ekicibil, **Chemically Synthesized Binary Pd-Co Alloys: Structural and Magnetic Properties** |
| | **• MATERIALS FUNDAMENTALS: CRYSTAL STRUCTURE, DEFECTS, INTERACTIONS** |

| | |
|---|---|
| Th-P15 | V. Tsiumra, M. Baran, A. Kissabekova, A. Krasnikov, A. Lushchik, Ya. Zhydachevskyy, L. Vasylechko and S. Zazubovich, **Luminescence and Energy Transfer Processes in $LuNbO_4$:Bi,Eu** |
| Th-P16 | D. Bondar, T. Bochkova, M. Trubitsyn and M. Volnyanskii, **Photoinduced Effects in the Single Crystals of PbO – $MoO_3$ System** |
| Th-P17 | O. Zaremba, V. Hrytsan and R. Gladyshevskii, **Four-Component Perovskites in the *A*–*R*–Fe–O Systems at 1200°C (*A* – Alkaline-Earth, *R* – Rare-Earth Metal)** |
| Th-P18 | V. Kordan, O. Zaremba and P. Demchenko, **Electrochemical Synthesis of $Li_yCa_{1-x}Nd_xMnO_3$ Solid Solution** |
| Th-P19 | R.G. Pinto, B.I. Arias-Serrano and A.A. Yaremchenko, **Ionic and Electronic Transport in Acceptor-Doped $PrVO_4$** |
| Th-P20 | M. Shpotyuk and O. Shpotyuk, **Theoretical Estimation of Compositional Variations in Glass-Transition Temperature of Chalcogenide Glass Systems from Stochastic Agglomeration Theory and Covalent Bond Approach** |
| Th-P21 | M. Trubitsyn, M. Koptiev, M. Volnianskii, S. Nedilko, V. Scherbatskii, M. Androulidaki, A. Papadopoulos and A. Manousaki, **Growth, Optical Properties and Conductivity of the Lithium Heptagermanate Crystals Doped with Rare - Earth and 3d Ions** |
| Th-P22 | T. Çavdar, V. Güçkan, Ö. Yiğit, Z. Yeğingil and K. Kurt, **Influence of $Dy^{3+}$ on Luminescence Spectra Emission of $CaSO_4$ under X-Ray Excitation** |
| Th-P23 | D. Vynnyk, B. Venhryn, A. Ratych, I. Yidak and A. Andrushchak, **Features of Experimental Determination of the Coefficient of Acousto-Optical Quality of Crystalline Materials** |
| Th-P24 | V. Hreb, V. Stadnik, S. Ubizskii, A. Kondyr, A. Luchechko, Ya. Zhydachevskyy and L. Vasylechko, **Structure and Luminescence Properties of Cr-Doped $CaAl_4O_7$ and $CaGa_4O_7$ Crystalophosphors** |
| Th-P25 | V. Hreb, I. Lutsyuk, A. Luchechko, Ya. Zhydachevskyy and L. Vasylechko, **Influence of Synthesis Conditions on Luminescence Properties of Cr/Er/Yb Co-Doped $LiGa_5O_8$ Spinel-Type Materials** |
| Th-P26 | V. Shved, V. Hreb and L. Vasylechko, **Electronic Structure and Magnetic Properties of $SmCo_{0.5}Cr_{0.5}O_3$ from First Principles** |

| | |
|---|---|
| Th-P27 | K. Labisz, R. Bendikienė and J. Konieczny, **Influence of Electron Beam Alloying on Structure and Properties of Cast Aluminium Surface** |
| Th-P28 | S.V. Syrotyuk, **The Spin-Polarized Electronic Structure in the Crystal ZnTe:Cr without and with a Cationic Vacancy** |
| Th-P29 | K. Kurt, T. Çavdar and Ö. Yiğit, **Influence of Lanthanides on Luminescence Spectrum Emission of BeO under X-Ray Excitation** |
| | **• MATERIALS FOR SENSING AND CATALYSIS** |
