

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

ДВНЗ «Прикарпатський національний університет імені Василя Стефаника»

Кафедра фізики і хімії твердого тіла

Фізико-хімічний інститут

Навчально-дослідний центр напівпровідникового матеріалознавства

АКАДЕМІЯ НАУК ВИЩОЇ ШКОЛИ УКРАЇНИ

НАЦІОНАЛЬНА АКАДЕМІЯ НАУК УКРАЇНИ

Інститут фізики напівпровідників ім. В.Є. Лашкарьова

Інститут хімії поверхні ім. О.О. Чуйка

Інститут металофізики ім. Г.В. Курдюмова

Інститут загальної і неорганічної хімії ім. В.І. Вернадського

Українське фізичне товариство

Інститут інноваційних досліджень (Івано-Франківськ, Україна)

Університет Цзілін (Чанчунь, Китай)

**XVII МІЖНАРОДНА ФРЕЙКІВСЬКА КОНФЕРЕНЦІЯ З ФІЗИКИ І
ТЕХНОЛОГІЇ ТОНКИХ ПЛІВОК ТА НАНОСИСТЕМ**

Програма

Івано-Франківськ, 20-25 травня, 2019 р.

Ivano-Frankivsk, May 20-25, 2019

Program

**XVII INTERNATIONAL FREIK CONFERENCE ON PHYSICS AND
TECHNOLOGY OF THIN FILMS AND NANOSYSTEMS**

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Vasyl Stefanyk Precarpathian National University

Physics and Chemistry of Solids Department

Physical-Chemical Institute

Educational Research Centre for Semiconductor Material

ACADEMY OF SCIENCE OF HIGH SCHOOL OF UKRAINE

NATIONAL ACADEMY OF SCIENCE OF UKRAINE

V.E. Lashkarev Institute of Semiconductor Physics

Chuiko Institute of Surface Chemistry

G.V. Kurdyumov Institute of the Physics of Metals

V.I. Vernadsky Institute of General and Inorganic Chemistry

Ukraine Physics Society

Institute of Innovation Research (Ivano-Frankivsk, Ukraine)

Jilin University (Changchun, P. R. China)

PLENARY SESSIONS

May 21, 22, 24, 2019

1. **Fodchuk I.M., Kuzmin A.R., Gutsuliak I.I., Solodkyi M.S., Maslyanchuk O.L., Kazemirskiy T.A., Gudymenko O., Kladko V.P.** Investigation of the Dislocation Structure of CdTe Crystals and Its Influence on the Characteristics of Barrier Structures Constructed on Their Basis - (*Chernivtsi National University, Chernivtsi, Ukraine; Institute of Semiconductor Physics of NASU, Kyiv, Ukraine*) [248] ifodchuk@ukr.net
2. **Halushchak M.O.** Use of the Seebeck Effect for Converging of the Thermal Energy of Sun into Electricity (*Ivano-Frankivsk National Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine*) [267] galuschak@nung.edu.ua
3. **Khrypunov G.S., Kudii D.A., Kovtun N.A., Khrypunov M.G.** The Development of Technology CdTe and CdS Layers for Thin-Film Soilar Cells Creation (*National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine*) [24] khrip@ukr.net**Khrypunov G.S., Zaitsev R.V.** Physical and Technical Bases of Functional Thin Film Solid-State Structures Constructive-Technological Solution for Combined Photovoltaic Systems (*National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine*) [271] klochko.np16@gmail.com**Klyui N.I.** Carbon Rich Silicon Carbide and Silicon Carbonitride Films: New Protective and Antireflection Coatings (*College of Physics, Jilin University, Changchun, People's Republic of China; V. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [264] klyuini@ukr.net
6. **Kurchak A.I., Morozovska A.N., Strikha M.V.** Magnetic Dielectric - Graphene - Ferroelectric System as a Promising non-Volatile Device for a Spin Filter and a Spin Valve (*V.Lashkariyov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Institute of Physics, NAS of Ukraine, Kyiv, Ukraine; Bogolyubov Institute for Theoretical Physics, NAS of Ukraine, Kyiv, Ukraine; Taras Shevchenko Kyiv National University, Kyiv, Ukraine*) [269] maksym.strikha@gmail.com
7. **Lukianov A.M., Klyui N.I., Lozinskii V.B., Sapon S.V., Rashkovetskyi L.V., Temchenko V.P., Dusheiko M.G., Gorbulik V.I.** Non-Stoichiometric Amorphous Silicon Carbonitride Films as Antireflective and Protective Coatings for IR Photosensors (*College of Physics, Jilin University, Changchun, People's Republic of China; V. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine*) [265] lukianov@isp.kiev.ua
8. **Lukyanchuk I., Mezanne D., Razumnaya A.** Ferroelectric Nano-Structures for Ultrafast THz Communications, Low-Dissipation Electronics, and Multi-Logic Computing Circuits (*University of Picardie, Amiens, France; University Cadi Ayyad, Marrakech, Morocco; Southern Federal University, Rostov-on-Don, Russia*) [301] lukyanc@ferroix.net
9. **Martynyuk M.I., Sirenko H.O., Grinevich R.V.** Extrusion methods used to estimate the density and anti-friction properties of polymer composites (*Vasyl*

- Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [71] mar.martinyuk2904@gmail.com
10. **Meshalkin A., Paiuk O., Prisacar A., Triduh G., Achimova E., Stronski A.** Reversible Direct Surface Relief Formation on Nanomultilayer Structures Based on Chalcogenide Glasses (*Institute of Applied Physics, Chisinau, Moldova; V. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [287] alexei@asm.md
 11. **Myslin M.V., Tatarchuk T.R., Mironyuk I.F., Hreida N.V.** The Effect of Al^{3+} on the Structural and Adsorption Properties of Magnesium Ferrite-Aluminates (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [279] marjanysik@gmail.com
 12. **Rogacheva E.I., Novak K.V., Budnik A.V., Men'shov Yu.V.** Deviation from Stoichiometry and Temperature Dependences of Thermoelectric Properties of Bi_2Te_3 Crystals and Thin Films (*National Technical University "KhPI", Kharkiv, Ukraine*) [302] rogachova.olena@gmail.com
 13. **Rubish V.M., Trunov M.L., Lytvyn P.M., Durkot M.O., Horvat Yu.A., Kyrylenko V.K., Pisak R.P., Tarnaj A.A.** Photosensitive Plasmon Structures Based on Chalcogenide Amorphous Films and Noble Metal Nanoparticles (*Institute for Information Recording, NAS of Ukraine, Uzhhorod, Ukraine, V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine*) [223] center.uzh@gmail.com
 14. **Shenderovsky V.A.** About the History of Formation and Development of Theoretical Physics in the Institute of Physics of the National Academy of Sciences of Ukraine (*Institute of Physics NAS of Ukraine, Kyiv, Ukraine*) [207] schender@iop.kiev.ua
 15. **Telbiz German, Stronski Alexander.** The Strategy of Formation and Tuning Properties the Metal Oxide Dielectric and Semiconductor Hybrid Sol-Gel Films (*L.V. Pisarzhevsky Institute of Physical Chemistry NASU, Kyiv, Ukraine; Lashkaryov Institute of Semiconductor Physics NASU, Kyiv, Ukraine*) [142] stronski@isp.kiev.ua
 16. **Uhrin Robert, Leone Edgar, Preuss Thomas.** Scanning Electron Microscopic (SEM) Analysis Showing Monazite and Xenotime Content in Materials for Rare Earth Element Extraction (*XLIGHT Corporation, Mendham, New Jersey, USA; Exel Laboratory Services, Dover, New Jersey, USA*) [146]
 17. **Venger E.F., Kolyadina E.Yu., Kholevchuk V.V., Matveeva L.A., Mitin V.F.** Physics and Technology of Thin Films (Ge + Ga) on GaAs Substrates (*V. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [167] matveeva@isp.kiev.ua
 18. **Venhryn Yu.I., Savka S.S., Bovhyra R.V., Zhyrovetsky V.M., Serednytski A.S., Popovych D.I.** Obtaining, Structure and Gas Sensor Properties of Nanopowder Metal Oxides (*Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of National Academy of Sciences of Ukraine, Lviv, Ukraine*) [181] popovych@iapmm.lviv.ua
 19. **Zayachuk D.M., Slynko V.E., and Csik A.** Testing of Lead, Tin and Germanium Tellurides by Means of Secondary Neutral Mass Spectrometry:

Features, Problems and Possibilities (*Lviv Polytechnic National University, Lviv, Ukraine; Institute for Problems of Materials Science NASU, Chernivtsy branch, Chernivtsy, Ukraine; Institute for Nuclear Research, Hungarian Academy of Sciences (ATOMKI), Debrecen, Hungary*) [168] zayachuk@polynet.lviv.ua

ORAL REPORTS

Session 1

Thin films technology (metals, semiconductors, dielectrics, conductive polymers) and their research methods

May 24, 2019

1. **Havryliuk Ye., Mazur N., Dzhagan V., Yukhymchuk V., Valakh M.Ya.** The Role of Depositing Conditions of $\text{Cu}_2\text{ZnSnS}_4$ Colloidal Nanocrystals and Flash-Lamp Annealing of the Thin-Films Based on Them (V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine) [77] evgenko93@isp.kiev.ua
2. **Ivakin E., Nykyruy L., Kisialiou I., Yavorskiy Y.** Synthesis and Investigation of the Thermoelectric Parameters of PbSnAgTe Film (Belarusian State University, Minsk, Belarus; Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine) [226] ivakin@ifanbel.bas-net.by
3. **Lohvynov A., Cheshko I., Odnodvoretz K.** The Structural-Phase State and Diffusion Process in Film Structures Based on Co and Ru (Sumy State University, Sumy, Ukraine) [114] andreylogvinovsumdu@gmail.com
4. **Maizelis A.A., Kolupaieva Z.I., Bairachniy B.I.** Voltammetric Analysis of Phase Composition of Zn-Ni-Cu Alloy Thin Films (National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine) [122] a.maizelis@gmail.com
5. **Oberemok O.C., Sabov T.M, Dubikovskiy O.V, Melnik V.P, Romanyuk B.M, Popov V.G., Kosulya O.V.** Peculiarities of SIMS Analysis of Interfaces in Nanoscale Mo/Si Multilayer Periodic Structures (V. Lashkaryov Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine) [231] ober@isp.kiev.ua