| Th-P30 | Yu. Klysko and S. Syrotyuk, **Guest-Tuned Spin Crossover in Metal-Organic Frameworks** |
| Th-P31 | Yu. Horbenko, B. Tsizh, M. Dzeryn, I. Olenych, O. Aksimentyeva and V. Bogatyrev, **Sensitive Elements of Gas Sensors Based on Poly-*o*-Toluidine/Silica Nanoparticles Composite** |
| Th-P32 | V. Hreb, I. Lutsyuk, K. Blazhivskyi, Ya. Zhydachevskyy, V.B. Mykhaylyk and L. Vasylechko, **Cr-Doped Solid Solutions $La(Ga_{1-x}Al_x)O_3$ and $(La_{1-x}Sr_x)(Al_{1-x}Ti_x)O_3$ for Possible Luminescence Temperature Sensor Application** |
| Th-P33 | I. Matushko, S. Khalameida, M. Samsonenko, V. Sydorchuk, L. Oleksenko, N. Maksymovych and O. Khyzhun, **Effect of Mechanochemical and Microwave Modification of $SnO_2$ Nanomaterials on Properties of Hydrogen Sensors** |
| Th-P34 | V. Sydorchuk, S. Levytska, L. Kotynska and L. Kuznetsova, **Modification of Zn-Al Hydrotalcite as Potential Photocatalyst** |
| Th-P35 | V.O. Vasylechko, G.V. Gryshchouk, Ya.M. Kalychak, R.E. Gladyshevskii, I.P. Navrotska and S.R. Bagday, **Sorption of Lead on Na-Modified Transcarpathian Clinoptilolite** |
| Th-P36 | K. Khrushchyk and L. Boichyshyn, **Oxide-Hydroxide Layers on the Surface of Al-Gd-Ni(Fe) Amorphous Alloy Ribbons and Their Capacitive Properties** |
| Th-P37 | A.O. Diachenko, M.P. Trubitsyn, M. Volnianskii and D.V. Volynets, **Electrical Properties of Lithium-Sodium Tetragermanate Single Crystal** |

| POSTER Session II | FRIDAY, October 1 |
|---|---|
| | • **MATERIALS FOR QUANTUM AND OPTO-ELECTRONICS AND DETECTORS OF RADIATION** |
| Fr-P1 | Yu. Siryk, O. Vovk, L. Gryn, A. Romanenko, V. Baranov and S. Nizhankovsky, **Eutectic Composites in $Al_2O_3$–$Y_2O_3$ System Solidified by Horizontal Directed Crystallization Method** |
| Fr-P2 | M. Głowacki, J. Fink-Finowicki, V. Stasiv, Ya. Zhydachevskyy, R. Diduszko, M. Berkowski and A. Suchocki, **(Y,Gd)$AlO_3$ Perovskite Solid Solution Single Crystals Doped with Mn and Hf Grown by the Czochralski and Floating Zone Methods** |
| Fr-P3 | Ya. Zhydachevskyy, Yu. Hizhnyi, S.G. Nedilko, M. Głowacki, P. Sybilski, M. Berkowski, S. Ubizskii and A. Suchocki, **Optical Properties and Electronic Structure of *R*$AlO_3$ (*R* = La, Gd, Y, Yb, Lu) Perovskite** |
| Fr-P4 | W. Gieszczyk, P. Bilski, A. Mrozik, V. Vistovskiy, A. Voloshinovskii, A. Fedorov, K. Paprocki, T. Zorenko and Yu. Zorenko, **Luminescent and Scintillation Properties of $Sc^{3+}$ and $La^{3+}$ Doped $LuAlO_3$ Crystals** |
| Fr-P5 | A. Shakhno, W. Gieszczyk, P. Bilski, T. Zorenko and Yu. Zorenko, **Luminescent Properties and Multi-Centres Formation in Ce-Doped $Ca_3Sc_2Si_3O_{12}$ Single Crystals** |
| Fr-P6 | A. Majewski-Napierkowski, P.A. Douissard, T. Martin, T. Zorenko, S. Witkiewicz-Łukaszek and Yu. Zorenko, **Energy Transfer Processes in LuAG:Ce,Pr Single Crystalline Film Scintillators** |