Session 2

Nanotechnologies and nanomaterials, quantum-size structures

May 21, 22, 2019

1. **Afanasieva T.V., Fedorus A.G., Naumovets A.G., Rumiantsev D.V.** Surface Phases of the 2D Honeycomb BeO Nanostructures on the Mo(112) Surface: ab Initio Thermodynamics Calculations and LEED/AES Investigations (*Institute of Physics National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [39] rumiantsevdmytro@gmail.com
2. **Alekseev O.M., Ivanenko K.O., Nedilko S.G., Revo S.L., Scherbatskii V.P., Teselko P.O., Boyko V.V., Chornii V.P., Barbash V.A., Yaschenko O.V., Hamamda S.** Micro/nanocrystalline cellulose and expanded graphite for development of new nanostructured composite materials (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine; University Frères Mentouri, Constantine, Algeria*) [133] s_revo@i.ua
3. **Bilynskyi I., Leshko R., Metsan H.** Optical Properties of Quantum Dots Arrays (*Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine*) [184] iv.bilynskyi@gmail.com
4. **Budzhak Ya.S., Druzhinin A.O., Wacławski T.K.** The Important Thermal and Kinetic Properties of Crystals and Their Calculations with the Use of the Gibbs Potentials (*State University Lvivska Polytechnica, Lviv, Ukraine*) [50] jabudjak@ukr.net
5. **Gaidar G.P., Starchyk M. I., Pinkovska M. B.** Radiation-stimulated ordering of the defect structure of Si crystals under irradiated with alpha particles (*Institute for Nuclear Research of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [13] gaydar@kinr.kiev.ua
6. **Gaidar G.P.** Effect of doping methods and cooling conditions after high-temperature annealing on the strain resistance of n-Si (*Institute for Nuclear Research of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [14] gaydar@kinr.kiev.ua
7. **Gorskyi P.V.** The Effect of Nonparabolicity Described by the Fivaz Model on the Electrical Contact Resistance "Thermoelectric Material-Metal" (*Institute of Thermoelectricity of NAS and MES of Ukraine, Chernivtsi, Ukraine*) [232] gena.grim@gmail.com
8. **Isaieva O. F., Rudko G.Yu., Fediv V.I., Gule E.G., Olar O.I.** Light-emitting characteristics of nanoparticles of zinc oxide in biocompatible polymeric matrixes (*V. Lashkaryov Institute of Semiconductor Physics of National Academy of Sciences of Ukraine, Kyiv, Ukraine; Bukovinian State Medical University, Chernivtsi, Ukraine*) [87] vfediv@ukr.net
9. **Kapush O.A., Budzulyak S.I., Korbutyak D.V., Dremlyuzhenko K.S., Hatilov S.E., Trishchuk L.I., Tomashik V.M., Yemets A.I., Dzhagan V.M.** Synthesis and Optical Properties of Cadmium Telluride Nanocrystals with Paramagnetic Doping (*V.Ye. Laskaryov Institute of Semiconductor*

- Physics of NAS of Ukraine, Kyiv, Ukraine; Institute of Food Biotechnology and Genomics NAS of Ukraine, Kyiv, Ukraine)* [134] savchuk-olja@ukr.net
10. **Karandas Ya.V., Korotun A.V., Titov I.M.** Fermi energy of a thin metal nanotube with elliptical cross-section (*Zaporizhzhya National Technical University, Zaporizhzhya, Ukraine; UAD Systems, Zaporizhzhya, Ukraine*) [41] andko@zntu.edu.ua
 11. **Karpenko O.S., Demianenko E.M., Lobanov V.V., Kartel M.T.** Complexing Properties of Nitrogen-Doped Nanomesh Graphene (*Chuiko Institute of Surface Chemistry of National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [239]: karpenkooksana@ukr.net
 12. **Khemii O.M., Budzulyak I.M., Yablon L.S., Khemii M.M., Popovych O.V.** Conductivity of β -Ni(OH)₂/C Composites Exposed to Ultrasound (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [166] khemiiolha@gmail.com
 13. **Koval' A.O., Korotun A.V., Pogosov V.V.** More on the Size Dependence of Surface Plasmons Frequency of Metal Nanoparticle (*Zaporizhzhya National Technical University, Zaporizhzhya, Ukraine*) [40] andko@zntu.edu.ua
 14. **Kovalenko A.V., Vorovsky V.Yu., Bulaniy M.F., Khmelenko O.V.** Modification of Surface of ZnO:Mn Nanocrystals Synthesized by Cryochemical Method (*Oles Honchar Dnipro National University, Dnipro, Ukraine*) [111] kovalenko.dnu@gmail.com
 15. **Kushnerov O.I., Bashev V.F.** Magnetic Properties of New High Entropy Fe₂₅B_{17.5}Co_{21.35}Nb_{3.65}Ni₂₅Si_{7.5} Metallic Glass (*Oles Honchar Dnipro National University, Dnipro, Ukraine*) [183] kushnrv@gmail.com
 16. **Lepikh Ya.I., Lavrenova T.I.** Stable Leadless Nanocomposite Material for Thick-Film Sensor Elements and Hybrid Integrated Circuits (*Interdepartmental Scientific and Educational Physical-Technical Center of the MES and NAS of Ukraine at the Odessa I.I. Mechnikov National University, Odessa, Ukraine*) [160] ndl_lepikh@onu.edu.ua
 17. **Mironyuk I., Tatarchuk T., Vasylyeva H., Gun'ko V.M., Bezruka N.A., Dmytrotsa T.V.** Surface-Modified Nanoadsorbent for the Removal of Heavy Metals and Halogen Ions from Aqueous Solution (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Uzhgorod National University, Uzhgorod, Ukraine; Chuiko Institute of Surface Chemistry, Kyiv, Ukraine; Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine*) [180] tatarchuk.tetyana@gmail.com
 18. **Mironyuk I., Vasylyeva H., Tatarchuk T., Mykytyn I., Danyliuk N.** Adsorption of Ba(II) and Zn(II) cations by mesoporous TiO₂ (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Uzhgorod National University, Uzhgorod, Ukraine*) [179] tatarchuk.tetyana@gmail.com
 19. **Peleshchak R.M., Kuzyk O.V., Dan'kiv O.O. and Bryzhko V.S.** The Influence of the Mechanical and Electric Fields. on the Nucleation of the Nanometer Structure in Semiconductors under the Action of Laser

- Irradiation (Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine) [148] rpeleshchak@ukr.net
20. **Shirinyan A.S., Bilogorodskyy Y.S., Wilde G. and Makara V.A.** Equilibrium States in Nano-Scale Binary Metallic Materials and Equilibrium Curves in the Two-Phase Region of the Phase Diagram (*"Physical-chemical materials science" center of National Academy of Sciences of Ukraine, Kyiv, Ukraine; Research and Education Institution "Cherkasy Regional Center of works with students", Cherkasy, Ukraine; Institut für Materialphysik, Westfälische Wilhelms-Universität, Münster, Germany; Kyiv National University named after T. Shevchenko, Kyiv, Ukraine*) [171] aramshirinyan@ukr.net
 21. **Shved V.M., Hreb V.M., Turchak S.L., Vasylechko L.O.** Electronic Structure of PrMO_3 ($M=\text{Co, Fe}$) Perovskites (*Lviv Polytechnic National University, Lviv, Ukraine*) crystal-lov@polynet.lviv.ua [187]
 22. **Smertenko P.S., Naumov V.V., Kernazhitsky L.A., Shymanovska V.V., Gavrilko T.A., Manuilov E.V., Solntsev V.S., Yukhymchuk V.O.** Peculiarities of dark and illuminated current-voltage characteristics of nanocrystalline anatase and rutile TiO_2 (*Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Institute of Physics, NAS of Ukraine, Kyiv, Ukraine*) [238] petrosmertenko@gmail.com
 23. **Solovyov M.V., Bovgyra O.V., Franiv I.A., Futey O.V., Solovyov V.V.** Thermo- and Photoluminescence of Tl_4CdI_6 and Tl_4HgI_6 Nanocrystals Embedded in Natural Cavities (*Ivan Franko Lviv National University, Lviv, Ukraine; National University "Lviv Polytechnic", Lviv, Ukraine*) [202] Solov_Nik@ukr.net
 24. **Solovyov M.V., Kashuba A.I., Vasyliuk S.V., Franiv A.I., Franiv V.A.** Synthesis and Growth of Tl_4CdI_6 and Tl_4HgI_6 Nanocrystals in Dielectric Matrices (*Lviv National Ivan Franko University, Lviv, Ukraine; National University "Lviv Polytechnic", Lviv, Ukraine*) [203] Solov_Nik@ukr.net
 25. **Stolyarchuk I. D., Serbin H.O., Stolyarchuk A.I.** Optical and Magneto-Optical Properties of Mn-Doped $\text{A}^{\text{II}}\text{B}^{\text{VI}}$ Quantum Dots (*Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine*) [286] istolyarchuk@ukr.net
 26. **Tereshchenko Alla, Smyntyna Valentyn, Bubniene Urte** Interaction Aspects of Nanostructured TiO_2 Thin Films and Bovine Leucosis Proteins in Photoluminescence Based Immunosensor (*Odesa National I.I. Mechnikov University, Odesa, Ukraine; Vilnius University, Vilnius, Lithuania*) [258] alla_teresc@onu.edu.ua
 27. **Tkach M.V., Seti Ju.O., Voitsekhivska O.M., Gutiv V.V.** Multi-phonon processes as mechanism of formation of resonant energy spectra in the extractors of quantum cascade detectors (*Chernivtsi National University, Chernivtsi, Ukraine*) [37] m.tkach@chnu.edu.ua
 28. **Tkachuk O.I., Terebinska M.I., Krivoruchko Ya.S., Lobanov V.V.** Manifestation of Spin-Orbit Interaction in Germanium Atoms Adsorbed on $\text{Si}(001)$ (4×2) Surface (*Chuiko Institute of Surface Chemistry of National*

- Academy of Sciences of Ukraine, Kyiv, Ukraine) [158] tkachuk_olya@bigmir.net
29. **Vaksman Yu.F., Nitsuk Yu.A.** Long-Wave Luminescence of Zinc Sulfide Group Nanocrystals (Odesa I.I. Mechnikov National University, Odesa, Ukraine) [33] vaksman_yu@onu.edu.ua
30. **Vasylechko V.O., Fedorenko V.O., Gromyko O.M., Gryshchouk G.V., Kalychak Ya.M., Tistechok S.I., Us I.L., Tupys A.M.** A novel solid-phase extraction method for preconcentration of silver and antimicrobial properties of the Na-clinoptilolite–Ag composite (Ivan Franko National University of Lviv, Lviv, Ukraine; Lviv University of Trade and Economics, Lviv, Ukraine; Lviv Polytechnic National University, Lviv, Ukraine) [81] vasylechko@ukr.net
31. **Vasylechko L.O., Lutsiuk I.V., Hreb V.M., Tupys A.M., Hurskyy S.T., Syvorotka I.I.** New $R_3Fe_5O_{12}$ -based nanocrystalline materials: synthesis, crystal structure and some magnetic properties (Lviv Polytechnic National University, Lviv, Ukraine; Ivan Franko National University of Lviv, Lviv, Ukraine; SRC “Electron-Carat”, Lviv, Ukraine) [186] crystal-lov@polynet.lviv.ua
32. **Yavorskyi Y.V., Zaulychnyy Ya.V., Dudka O.I., Kononenko Ya.A., Naumenko M., Karpets M.V.** Impact of shock-vibration treatment on the electronic structure of SiO_2+TiO_2 and $SiO_2+\alpha Fe_2O_3$ mixtures and charge capacities of lithium power sources with cathodes on their basis (Physical Engineering Faculty, National Technical University of Ukraine “Kyiv Polytechnical Institute”, Kyiv, Ukraine; Frantsevich Institute for Problems of Materials Science, Kyiv, Ukraine) mkarpets@ukr.net
33. **Zatovsky I.V., Butenko D.S., Klyui N.I., Han W.** Composite Bi-Containing Electrode for Power Energy Devices (College of Physics, Jilin University, Changchun, P.R. China; V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; International Center of Future Science, Jilin University, Changchun City, P. R. China) [257] Zvigo@yandex.ru