| Fr-P7 | L.Kostyk, V.Kapustyanyk, S.Novosad, I. Novosad and M. Rudko, **Recombination Luminescence of Zinc Tungstate Crystals Doped with Lithium, Terbium and Neodymium** |
| Fr-P8 | N. Krutyak, V. Nagirnyi, D. Spassky and B. Zadneprovski, **Luminescent Properties of $Zn_xCd_{1-x}WO_4$ Solid Solutions** |
| Fr-P9 | N. Ftomyn and Y. Shopa, **Investigation of the Optical Activity of $Ca_3Ga_2Ge_4O_{14}$ Crystals** |
| Fr-P10 | R. Matviiv, V. Stadnyk, R. Brezvin, P. Shchepanskyi and R. Kildiyarov, **Refractive and Dilatometric Properties of Doped $K_2SO_4$ Crystals** |
| Fr-P11 | D.M. Vynnyk, M.V. Kaidan, A.S. Andrushchak and B.M. Strykhaluik, **Spatial Anisotropy of Electromechanical Coupling in $Li_2B_4O_7$ Crystals** |

| | |
|---|---|
| Fr-P12 | N. Andrushchak, D. Vynnyk, M. Melnyk, P. Bajurko, J. Sobolewski, V. Haiduchok, A. Andrushchak and E. Yashchyshyn, **Modulation of Terahertz Radiation by Bismuth Germanate Crystals** |
| Fr-P13 | W. Abusaid, V. Altunal, A. Ozdemir, V. Guckan, A. Ekicibil, F. Karadag and Z. Yegingil, **Optically Stimulated Luminescence of $MgB_4O_7$ Doped with $Ce^{3+}$ and $Gd^{3+}$** |
| Fr-P14 | S. Bereket, V. Guckan, V. Altunal, W. Abusaid, A. Ozdemir and Z. Yegingil, **OSL Properties of $CaSO_4$:Tb,Eu Phosphor for Dosimetric Purpose** |
| Fr-P15 | O. Poshyvak, D. Afanassyev, A. Luchechko, Ya. Zhydachevskyy and S. Ubizskii, **Afterglow Peculiarities of YAP:Mn Crystal Irradiated by X-Ray and Visible Radiation** |
| Fr-P16 | P. Zięba, P. Reizer, J. Mirus, B. Mahlovanyi, J. Szlęzak, J. Cebulski and Y. Shpotyuk, **Optical Characterization of Rare-Earth Doped Bi-Modified Borate Glasses** |
| Fr-P17 | B. Mahlovanyi, A. Ozimek, A. Wnęk, A. Warchoł, A. Luchechko, J. Cebulski and Y. Shpotyuk, **Optical and Luminescence Properties of Ce, Dy-Doped Lithium Borate Glasses** |
| Fr-P18 | N. Stus, S. Nedilko, S. Yablochkov, P. Teselko, V. Scherbatskii, M. Androulidaki, A. Papadopoulos, A. Manousaki, V. Sheludko and O. Gomenyuk, **Effect of Metal Oxides on Structure and Properties of the Borate-Phosphate Glasses** |
| Fr-P19 | V. Chornii, S.G. Nedilko, K. Terebilenko, O. Alekseev, M. Lazarenko and M. Slobodyanyk, **Optical Properties and Phase Transformation of Bismuth Phosphate-Molybdate Glasses** |
| Fr-P20 | O.M. Bordun, I.O. Bordun, I.M. Kofliuk, I.Yo. Kukharskyy and I.I. Medvid, **Spectral and Kinetic Characteristics of the Cathodoluminescence of Thin Films $Y_2O_3$:Eu** |
| Fr-P21 | V. Yakovtseva, D. Shimanovich and V. Shulgov, **Anodic Alumina Membranes: Light Scattering Intensity Along the Pores as a Function of Incidence Angles** |
| Fr-P22 | N.Yu. Pavlova, V.Ya. Degoda, I.Yu. Doroshenko and G.P. Podust, **Extrinsic Luminescence Quenching in ZnSe Crystals** |
| Fr-P23 | G.P. Podust, V.Ya. Degoda, N.Yu. Pavlova and N.V. Martynyuk, **The Parameters of Deep Traps Causing the Dark Conductivity of ZnSe Single Crystals** |