Session 3
Physical-chemical properties of thin films
May 24, 2019

1. **Bogatyrenko S., Kryshthal A., Minenkov A., Kruk A.** Evolution of a Solid-State Area on Au-Ni Phase Diagram at Nanoscale (*Karazin Kharkiv National University, Kharkov, Ukraine; AGH University of Science and Technology, Krakow, Poland*) [170] sib@univer.kharkov.ua
2. **Chernikova O.M., Ogorodnik Y.V.** Modelling Adsorption of H₂O and O₂ of Al Surface (*Kryviy Rih National University, Kryviy Rih, Ukraine; Radiation Monitoring Devices, Inc., Boston, USA*) [297] hmchernikova@gmail.com
3. **Dukarov S.V., Petrushenko S.I., Churilov I.G., Orlov G.O., Sukhov V.N.** Creation of Self-Organizing Nanoparticle Arrays by Thermal Dispergation of Continuous Films (*V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*) [29] petrushenko@univer.kharkov.ua **Klochko N.P., Khrypunova I.V., Klepikova K.S., Petrushenko S.I., Kopach V.R., Zhadan D.O., Khrypunova A.L., Dukarov S.V., Lyubov V.M., Kirichenko M.V.** Effect of Extraterrestrial Solar UV Radiation on Structure and Properties of ZnO Films Obtained by Wet Chemical Methods (*National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine; V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*) [5] klochko.np16@gmail.com **Mazur T.M.** Own Point Defects in Cadmium Telluride Thin Films (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) tetyana.m.mazur@gmail.com
6. **Melnichuk O., Venger Ye., Melnichuk L., Guillaume C., Portier X., Khomenkova L., Korsunska N.** Plasmon-phonon interaction in undoped and Tb-doped ZnO films studied by means of infrared spectroscopy (*Mykola Gogol State University of Nizhyn, Nizhyn, Ukraine; V.Lashkaryov ISP of NAS of Ukraine, Kyiv, Ukraine; CIMAP/ENSICAEN/Normandie Université/CEA/CNRS, 6 Blvd Marechal Juin Caen, France; National University "Kyiv-Mohyla Academy", Kyiv, Ukraine*) [68] mov310310@gmail.com
7. **Minenkov A.A.¹, Kryshthal A.P.², Bogatyrenko S.I.** Enhanced Solid-State Solubility of Ge in Nanosized Ag Films (*Karazin Kharkiv National University, Faculty of Physics and Technology, Kharkov, Ukraine; AGH University of Science and Technology, International Centre of Electron Microscopy for Material Science and Faculty of Metals Engineering and Industrial Computer Science, Krakow, Poland*) [169] alexey.a.minenkov@univer.kharkov.ua
8. **Nykyruiy L., Naidych B.** Temperature Dependencies of Surface Contribution on the Thermodynamic Properties of Lead Chalcogenide Films (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [294] bvolochanska@i.ua
9. **Nykyruiy L., Yavorskyi R., Wisz G., Zapukhlyak Z., Yavorskyi Ya., Potera P.** Effect of Annealing on Thermally Evaporated CdTe Thin Films for Photovoltaic Absorber Application (*Vasyl Stefanyk Precarpathian University,*

Ivano-Frankivsk, Ukraine; Rzeszow University, Rzeszow, Poland) [293]
roctyslaw@gmail.com

10. **Petrushenko S.I., Dukarov S.V., Bloshenko Z.V., Bulgakova O.O., Sukhov V.N.** Structure of Tin-Indium alloys in condensed films (*V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*) [28]
petrushenko@univer.kharkov.ua
11. **Prokopiv V.V.** Electrical and Optical Properties of CdTe Films (*Vasyl Stefanyk Prearpathian National University, Ivano-Frankivsk, Ukraine*) [16] prkvv@i.ua

Session 4
Thin film compounds for electronic devices, nanoelectronics
May 24, 2019

1. **Aksimentyeva O.I., Tsizh B.R., Olenych I.B.** Polymer-semiconductor hybrid systems for organic electronics (*Ivan Franko National University of Lviv, Lviv, Ukraine; Stepan Gzytsky Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine; Kazimierz Wielki University in Bydgoszcz, Bydgoszcz, Poland*) [48] aksimen@ukr.net
2. **Balabai R.M., Prikhozha Yu.O.** Intercalation of Li Atoms in a SnS₂ Anode of Battery: *ab initio* Calculation (*Kryvyi Rih State Pedagogical University, Kryvyi Rih, Ukraine*) [12] prihozhaya.yuliya93@gmail.com
3. **Balabai R. M., Solomenko A. G.** Strategy of creating integrated lateral p-n junctions in two-dimensional phosphorene, using adsorbed molecules as dopant impurities (*Kryvyi Rih State Pedagogical University, Kryvyi Rih, Ukraine*) [95] solomenko.anastasiia@gmail.com
4. **Fedorenko L.L., Litovchenko V.G., Korbutyak D.V.** Development of surface 2D lasers based on the generation of e-h exciton liquid layer (ZnO) at non-cryogenic temperatures. (*V.E. Lashkaryov ISP NASU, Kyiv, Ukraine*) [261] leonfdrn@gmail.com
5. **Kopach G.I., Dobrozhan A.I., Khrypunov G.S., Mygushchenko R.P., Kropachek O.Y., Zaitsev R.V., Meriuts A.V.** Structure and Optical Properties of CdTe and CdS Thin Films After Hard Ultraviolet Irradiation (*National Technical University «Kharkiv Polytechnic Institute», Kharkiv, Ukraine*) [18] gkopach@ukr.net
6. **Lukianov A.M., Klyui N.I., Lozinskii V.B., Dusheiko M.G, Avksentyeva L.V., Kasatkin V.P., Slepkin O.P.** Application of a-SiC_{1-x}H Films for Improvement of Silicon-Based Devices Properties in UV-VIS-IR Spectral Range (*College of Physics, Jilin University, Changchun, People's Republic of China; V. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine*) [244] lukianov@isp.kiev.ua
7. **Nedilko S.G.** Glass Ceramics Complex Oxide Films for WLED and Silicon Solar Cells (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) [129] snedilko@univ.kiev.ua
8. **Slyotov M.M., Slyotov O.M., Kushneryk L.Ya.** Obtaining and Luminescent Properties of Zinc Sulphoselenides Thin Films (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine*) [91] m.slyotov@chnu.edu.ua
9. **Sukach A.V., Tetyorkin V.V., Tkachuk A.I., Ivaschenko V.I., Porada O.K., Kozak A.O.** Space-Charge-Limited Current in A-SiCN Layers (*V. Lashkaryov Institute of Semiconductor Physics, Kyiv, Ukraine; V. Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine; Institute for Problems of Materials Sciences NAS Ukraine, Kyiv, Ukraine*) [103] atkachuk08@meta.ua

Session 5

Functional crystalline materials: growth, physical properties and applications

May 22, 2019

1. **Borcha M., Solodkiy M., Fodchuk I., Kladko V., Liubchenko O., Safriuk N.** Two- and Multi-Beam X-ray Diffraction Diffractometry of Si/SiGe Heterostructures (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; V.Ye. Lashkaryov Institute of Semiconductor Physics of NASU, Kyiv, Ukraine*) [254] m_borcha@ukr.net
2. **Brytan V.B., Uhryn Y.O., Peleshchak R.M., Bechkhalo Kh.B.** Influence of Hydrogen Passivation on the Intensity of Exciton Luminescence in Single $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$ Crystals (*Ivan Franko Drohobych State Pedagogical University, Drohobych, Ukraine*) [188] vbrytan2@gmail.com
3. **Horichok I.V., Parashchuk T.O., Wojciechowski K.T., Shemerliuk Y.V.** Point Defects and Thermoelectric Properties of PbCdTe Solid Solutions (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; The Institute of Advanced Manufacturing Technology, Krakow, Poland; AGH University of Science and Technology, Krakow, Poland*) [199] HorichokIhor@gmail.com
4. **Kovalenko A.V., Vorovskiy V.Yu., Khmelenko O.V., Vovk S.M., Plakhtii Ye.G.** Exposure of Individual Bands of Emission in the Photoluminescence Spectra of ZnO:Mn Nanocrystals (*Oles Honchar Dnipro National University, Dnipro, Ukraine*) [112] kovalenko.dnu@gmail.com
5. **Lishchynskyy I.M., Kaban I.G., Stronski A.V., Voitkiv H.V.** Structural Changes in Ge-S-Ag Glasses Depending on Ag Concentration (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Leibniz Institute for Solid State and Materials Research, Dresden, Germany; V.Lashkaryov Institute of semiconductor physics NAS Ukraine, Kyiv, Ukraine*) [193] igor.lishchynskyy@gmail.com
6. **Luzhnyi I., Khyzhun O.Y., Bekenev V.L., Lavrentyev A.A., Gabrelian B.V., Tuan V.Vu., Parasyuk O.V.** Electronic and Optical Properties of Ti_4HgI_6 and Ti_4HgBr_6 (*Frantsevych Institute for Problems of Materials Science, Kyiv, Ukraine; Don State Technical University, Rostov-on-Don, Russia; Ton Duc Thang University, Ho Chi Minh City, Vietnam; Lesya Ukrainka Eastern European National University, Lutsk, Ukraine*) [78] Luzhnyi92ivan@gmail.com
7. **Malashkevich G.E., Khottchenkova T.G., Shevchenko G.P., Bokshyts Yu.V., Tret'yak E.V.** Ultradispersed $\text{Y}_3\text{Al}_5\text{O}_{12}:\text{Ce}^{3+} + \text{Ln}_2\text{O}_3$ Phosphor with a High Luminescence Quantum Yield (*B.I. Stepanov Institute of Physics, NAS of Belarus, Minsk, Belarus Research Institute of Physicochemical Problems of BSU, Minsk, Belarus*) [70] g.malashkevich@ifanbel.bas-net.by
8. **Matkivskiy O.M., Zapukhlyak R. I., Horichok I.V., Konevych O.P., Khshanovska O.I., Mateik H.D.** Synthesis and Properties of Heterophase Materials Based on Lead Telluride Doping With Antimony (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine Ivano-Frankivsk National*

- Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine) [198] o.matkivsky@opora.org.ua
9. **Olikh Ya.M., Tymochko M.D., Olikh O.Ya.** Acoustic-Induced Temperature Hysteresis of Electrical Conductivity in CdZnTe:Cl (V.Ye. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine; Taras Shevchenko National University, Kyiv, Ukraine) [214] tymochko@ukr.net
 10. **Pazukha I.M., Pylypenko O.V.** Tenzoresistive Properties of Instrumental Film Systems Based on Py and Ag (Sumy State University, Sumy, Ukraine) [61] pylypenko.o@gmail.com
 11. **Rogacheva E.I., Doroshenko A.N., Khramova T.I., Men'shov Yu.V.** Effect of Bi on Mechanical and Transport Properties of Antimony (National Technical University "KhPI", Kharkiv, Ukraine) [303] rogachova.olena@gmail.com
 12. **Shendyukov V.S., Perevoznikov S.S., Tsybul'skaya L.S.** Effect of annealing on the magnetoresistance of Bismuth coatings (Belarusian State University, Minsk, Belarus) [66] Tsybul@bsu.by
 13. **Stronski A., Kavetsky T., Revutska L., Kaban I., Shportko K., Baran J., Trzebiatowska M.** Raman Spectroscopy and EXAFS Studies of Structural Peculiarities of As₂S₃-As₂Se₃ Chalcogenide Glasses (V.E. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine; Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine; The John Paul II Catholic University of Lublin, Lublin, Poland; National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine; IFW Dresden, Institute for Complex Materials, Dresden, Germany; W. Trzebiatowski Institute of Low Temperatures and Structure Research, Polish Academy of Sciences, Wroclaw, Poland) [172] alexander.stronski@gmail.com
 14. **Tretyak A.P., Bulatetska L.V., Bozhko V.V., Bulatetsky V.V.** Thermally Stimulated Conductivity AgCd₂GaS₄ Crystals (Lesya Ukrainka Eastern European National University, Luts'k, Ukraine) [234] fttkaf@gmail.com
 15. **Uhrin Robert.** Hydrothermal Growth of ZnO Crystals Under Mild Conditions Utilizing Thermodynamics (XLight Corporation, Mendham, New Jersey, USA) [221] ruhrin@aol.com

Session 6
Thin films technology for energy application
May 24, 2019

1. **Korkishko R.M., Litovchenko V.G., Kostylyov V.P., Chernenko V.V., Dvernikov B.F.** Mobile Combined Photovoltaic / Wind Power Station for Autonomous Power Supply of Electronic Equipment (V. *Lashkaryov Institute of Semiconductor Physics National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [155] romkin.ua@gmail.com
1. **Mamykin S.V., Lunko T.S., Kondratenko O.S., Kondratenko S.V., Mamontova I.B., Kotova N.V., Romanyuk V.R.** Hybrid PEDOT:PSS/Si Solar Cells with Nanostructured Interface (V.E. *Lashkaryov Institute of Semiconductor Physics National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [282] mamykin@isp.kiev.ua
2. **Vlasiuk V.M., Belous A.G., Kobylanska S.D., Kostylyov V.P., Sachenko A.V., Sokolovskyi I.O., Torchyniuk P.V., V'yunov O.I.** Structural, Photoelectrical and Optical Properties of the Organic-Inorganic Perovskites Investigated by Noncontact Methods (V. *Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine; Vernadsky Institute of General and Inorganic Chemistry, National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [156] viktorvlasiuk@gmail.com
3. **Vlasiuk V.M., Dvernikov B.F., Evstigneev M., Kostylyov V.P., Sachenko A.V., Serba O.A., Sokolovskyi I.O.** Optimization Of the High Efficiency Silicon Solar Cells with Texturized Surface (V. *Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine; Memorial University of Newfoundland, St. John's, Canada*) [157] viktorvlasiuk@gmail.com

Session 7
Innovative methods for teaching

May 24, 2019

1. **Chumak Mykola.** The Role of Foreign Trips of Scientists in the Development of Physics and Methods of Physics Teaching (*M.P. Dragomanov National Pedagogical University, Kyiv, Ukraine*) [217] chumak.m.e@gmail.com
2. **Hladun Tetiana.** Purpose and Objectives of Ecological Education (*M.P. Dragomanov National Pedagogical University, Kyiv, Ukraine*) [219] gladunt@ukr.net
3. **Kivgilo V., Semikina T.V.** Software systems for studying and modeling the operation of electronic circuit components and boards (*National Technical University of Ukraine named I. Sikorsky "KPI", Kyiv, Ukraine; Institute of semiconductor physics named V.Lashkarev NANU, Kyiv, Ukraine*) [17] kivgilov1902@gmail.com
4. **Shkurenko Olexandra.** Application of the Project Method in the Educational Process of the Modern School (*Kyiv Boris Hrinchenko University, Kyiv, Ukraine*) [220] aleksandritta7@gmail.com
5. **Stetsyk Sergii.** Possibilities of Mobile Technologies as a Means of Preparing Future Teachers. (*M.P. Dragomanov National Pedagogical University, Kyiv, Ukraine*) [218] kmf_npu@ukr.net
6. **Syrotyuk Volodymyr.** The Role of Professionally-Oriented Disciplines in the Training of a Physics Teacher (*M.P. Dragomanov National Pedagogical University, Kyiv, Ukraine*) [216] kmf_npu@ukr.net
7. **Tafiy D.P., Vasylyev O.V., Vasylyeva H.V.** The Role of Psychological Science in the Formation of the Correct Perception of the Concepts of 'Radioactivity', 'Atomic Energy' or 'Radiochemistry' (*Uzhgorod National University, Uzhgorod, Ukraine*) [173] h.v.vasylyeva@hotmail.com
8. **Tkachuk R.Z.** The Development of Children's Enthusiasm for Electronics by Applying Nanomaterials for Drones (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [197] romvirtu@gmail.com
9. **Voitkiv H.V., Lishchynskyy I.M.** The Development of Critical Thinking of Students at the Physics Lessons (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [215] h.voitkiv@gmail.com

POSTER REPORTS

Session 1

Thin films technology (metals, semiconductors, dielectrics, conductive polymers) and their research methods

May 21, 22, 24, 2019

1. **Barabash M.Yu., Vlaykov G.G., Litvin R.V., Martynchuk V.E., Kolesnichenko A.A., Rybov L.V.** Electrodynamics of metal-dielectric layers (*Technical Centre NAS of Ukraine, Kyiv, Ukraine*) [2] mbarabash@nasu.kiev.ua
2. **Barabash M.Yu., Vlaykov G.G., Litvin R.V., Kolesnichenko A.A., Martynchuk V.E., Ryabov L.V.** Identification of Optical Resonances in Amorphous Carbon Films on a Glass Substrate (*Technical Centre NAS of Ukraine, Kyiv, Ukraine*) [3] mbarabash@nasu.kiev.ua
3. **Bordun O.M., Bordun B.O., Kukharskyi I.Yo., Medvid I.I.** The Influence of Receiving Conditions on the Structure and Morphology of the Surface of Thin Films β -Ga₂O₃ and (Y_{0.06}Ga_{0.94})₂O₃ (*Ivan Franko National University of L'viv, Lviv, Ukraine*) [259] bordun@electronics.lnu.edu.ua
4. **Chayka M.V., Tomashyk Z.F., Tomashyk V.M., Denysyuk R.O., Malanych G.P.** Development of Method of Layers Removing from the CdTe and Zn_xCd_{1-x}Te Surfaces by the K₂Cr₂O₇ – HBr – Lactic Acid Etchants (*Zhytomyr Ivan Franko State University, Zhytomyr, Ukraine, V.E. Lashkaryov Institute for Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [67] laridae92@gmail.com
5. **Chukova O.V., Kondratenko S.V., Naumenko S.M., Nedilko S.A., Nedilko S.G., Revo S.L., Sheludko V.I., Slipets A.A., Voitenko T.A.** Synthesis and Morphology of Films Incorporated by luminescent Ortovannadate Nanoparticles (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; O. Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv Sumy region, Ukraine*) [140] chukova@univ.kiev.ua
6. **Dzeryn M.R., Tsizh B.R., Horbenko Yu.Yu., Aksimentyeva O.I., Olenych I.B., Bogatyrev V.M.** Effect of the modified silica on the conductivity and sensory properties of polyaniline nanocomposites (*Stepan Gzytsky Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine; Kazimierz Wielki University in Bydgoszcz, Bydgoszcz, Poland; Ivan Franko National University of Lviv, Lviv, Ukraine; O. O. Chuiko Institute of Surface Chemistry NAS of Ukraine, Kyiv, Ukraine*) [47] marjawka232@ukr.net
7. **Efremov A.A., Lytvyn P.M., Prokopenko I.V.** Reconstruction of the Real Magnetic Structure by Simulations and Artificial Neural Network Processing of Multi-Pass Magnetic Force Microscopy Data (*V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine.*) [123] plyt@isp.kiev.ua
8. **Fedosov S.N., Carr P., Sergeeva A.E.** Poling of Side-Chain Non-Linear Optical Thin Polymer Films During Their Solidification (*Odessa National*