| | |
|---|---|
| Fr-P24 | T.O. Plutenko, O.I. V'yunov, L.L. Kovalenko, O.P.Fedorchuk and A.G. Belous, **Materials with High Permittivity Based on Ferroelectric and Ion-Conducting Systems** |
| Fr-P25 | A. Bendak and N. Andrushchak, **The Possibility of Selenium Application in THz Range** |
| Fr-P26 | D. Sugak, I.I. Syvorotka, M. Kushlyk, U. Yakhnevych, Ya. Zhydachevskyy, A.I. Popov, O. Buryy, S. Kachan, S. Ubizskii and A. Suchocki, **Optical Recharging of Complex Color Centers and Cobalt Ions in $Gd_3Ga_5O_{12}$:Co Crystals** |
| Fr-P27 | V. Vasyltsiv, A. Luchechko, L. Kostyk, R. Lys, O. Tsvetkova, M. Kushlyk and B. Pavlyk, **Correlation Between Optical and Electrical Properties in $\beta$-$Ga_2O_3$ Single Crystals** |
| Fr-P28 | I. Syvorotka, H. Savytskyy and S. Ubizskii, **The Growth and Properties of Sub-Micron Thin YIG-Based LPE Films Using Different Fluxes** |
| | **• NANOPARTICLES, NANO-CERAMICS AND NANO-COMPOSITES** |
| Fr-P29 | O. Chukova, S.A. Nedilko, S.G. Nedilko, T. Voitenko, A. Manousaki and A. Papadopoulos, **Development of the Borate Glasses Incorporated with La-Vanadate Nanoparticles** |
| Fr-P30 | V. Dutka and Ya. Kovalskyi, **Features of Obtaining Polymer Composites Based on Disperse Oxides and Vinyl Polymers** |
| Fr-P31 | Yu. Hizhnyi, S. Nedilko and V. Borysiuk, Interaction of Chromate Oxyanions with Carbon **Nanostructures: TD-DFT Calculations of Excited Electronic States and Possibility of the Optical Monitoring** |
| Fr-P32 | R. Filipsonov, G. Martynyuk, S. Malynych and O. Aksimentyeva, **Bifunctional Polymer-Magnetite Composites** |
| Fr-P33 | T.L. Rakitskaya, T.A. Kiose and Yu.I. Popruha, **Nanocatalysts for Carbon Monoxide Oxidation Based on the Acid Modified Polyphase Aluminosilicate Support and Contained Palladium(II) and Copper(II) Salts** |
| Fr-P34 | T.L. Rakitskaya, A.S. Truba, A.P. Nazar, T.A. Kiose and V.Y. Volkova, **Synthesis, Phase Transformations of Polymorphous Nanooxidic Forms of Iron and Their Interaction with Sulfur Dioxide** |

| | |
|---|---|
| Fr-P35 | I.V. Lisovskyi, S.A. Solopan, A.G. Belous and V.G. Khomenko, **Hybrid Solid Electrolyte Based on the Combination of $Li_{1.3}Al_{0.3}Ti_{1.7}(PO_4)_3$ Ceramic and Liquid Solution with $LiPF_6$ for Li-Ion Batteries** |
| Fr-P36 | C. Tovstyuk, **Dynamic Dielectric Function of Two-Dimensional Electron Gas** |
| Fr-P37 | I. Lutsyuk, V. Hreb, A. Zelinskiy and L. Vasylechko, **Sol-Gel Synthesis of $ZnAl_2O_4$, $MgGa_2O_4$ and $LiGa_5O_8$ Nanopowders Co-Doped with $Cr^{3+}$, $Er^{3+}$ and $Yb^{3+}$ Ions** |
| Fr-P38 | M. Rudko, P. Parandiy and B. Turko, **Porous Silicon Surface Modified and Incorporated by ZnO** |
| Fr-P39 | M. Enhessari and A. Salehabadi, **Synthesis and Characterization of $CuMn_2O_4$ Nanoparticles: a Potential Semiconductor for Photoelectric Devices** |