- Academy of Food Technologies, Odessa, Ukraine; University of Leeds, Leeds, UK) [6] snfedosov@ukr.net
9. **Fedosov S.N., Giacometti J.A., Sergeeva A.E.** Dielectric Relaxation in Polystyrene Thin Films Doped with DR1 Guest Molecules (*Odessa National Academy of Food Technologies, Odessa,; Instituto de Física de São Carlos, Universidade de São Paulo, Brazil*) [7] snfedosov@ukr.net
 10. **Gab A.I., Kublanovsky V.S., Pleshkun A.G., Malyshev V.V.** Electrodeposition of Molybdenum Carbide onto the Surface of Silicon Carbide and Boron Carbide Disperse Materials from Ionic Melts (*University "Ukraine", Kyiv, Ukraine; Institute of General and Inorganic Chemistry, Kyiv, Ukraine*) [101] lina_gab@ukr.net
 11. **Horbenko Yu.Yu., Konopelnyk O.I., Mykhalec A.V., Matkivska H.M.** Electrooptical transitions in thin films of conjugated polymers doped with graphene oxide (*Ivan Franko National University of Lviv, Lviv, Ukraine*) [108] y_bilka@ukr.net
 12. **Karas' M.I., Karachevtseva L.A., Onyshchenko V.F.** Photoconductivity relaxation in the macroporous silicon in the ultraviolet range of the optical spectrum (*Lashkryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [53] nikar@isp.kiev.ua
 13. **Klymov O.V., Kurbatov D.I., Kudiy D.A.** The Optical Features of $Zn_{1-x}Mn_xTe$ Thin Film (*Sumy State University, Sumy, Ukraine; National Technical Universit Kharkivsky Polytechnic Institute, Kharkiv, Ukraine*) [247] dkurbatov@sumdu.edu.ua
 14. **Kosminska Yu.O., Korniyushchenko G.S., Natalych V.V., Perekrestov V.I.** Formation of Multicomponent Metal Coatings on Inner Surfaces of Low Diameter Pipes (*Sumy State University, Sumy, Ukraine*) [230] y.kosminska@phe.sumdu.edu.ua
 15. **Kosynska O.L., Sheveleva K.Yu.** Influence of Cooling Regimes on the Crystallization Kinetics of Metal Alloys (*Dniprovsk State Technical University, Kam'yanske, Ukraine*), [163] krao@ua.fm
 16. **Lutsyk N.Yu, Mykolaychuk O.G.** Structure and Conditions for Forming Nanocrystallites of GaSb in Thin Films GaSb-Ge System (*Ivan Franko National University of Lviv, Lviv, Ukraine*) [147] nyuluts@i.ua
 17. **Lysenko A.B., Kalinina T.V, Zagorulko., I.V., Kugai N.A.** Effect of Heat Treatment on Structure and Properties of Chemically Precipitated Coatings $Ni_{88}P_{12}$ (*Dniprovsk State Technical University, Kam'yanske, Ukraine*) [113] Zagorylko@ukr.net
 18. **Malanych G.P., Tomashyk V.M.** Effective Methods of Mechanical and Chemical Treatments of PbTe and $Pb_{1-x}Sn_xTe$ Crystals Surfaces (*V. Lashkaryov Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine*) [19] galya.malanich@gmail.com
 19. **Malyuta S.V., Lytvyn P.M., Lytvyn O.S., Efremov A.A., Prokopenko I.V.** Practical Atomic Force Spectroscopy Assisted by Artificial Neural Networks (*V.E. Lashkaryov Institute of Semiconductor Physics NAS Ukraine, Kyiv, Ukraine; National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic*

- Institute», Kyiv, Ukraine; Borys Grinchenko Kyiv University, Kyiv, Ukraine)* [138] plyt@isp.kiev.ua
20. **Mazur T.M., Makhniy V.P., Berezovsky M.M., Kinzerska O.V.** Analysis of the Methods of Obtaining CdTe Layers with Sub-Stepped Defective Punched Conductivity (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Ivano-Frankivsk National Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine; Yuri Fedkovich Chernivtsi National University, Chernivtsi, Ukraine*) [76] tetyana.m.mazur@gmail.com
21. **Molnar S., Bohdan R., Nagy Gy., Rajta I., Makauz I., Shipljak M., Pinzenik V., Kokenyesi S.** Surface Patterning of Amorphous Chalcogenide Layers by Light- and Ion-Beams (*Institute of Physics, University of Debrecen, Debrecen, Hungary; Institute of Nuclear Research, Hungarian Academy of Sciences, Debrecen, Hungary; Uzhgorod National University, Uzhgorod, Ukraine*) [161] kiki@science.unideb.hu
22. **Novikov S., Balovsky S., Yaremchuk I., Romankevich V.** Reconstitution of Strain Distribution from X-Ray Moiré Images by Characteristics of the Fourier Energy Spectrum (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine*) [250] ifodchuk@ukr.net
23. **Ohtsuka M., Sergiienko R., Petrovska S., Ilkiv B., Nakamura T.** Structural, Optical and Electrical Properties of Iron-Doped Indium-Saving Indium-Tin Oxide Thin Films Sputtered on Preheated Substrates (*Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, Sendai, Japan; National Academy of Science of Ukraine, Physico-Technological Institute of Metals and Alloys, Kyiv, Ukraine; National Academy of Science of Ukraine, Frantsevich Institute for Problems of Materials Science, Kyiv, Ukraine*) [189] sw.piotrowska@gmail.com
24. **Ostafiychuk B.K., Poplavskiy I.O.** Structure and Analysis of Element Composition of MgO Films (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [266] omeliantru@gmail.com
25. **Perevoznikov S.S., Shendyukov V.S., Tsybulskaya L.S., Poznyak S.K., Maltanova A.M.** Novel methods of titanium blackening (*Belarusian State University, Minsk, Belarus*) [63] PerevoznikovS@yandex.ru
26. **Prysyazhnyuk V.I., Mykolaychuk O.G.** Stability of Structure and Magnetic Properties of Gd-Fe Films (*Ivan Franko National University of Lviv, Lviv, Ukraine*) [178] prysjan@i.ua
27. **Rubish V.M., Yasinko T.I., Pop M.M., Mykaylo O.A., Makar L.I., Kryuchyn A.A., Kostyukevich S.O., Veres M., Holomb R.M., Himics L.** Structural Changes in $\text{As}_{40-x}\text{Sb}_x\text{S}_{60}$ Films under Laser Irradiation (*Institute for Information Recording, NAS of Ukraine, Uzhhorod, Ukraine; Uzhhorod National University, Uzhhorod, Ukraine; V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Wigner Research Centre for Physics, Hungarian Academy of Sciences, Budapest, Hungary*) [225] center.uzh@gmail.com
28. **Saliy Ya.P.** Surface Morphology of Thin Films (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [241] saliyyaroslav@gmail.com

29. **Semikina T.V., Mamykin S.V., Shmyrieva L.N.** Optical and Electrical Properties of CdTe Polycrystalline Films Obtained by Quasi-Closed Sublimation Method (*Institute of semiconductor physics named V.Lashkarev NANU, Kyiv, Ukraine; National Technical University of Ukraine named I. Sikorsky "KPI", Kyiv, Ukraine*) [1] tanyasemikina@gmail.com
30. **Shchotkin V.V., Pazukha I.M.** Magnetoresistive Properties of Ferromagnetic-Insulator Nanocomposites at the Percolation Boundary (*Sumy State University, Sumy, Ukraine*) [34] v.shchotkin@aph.sumdu.edu.ua
31. **Shumakova N.I., Protsenko Z.M.** Electrochemical Production of Silicon from Chloride-Fluoride Melts (*Sumy State University, Sumy, Ukraine; SMS State Pedagogical University named after A.S. Makarenko, Sumy, Ukraine*) [119] nshumakova@ukr.net
32. **Strebezhev V.M., Kleto G.I., Fochuk P.M., Yuriychuk I.M., Pylypko V.G., Strebezhev V.V.** Morphology and properties of $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$ and CdSb thin films obtained by RF-cathode sputtering (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine*) [136] v.strebezhev@chnu.edu.ua
33. **Strilchuk O., Rashkovetskyi L., Maslov V., Plyatsko S., Lyapina A. Gromovyi Yu.** Photoluminescence Features of the CdZnTe Thin Films Irradiated by Fast Neutrons (*Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine*) [96] strilchuk@isp.kiev.ua
34. **Todoran R.D., Todoran D.C., Szakacs Zs.L.** Comparative study of electrical conductance dependence on temperature for RNi_5 ($\text{R}=\text{Ce}, \text{La}$) thin films (*Technical University of Cluj Napoca, North University Center of Baia Mare, Baia Mare, Maramures, Romania*) [45] todoran_radu@yahoo.com
35. **Uskova N.N., Shakhnin D.B., Pasishnyk O.V., Malyshev V.V.** Theoretical fundamentals and electrolysis conditions influence on tungsten thin films electrodeposition from halide-oxide and oxide melts Institute of General and Inorganic (*Institute of General and Inorganic Chemistry, Kyiv, Ukraine; University "Ukraine", Kyiv, Ukraine*) [99] viktor.malyshev.igic@gmail.com
36. **Uskova N.N., Shakhnin D.B., Rybalchenko D.S., Malyshev V.V.** The influence of silver on the molybdenum carbide thin films electrodeposition from tungstate-molybdate melts (*Institute of General and Inorganic Chemistry, Kyiv, Ukraine; University "Ukraine", Kyiv, Ukraine*) [100] viktor.malyshev.igic@gmail.com

Session 2

Nanotechnologies and nanomaterials, quantum-size structures

May 21, 22, 24, 2019

1. **Akinshau K.A.** Spectral and Luminescent Properties Of Sb-Containing Sol-Gel Silica Glasses Co-Doped with Al and B (*B.I. Stepanov Institute of Physics, NASB, Minsk, Belarus*) [121] akinshau@ifanbel.basnet.by
2. **Aliksandrov M.A., Pinchuk-Rugal T.M., Dmytrenko O.P., Kulish M.P., Poprugko V.M.** Intramolecular Structure and Conductive Characteristics of Polyethylene Composites with Multi-Wall Carbon Nanotubes and Dyes (*Taras Shevchenko Kyiv National University, Kyiv, Ukraine*) [110] mmarafon@gmail.com
3. **Baibara A.E., Bugaiova M.E., Lashkarev G.V., Radchenko M.V., Stelmakh Y.A., Krushynskaya L.A., Knoff W., Story T., Dmitriev A.I.** The influence of magnetic oxygen vacancies on resonant phenomena in Co/Al₂O₃ nanocomposite films (*I.M. Frantsevich Institute for Problems of Material Science, National Academy of Sciences of Ukraine, Kyiv, Ukraine; E.O. Paton Electric Welding Institute, National Academy of Sciences of Ukraine, Kyiv, Ukraine; Institute of Physics, Polish Academy of Sciences, Warsaw, Poland*) [141] gvl35@gmail.com
4. **Bardashevskaya S.D., Budzulyak I.M., Budzulyak S. I., Rachiy B.I., Yablon L.S., Morushko O.V.** Synthesis and Optical Properties of Quantum Dots ZnSe:C (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [152] ivan-budzulyak@ukr.net
5. **Bilozeretseva V., Diakonenko N., Ovcharenko O.** Modeling of Photon Crystals of Microwave Range Using Interference Matrixes (*National Technical University "Kharkov Polytechnic Institute" V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*) [162] dnina490@gmail.com
apomira20b@gmail.com
6. **Boltovets P.M., Snopok B.A.** Ionic Strength-Responsive Bioarchitectures: Analysis within the Model of Variative Refraction (*V.Ye. Lashkaryov Institute of Semiconductor Physics NASU, Kyiv, Ukraine*) [116] paraskeva2013@gmail.com
7. **Borysiuk V., Nedilko S., Hizhnyi Yu.** Theoretical and Experimental Studies of Cr(Vi)-Containing Molecular Anions Adsorption on the Surface of Carbon Nanostructures (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) [127] borysyukvictor@gmail.com
8. **Budzulyak S.I., Kapush O.A., Korbutyak D.V., Ermakov V.M., Kosinov O.H., Kulchytskiy B.N., Gatilov S.E.** Metal Nanoparticles – Semiconductor Nanocrystals Composites (*V.Ye. Lashkaryov Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine*) [117] buser@ukr.net

9. **Fedorenkova L.I.** The diffusion layer formation at the aluminum surface in the nonequilibrium conditions of electrolyte plasma (*Oles Honchar Dnipro National University, Dnipro, Ukraine*) [4] Luba.Fed@gmail.com
10. **Filonenko O., Kuts V., Lobanov V.** Quantumchemical Calculation of ^{29}Si NMR Spectrum of Silicic Acid Molecules $[\text{HOSiO}_{1.5}]_n$ (*A.A.Chuiko Institute of Surface Chemistry of National Academy of Sciences, Kyiv, Ukraine*) [83] filonenko_ov@ukr.net
11. **Galiy P.V., Nenchuk T.M., Mazur P., Poplavskyy O.P.** Formation of indium nanowires on (100) surface of In_4Se_3 layered crystal (*Ivan Franko Lviv National University, Lviv, Ukraine; University of Wroclaw, Wroclaw, Poland; Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [58] galiy@electronics.lnu.edu.ua
12. **Grytsenko K., Lytvyn P., Navozenko O., Kryuchyn A., Ksianzou V., Schrader S.** Oriented Organic Films on Aligned Polymer Surfaces (*Institute of Semiconductor Physics, NASU, Kyiv, Ukraine; T. Shevchenko Kyiv State University, Kyiv, Ukraine; Institute for Information Recording Problems, NASU, Kyiv, Ukraine; University of Applied Sciences Wildau, Wildau, Germany*) [159] kryuchyn@ipri.kiev.ua
13. **Guba S., Galan I., Kost Ya.** Kinetics Formation of InAs Quantum Dots in GaAs – QD InAs - GaAs Heteronanowhisker Structure by CVD – Method (*Lviv Polytechnic National University, Lviv, Ukraine*) [177] gubask@polynet.lviv.ua
14. **Hreshchuk O.M., Yukhymchuk V.O., Valakh M.Ya., Dzhagan V.M., Danko V.A., Lytvyn P.M.** Effective nanostructured SERS substrates are made by photolithography (*V. Lashkaryov Institute of Semiconductor Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [89] Hreshchuk@gmail.com
15. **Kachmar A.I., Boichuk V.M., Budzulyak I.M., Kotsyubynsky V.O., Rachiy B.I., Yablon L.S.** Electrochemical Properties of Nitrogen-Doped Porous Carbon (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [153] andrij.nj@gmail.com
16. **Kalashnyk Yu.Yu., Klimovskaya A.I., Oberemok O.C., Pedchenko Yu.M., Lytvyn P.M.** Formation of Gold Islands on Oxidized Silicon Substrate (*Lashkaryovs Institute of Semiconductor Physics, National Academy of Sciences, Kyiv, Ukraine*) [296] yu.kalashnik@gmail.com
17. **Karas' M.I., Karachevtseva L.A., Onyshchenko V.F.** Photoconductivity of macroporous and monocrystalline silicon in conditions of strong surface light absorption (*Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [54] nikar@isp.kiev.ua
18. **Kolkovska H.M., Mokhnatskyi M.L., Yaremiy I.P., Kolkovskyi P.I.** Perovskite-Type Material of LaFeO_3 for Solar Cells Applications (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [260] galyna.godovska@gmail.com
19. **Kolupaev B.S., Levchuk V.V., Lyashuk T.G.** Influence of metal-dispersed filler on the relaxation component of visco-elastic modules and internal

- friction of polyvinyl chloride based composites (*Rivne state university of humanities, Rivne, Ukraine*) [72] Levchuk_VV@ukr.net
20. **Kolupaev B.B., Maksymtsev Yu.R., Sidletsky V.O.** Background component of internal friction in PVC filled with nanodispersed metal (*Institute of cybernetics of the Rivne International university of economics and humanities named after Academician Stepan Demianchuk Rivne, Ukraine; Rivne state university of humanities, Rivne, Ukraine*) [73] vsidletsky70@gmail.com
 21. **Kondrat O., Holomb R., Mitsa V., Veres M., Csik A., Takáts V., Tsud N., Vondráček M., Matolin V. and Prince K.C.** Reversible Laser Assisted Structural Modification of the Surface of As Rich As-Se Nanolayers (*Uzhhorod National University, Uzhhorod, Ukraine; Wigner Research Centre for Physics, Hungarian Academy of Sciences, Budapest, Hungary; Institute for Nuclear Research, Hungarian Academy of Sciences, Debrecen, Hungary; Charles University, Prague, Czech Republic; Institute of Physics, Academy of Science of the Czech Republic, Prague, Czech Republic; Elettra-Sincrotrone Trieste S.C.p.A., in Area Science Park, Basovizza (Trieste), Italy*) [164] oleksandr.kondrat@uzhnu.edu.ua
 22. **Kopeliovich A.I., Petrenko L.G.** Transport and Magnetic Phenomena in Nano-Conductors with Weak Shielding of Field (*National Technical University "Kharkov Polytechnic Institute", Kharkiv, Ukraine*) [22] linagpetrenko@gmail.com
 23. **Kornyushchenko A.S., Perekrestov V.I., Kosminska Y.O.** Formation Peculiarities of Fractal Percolation ZnO/NiO Nanosystems (*Sumy State University, Sumy, Ukraine*) [205] a.kornyushchenko@mss.sumdu.edu.ua
 24. **Kouhar V., Akinshau K., Stepko A., Shakhgildyan G., Lotarev S.** Optical Properties of Au-Containing Glasses Co-Doped with Eu and Er (*B.I. Stepanov Institute of Physics, NAS of Belarus, Minsk, Belarus; Mendeleev University of Chemical Technology of Russia, Moscow, Russia*) [75] v.kouhar@ifanbel.bas-net.by
 25. **Kytsya A.R., Bazylyak L.I., Pobigun-Halaiska O.I.** Synthesis of Ni@Ag Bimetallic Nanostructures as the Fillers for Electroconductive Composites (*Institute of Physical–Organic Chemistry and Coal Chemistry named after L. M. Lytvynenko of the National Academy of Sciences of Ukraine, Lviv, Ukraine*) [46] andriy_kytsya@yahoo.com
 26. **Lukienko I.M., Stetsenko O.M., Kharchenko M.F.** Magneto-optical Kerr and Faraday Effects in Multilayer Co/Cu(111) Nanofilms (*B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine; National Technical University "Kharkov Polytechnical Institute", Kharkov, Ukraine*) [15] lukijenko@ilt.kharkov.ua
 27. **Luniov S.V., Koval Yu.V.** Band Structure of the Strained Germanium Nanofilm (*Lutsk National Technical University, Lutsk, Ukraine*) [227] luniovser@ukr.net

28. **Martynenko I. M., Odnodvoretz L.V., Shumakova N.I.** Influence of Substrate Material on Properties Fullerite Films (*Sumy State University, Sumy, Ukraine*) [132] nshumakova@ukr.net
29. **Moskalenko S.A., Moskalenko V.A., Podlesny I.V., Zubac I.A.** Two-Dimensional Magnetoexcitons with Linear Dispersion Law Interacting with Quantum Point Vortices (*Institute of Applied Physics, Chişinău, Republic of Moldova*) [74] exciton@phys.asm.md
30. **Nazarov A.N., Okholin P.N., Gomeniuk Yu.V., Stepanov V.G., Glotov V.I., Nazarova T.M., Duffy R.** Low-Temperature Rf Plasma Monolayer Doping of Si Nanowires (*Lashkarov Institute of Semiconductor Physics NASU, Kyiv, Ukraine; Institute of Microdevices NAS of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine “Igor Sikorsky KPI”, Kyiv, Ukraine; Tyndall National Institute, University College Cork, Cork, Ireland*) [242] nazarov@lab15.kiev.ua
31. **Nosenko V.V., Korsunskaya N.E., Baran N.P., Vorona I.P., Khomenkova L.Yu.** EPR of Cu-doped Y- stabilized ZrO₂ nanopowders (V. Lashkaryov Institute of Semiconductor Physics, Natl. Acad. of Sci. of Ukraine, Kyiv, Ukraine) [90] vvnosenko@ukr.net
32. **Nyzhnykevych V.V., Luchytskyi R.M.** Scattering Mechanisms in Crystals PbS p-Type Conductivity (*Ivano-Frankivsk National University of Oil and Gas, Ivano- Ivankivsk Ukraine*) [272] galuschak@nung.edu.ua
33. **Oliinyk Z.M., Korolyshyn A.V., Mudry S.I.** Model Description of Short Range Order in Liquid Intermetallics (*Ivan Franko National University of Lviv, Lviv, Ukraine*) [204] andrykorol@gmail.com
34. **Onanko A.P., Kulish M.P., Dmitrenko O.P., Pinchuk-Rugal T.M., Aleksandrov M.A., Busko T.O., Pavlenko O.L., Charny D.V., Onanko Y.A., Kurochka L.I.** Concentration Dependence of Mechanical Characteristics of Carbon Nanotubes and Polyethylene, Radiation Cross-Linked Hydrogels, Expanded Polystyrene (*Taras Shevchenko Kyiv National University, Kyiv, Ukraine*) [125] onanko@univ.kiev.ua
35. **Onanko A.P., Kulish M.P., Dmitrenko O.P., Pinchuk-Rugal T.M., Aleksandrov M.A., Busko T.O., Pavlenko O.L., Charny D.V., Onanko Y.A., Rozhkovskiy O.M.** Mechanical Characteristics of Carbon Nanotubes and Polyethylene, Radiation Cross-Linked Hydrogels, Expanded Polystyrene (*Taras Shevchenko Kyiv National University, Kyiv, Ukraine*) [124] onanko@univ.kiev.ua
36. **Ostafiychuk B.K., Bushkova V.S., Yaremiy I.P.** Sol-Gel Synthesis of Nanostructured Nickel-Cadmium Ferrites and Their Optical, Electrical and Magnetic Properties (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [256] bushkovavira@gmail.com
37. **Paiuk O., Meshalkin A., Stronski A., Achimova E., Abashkin V., Prisacar A., Triduh G., Korchovyi A., Kidalov V.** Holographic gratings recording in Yb doped As₂S₃-Se nanomultilayer structures (V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Institute

- of Applied Physics, Chisinau, Moldova; Berdiansk State Pedagogical University, Berdiansk, Ukraine) [109] paiuk@ua.fm
38. **Pavlenko O.L., Busko T.O., Lesiuk A.I., Nikolayenko T.Yu., Pundyk I.P., Dmytrenko O.P., Kachkovsky O.D.** Electron structure and optical properties of conjugated systems with fullerenes (Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; Institute of Bioorganic Chemistry and Petrochemistry, NAS of Ukraine, Kyiv, Ukraine) [86] olpavl57@gmail.com
39. **Rachiy B.I., Revo S.L., Budzulyak I.M., Lisovsky R.P., Musiy R.Y.** Electrode Material for Supercapacitors Based on Thermally Exfoliated Graphite (Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; Department of Physical Chemistry of Fossil Fuels InPOCC, National Academy of Sciences of Ukraine, Lviv, Ukraine) [149] bogdan_rachiy@ukr.net
40. **Rokytska H.V., Stoliarova S.S., Rokytskyi M.O., Shut M.I.** Features of the Heat Conductivity of Penton Filled by MWCNT (National Pedagogical Dragomanov University, Kyiv, Ukraine) [276] galinadarla@gmail.com
41. **Rokytskyi M.O., Sichkar T.G., Shut A.M., Tulzhenkova O.S., Shut M.I.** Acoustic properties of polymer nanocomposite system polychlorotrifluoroethylene - tin dioxide (National Pedagogical Dragomanov University, Kyiv, Ukraine) [275] maksal@bigmir.net
42. **Sakhnyuk V.E., Zamurujeva O.V., Fedosov S.A., Dmytruk O.V.** Resonant Tunneling Through Graphene-Based Double-Barrier Structure (Lesya Ukrainka Eastern European National University, Luts'k, Ukraine) [210] sve2008@ukr.net
43. **Semko T.O., Ogorodnik Y.V., Halushchak M.O., Mudryj S.I.** Nanocrystalline Thermoelectric Materials Based on Pb (Sn)-Ag-Te Compounds (Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk; Radiation Monitoring Devices, Inc., Boston, USA; Ivano-Frankivsk National Technical University of Oil and Gas, Ivano-Frankivsk, Ukraine; Ivan Franko National University of Lviv, Lviv, Ukraine) [192] semko@i.ua
44. **Seneta M.Ya., Slyusarchuk Yu.M., Gal' Yu.M., Peleshchak R.M., Chopyk P.Ya.** The Theory of Electron States on the Dynamically Deformed Adsorbed Surface of Semiconductor With a Zinc Blende Structure (Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine; Lviv Polytechnic National University, Lviv, Ukraine) [185] marsen18@i.ua
45. **Shepida M.V., Nichkalo S.I.** Determination of Optimal Conditions for the Deposition of Gold Nanofilms on a Silicon by Galvanic Replacement Method (Lviv Polytechnic National University, Lviv, Ukraine) [277] maryana_shepida@ukr.net

46. **Skorenkyy Yu.** Phase Transitions in a Model of BEDT-TTF Compound Electron Subsystem (*Ternopil Ivan Puluj National Technical University, Ternopil, Ukraine*) [237] skorenkyy@tntu.edu.ua
47. **Smirnova O.V., Grebenyuk A.G., Lobanov V.V.** Spatial Structure of the Adsorption Complex of Water Molecules on TiO₂ Films (*Chuiko Institute of Surface Chemistry of National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [182] osmirnova@isc.gov.ua
48. **Smyntyna V.A., Skobeeva V.M., Verheles K.A., Malushin N.V.** Influence of Technology on the Formation Of Luminescence Centers in QDs CdS (*Odessa National University named after I.I. Mechnikov, Odessa, Ukraine*) [299] v.skobeeva@ukr.net
49. **Turko B.I., Nikolenko A.S., Sadovyi B.S., Toporovska L.R., Rudko M.S., Kapustianyk V.B., Strelchuk V.V., Panasyuk M.R., Serkiz R.Y.** Electroluminescence from n-ZnO Microdisks/p-GaN Heterostructure (*Ivan Franko National University of Lviv, Lviv, Ukraine; V.E. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine; Institute of High Pressure Physics PAS, Warsaw, Poland*) [10] tyrko_borys@ukr.net
50. **Tur Y., Virt I.S.** Quantum Dots Grown by Femtosecond Laser Ablation (*Drogobych State Pedagogical University, Drogobych, Ukraine; University of Rzeszow, Rzeszow, Poland*) [32] tur2014@meta.ua
51. **Tytarenko V.V., Zabludovsky V.A., Shtapenko E.Ph.** Structure and Properties of Composite Nickel Coatings Obtained by Pulsed Current (*Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan, Dnipro, Ukraine*) [51] dudkina2@ukr.net
52. **Vashchynskyi V.M.** Surface Structural Properties of Chemically Modified Carbon (*Separate Structural Department Technology College of Lviv Polytechnic National University, Lviv, Ukraine*) [200] v.vashchynskyi@gmail.com
53. **Vasin A.V., Virnyi D., Isaieva O.F., Kysil D.V., Rudko G.Yu., Kalytchuk S., Piryatinski Yu.P., Sevostianov S.V., Tertykh V.A., Nazarov A.N., Lysenko V.S.** Comparative Study of the Luminescent Properties of Chemically Synthesized Carbon Nanodots Dispersed in Oligomeric Silsesquioxane Polymer and Carbon Nanoaggregates Pyrolytically Synthesized and Dispersed in Fumed Silica Nanopowder (*Lashkaryov Institute of Semiconductor Physics of the NAS of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky KPI", Kyiv, Ukraine; Institute of Surface Chemistry of the NAS of Ukraine, Kyiv, Ukraine; Palacký University Olomouc, Olomouc, Czech Republic; Institute of Physics of the NAS of Ukraine, Kyiv, Ukraine*) [284] av966@yahoo.com
54. **Voznyak O.M., Voznyak O.O.** Simulation of Particles Scattering on Nanostructures with the Potential of an Arbitrary Form Using the Method of Analytical Transfer-Matrix (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [270] voznyakorest@gmail.com

Session 3
Physical-chemical properties of thin films
May 21, 22, 24, 2019

1. **Domantsevich N.I., Yatsyshyn B.P.** Accelerated studies of multilayer polymer film materials for electronic devices (*Lviv Trade and Economic University, Lviv, Ukraine; National University "Lviv Polytechnic", Lviv, Ukraine*) [43] bogdan.yatsyshyn7@gmail.com
2. **Domantsevich N.I., Yatsyshyn B.P.** Conductive characteristics of thin-film composite materials with mineral fillers (*Lviv Trade and Economic University, Lviv, Ukraine; National University "Lviv Polytechnic", Lviv, Ukraine*) [42] bogdan.yatsyshyn7@gmail.com
3. **Dranenko A.S., Koshelev M.V.** Structure and Thermal Stresses of TiN Films Produced by Magnetron Method (*Frantsevich Institute for Problems of Materials Science of NASU, Kyiv, Ukraine*) [11] silica-lum@ukr.net
4. **Dukarov S.V., Petrushenko S.I., Nevgasimov O.O., Kravtsov P.O., Sukhov V.N.** Supercooling of the Fusible Component in Ag/Bi/Ag and Ag/Pb/Ag Layered Film Structures (*V.N. Karazin Kharkiv National University, Kharkiv, Ukraine*) [27] petrushenko@univer.kharkov.ua
5. **Dzundza B.S., Prokopiv V.V., Mazur T.M., Turovska L.V., Yavorskyi Ya.S.** Photosensitivity of Polycrystalline Films of Cadmium Telluride (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine*) [300] kbqd@pu.if.ua
6. **Gab A.I., Uskova N.N., Rozhalovets K.S., Malyshev V.V.** Physico-chemical properties of thin films of molybdenum, tungsten and their carbides deposited from ionic melts (*University "Ukraine", Kyiv, Ukraine; Institute of General and Inorganic Chemistry, Kyiv, Ukraine*) [102] viktor.malyshev.igic@gmail.com
7. **Gab I.I., Stetsyuk T.V., Kostyuk B.D., Shakhnin D.B.** Influence of Vacuum Annealing on the Dispersion of Thin Double Nickel-Silver Films Deposited onto Oxide Ceramic Materials (*Frantsevich Institute for Materials Science Problems of NAS of Ukraine, Kyiv, Ukraine; University "Ukraine", Kyiv, Ukraine*) [8] gab@ipms.kiev.ua
8. **Gutsuliak I., Fodchuk I., Dovganyuk V., Kotsyubynskiy A., Kuzmin A., Sumariuk O., Lytvyn P., Kladko V., Gudymenko O., Syvorotka I.** Defect Structure and Magnetic Properties of YLaFeO Epitaxial Films under Influence of Different Growth Conditions (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; V.Ye. Lashkaryov Institute of Semiconductor Physics of NASU, Kyiv, Ukraine; Scientific Research Company "Carat", Lviv, Ukraine*) [249] ifodchuk@ukr.net
9. **Konstantinovich I.A., Konstantinovich A.V.** Radiation Spectrum of System of Electrons Moving in Spiral in Transparent Medium (*Chernivtsi National University, Chernivtsi, Ukraine; Institute of Thermoelectrics, National*

- Academy of Sciences and Ministry of Education and Science of Ukraine, Chernivtsi, Ukraine) [263] dj_kneo@ukr.net
10. **Lysiuk O.V., Kurek I.G., Oliynich-Lysyuk A.V., Raransky M.D.** Peculiarities of dislocations behavior in quasi isotropic 2D layers in the process of thermocycling (Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine) [59] lusiuknomer@ukr.net
 11. **Makhniy V.P., Melnyk V.V., Berezovska N.I., Dmytruk I.N., Slyotov M.M.** Optical Properties of Isovalent-Substituted β -CdS Heterolayers (Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; T.G. Shevchenko Kiev National University, Kiev, Ukraine) [80] VPMakhniy@gmail.com
 12. **Mar'yan M., Yurkovych N.** Formation and Modeling Nanosized Levels of the Self-Organized Structures in the Non-Crystalline Materials of Systems As(Ge)-S(Se), Ge-As-Te (Uzhhorod National University, Uzhhorod, Ukraine) [145] mykhaylo.maryan@uzhnu.edu.ua
 13. **Novosad O.V., Bozhko V.V.** The Passing Current Mechanisms and Photosensitivity of the Oxide/Cd_{0,96}Zn_{0,04}Te Surface-Barrier Structures (Lesya Ukrainka Eastern European National University, Lutsk, Ukraine) [194] ovosa@ukr.net
 14. **Orletskyi I.G., Ilashchuk M.I., Brus V.V., Maryanchuk P.D., Parfenyuk O.A., Grushka O. G.** One-Phonon Raman Spectra of Graphite Thin Films Prepared by the Electron-Beam Evaporation Technique (Chernivtsi National University, Chernivtsi, Ukraine) [165] i.orletskyi@chnu.edu.ua
 15. **Raransky M.D., Tashchuk R.Yu., Kurek I.G., Oliynich-Lysyuk A.V.** Thermoplastic properties of quasi-isotropic indium layers (Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine) [60] romatastshcuk@gmail.com
 16. **Rashkovetskyi L.V., Beketov G.V., Plyatsko S.V., Gromovoi Y.S., Moskvina P.P.** Calculation of optimal temperature and concentration conditions of CdTe epilayers growth from non-stoichiometric melt (Institute of Semiconductor Physics NAS Ukraine, Kyiv, Ukraine; Zhytomyr State Technological University, Zhytomyr, Ukraine) [128] rashlv@ukr.net
 17. **Ryabtsev S.I., Bashev V.F., Kushnerov O.I., Kutseva N.A.** Physical Properties and Structure of Vapor-Quenched (Fe, Ni, Co)-C Films (Oles Honchar Dnipro National University, Dnipro, Ukraine) [175] siryabts@gmail.com
 18. **Semenov A.V., Kozlovskyi A.A., Skorik S.N., Lubov D.V.** Effect of Air Atmosphere on the Electrophysical Properties of Thin Nanocrystalline Silicon Carbide Films (National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine; Institute for Single Crystals NAS of Ukraine, Kharkiv, Ukraine) [38] welax94@gmail.com
 19. **Sergeeva A.E., Fedosov S.N.** Relaxation Processes in Thin Films of PVDF-BaTiO₃ Composites (Odessa National Academy of Food Technologies, Odessa, Ukraine) [8] aeserg@ukr.net

20. **Sergeeva A.E., Fedosov S.N.** Pyroelectricity and Residual Polarization in PVDF Thin Films with Nano-Scale Structure (*Odessa National Academy of Food Technologies, Odessa, Ukraine*) [9] aeserg@ukr.net
21. **Shpak I., Kunak S., Shpak O., Studenyak I.** Structural Transformations and Optical Properties of Electron-Irradiated Glasses and Thin-Films of the As-S-Se System (*Uzhhorod National University, Uzhgorod, Ukraine*) [201] shpak.univ@gmail.com
22. **Shuliarenko D.O., Romas' O.V., Pazukha I.M.** Electrophysical Properties of Thin Film Systems Based on Permalloy and Silver Prepared by Co-evaporation Technique (*Sumy State University, Sumy, Ukraine*) [35] denisshuliarenko@gmail.com
23. **Shumakova M.O., Odnodvoretz L.V., Protsenko S.I., Rylova A.K.** Approbation of the Semiphenomenological Model for Magnetoresistance of Films Based on Magnetic and Noble Metals (*Sumy State University, Sumy, Ukraine*) [130] larysa.odnodvoretz@gmail.com
24. **Trunov M.L., Tarnaj A.A., Rubish V.M., Pisak R.P., Kyrylenko V.K., Horvat Yu.A., Durkot M.O.** Temperature Acceleration of Photoinduced Mass Transport in Amorphous Chalcogenides (*Institute for Information Recording, NAS of Ukraine, Uzhhorod, Ukraine*) [222] center.uzh@gmail.com
25. **Tsybulskaya L.S., Perevoznikov S.S., Shendyukov V.S.** The Investigation of Crystal Structure of Ni-B coatings (*Belarusian State University, Minsk, Belarus*) [65] tsybul@bsu.by
26. **Vasin A.V., Rusavsky A.V., Gomeniuk Yu.V., Slobodyan A.M., Kysil D.V., Yatskiv R., Kostylyov V.P., Vlasyuk V.M., Stepanov V.G., Borschagovsky E.G., Nazarov A.N.** Modification of Optoelectronic Properties of ZnO Thin Films Using Methane as Reactive Gas During RF-Magnetron Deposition (*Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine; National Technical University of Ukraine "Igor Sikorsky KPI", Kyiv, Ukraine; Institute of Photonics and Electronics CAS, Praha 8 - Kobylisy, Czech Republic*) [283] av966@yahoo.com
27. **Vilinskaya L.N., Burlak G.M.** Kinetic Processes in Films of Metal Oxides (*Odessa State Academy of Civil Engineering and Architecture, Odessa, Ukraine*) [240] demiga89@gmail.com
28. **Yapontseva Yu.S., Maltseva T.V., Kublanovsky V.S.** Electrosynthesis of nanostructured hard and corrosion resistant thin coatings with CoW, CoRe and CoWRe superalloys (*V.I. Vernadsky Institute of General and Inorganic Chemistry NASU, Kyiv, Ukraine*) [62] kublan@ukr.net
29. **Yushchuk S.I., Yuryev S.O.** Effect of Annealing on the Magnetic Properties of $Y_3Fe_5O_{12}$ and $Y_{2,95}La_{0,05}Fe_{4,7}Ga_{0,3}O_{12}$ Garnet Films (*Lviv Polytechnic National University, Lviv, Ukraine*) [115] s.o.yuryev@gmail.com
30. **Zadorozhny V.G., Polischuk S.G.** Electrical Breakdown of Thin of Polytetrafluoroethylene Films Deposited by Vacuum Evaporation (*Odessa National Academy of Food Technologies, Odessa, Ukraine*) [52] aurora14@ukr.net

Session 4

Thin film compounds for electronic devices, nanoelectronics

May 21, 22, 24, 2019

1. **Bezdidko O.V., Cheshko I.V., Kostiuk D.M., Protsenko S.I.** Formation of Ordered Magnetic Nanoparticles Arrays Using Various Obtaining Techniques (*Sumy State University, Sumy, Ukraine*) [118] bezdidko.o@gmail.com
2. **Bolshakova I., Vasyliiev O., Guba S., Kost Ya., Radishevskiy M.** Structures Based on Metal Nanolayers for Radiation-Resistant Hall Sensors (*Lviv Polytechnic National University, Lviv, Ukraine*) [176] gubask@polynet.ua
3. **Bushma A.V., Turukalo A.V.** Reliability Improvement for Integrated Thin Film Bar Graph Display Devices (*Borys Grinchenko Kyiv University, Kyiv, Ukraine; NUBiP of Ukraine, Kyiv, Ukraine*) [107] tyrykalo@gmail.com
o.bushma@kubg.edu.ua
4. **Ievtukh V.A., Rusavsky A.V., Khyzhun O.Yu., Nazarov A.N.** Resistance Switching in Ni-NiO_x-Si Structures (*Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv Ukraine; Frantsevych Institute for Problems of Materials Science NAS of Ukraine, Kyiv, Ukraine*) [288] nazarov@lab15.kiev.ua
5. **Karachevtseva L.A., Onyshchenko V.F., Karas' M.I.** Excess minority carrier concentration in macroporous silicon with various arrangements of macropores (*V. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [56] onyshchenkovf@isp.kiev.ua
6. **Khrypunov M.G., Rezinkin O.L., Nikitin V., Drozdov A.N., Meriuts A.V., Khrypunova A.L., Kudii D.A.** Influence of Electromagnetic Impulses on the Electric Processes in the Telluride Cadmium Film Layers (*National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine*) [23] lauman@ukr.net
7. **Kogut I.T., Dovhyi V.V., Benko T.H.** Layouts Design Features of Matrix Elements with "Kink-Effect" Control for Microsystems-on-Chip (*Vasyl Stefanyk Precarpathian University Ivano-Frankivsk, Ukraine*) [280] igorkohut2202@gmail.com
8. **Kogut I.T., Holota V.I., Gryga V.M., Benko T.H.** The Simulation of Integrated Capacitive SOI Elements for Sensor Microsystem-on-Chip (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [245] igorkohut2202@gmail.com
9. **Kogut I.T., Kotyk M.V., Dolishnyak O.I.** Microsystem-on-Chip SOI Elements Based on Control Integrated Generators (*Vasyl Stefanyk Precarpathian University Ivano-Frankivsk, Ukraine; Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine*) [278], igorkohut2202@gmail.com
10. **Kostyuk O.B., Dzundza B.S., Yavorsky Ya.S., Makovyshyn V.I.** Effects of Weak Localization and Spin-Orbital Interaction in Films Based on PbSnAgTe Compounds (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine; Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine*) [106] oksanakostuk@gmail.com

11. **Kovalenko M.V., Bovgyra O.V., Franiv A.V., Dzikovskiy V.Ye.** Electronic Structure of ZnO Thin Films Doped with Group III Elements (*Ivan Franko National University of Lviv, Lviv, Ukraine*) [195] mariya.kovalenko@lnu.edu.ua
12. **Lytvynenko Ya.M.** Magnetic Anisotropy Control Via Oxygen Plasma Irradiation and Magnetization Dynamics in Pt/Cofeb/Mgo System (*Sumy State University, Sumy, Ukraine*) [131] y.lytvynenko@ssu.edu.ua
13. **Mamykin S.V., Kotova N.V., Barlas T.R., Kondratenko O.S., Mamontova I.B., Romanyuk V.R., Smertenko P.S., Roshchina N.M.** Optical and Photovoltaic Properties of Nanocomposite Based on Porous Silicon (*V.E. Lashkaryov Institute of Semiconductor Physics National Academy of Sciences of Ukraine, Kyiv, Ukraine*) [281] mamykin@isp.kiev.ua
14. **Onyshchenko V.F., Karachevtseva L.A., Karas' M.I.** Effect of porous layer thickness on photoconductivity relaxation time in macroporous silicon (*V. Lashkaryov Institute of Semiconductor Physics NAS of Ukraine, Kyiv, Ukraine*) [57] onyshchenkovf@isp.kiev.ua
15. **Orletskiy I.G., Kuryshchuk S.I., Maryanchuk P.D.** Photosensitive Heterojunction Prepared by Spray-Pyrolysis n -SnS₂ Thin Films (*Chernivtsi National University, Chernivtsi, Ukraine*) [255] i.orletskiy@chnu.edu.ua
16. **Stetsun A.I.** High Resolution Registered Media (*Frantsevich Institute for Problems of Materials Science of NASU, Kyiv, Ukraine*) [26] stetsun387@gmail.com
17. **Sugak D., Syvorotka I.I., Yakhnevych U., Zhydachevskyy Ya., Pieniążek A., Włodarczyk D., Buryy O., Ubizskii S., Suchocki A.** Investigation of the Interface of the Y₃Fe₅O₁₂/Gd₃Ga₅O₁₂ Structure, Obtained by the Liquid Phase Epitaxy (*Lviv Polytechnic National University, Lviv, Ukraine; Scientific Research Company "Electron-Carat", Lviv, Ukraine; Institute of Physics PAS, Warsaw, Poland; Institute of Physics, Kazimierz Wielki University, Bydgoszcz, Poland*) [208] yakhnevych.u@gmail.com
18. **Veleschuk V.P., Vlasenko A.I., Vlasenko Z.K., Shynkarenko V.V., Kudryk Ya.Ya., Borshch V.V., Borshch O.B., Shefer A.V., Kisselyuk M.P.** Electrical and Luminescence Properties of Ultraviolet LEDs 365 – 400 nm (*V.E. Lashkaryov Institute of Semiconductor Physics of the NAS of Ukraine, Kyiv, Ukraine; Poltava National Technical Yuri Kondratyuk University, Poltava, Ukraine; Kamianets-Podilsky Special Educational-Rehabilitation Socio-Economic College, Kamianets-Podilskyi, Ukraine*) [36] vvyt@ukr.net
19. **Vuichyk M.V., Svezhentsova K.V., Tsybrii Z.F.** CdTe Thin Films as Passivation to CdHgTe Photodiodes (*V.Ye. Lashkarev Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine*) [291] vuychik@isp.kiev.ua

Session 5

Functional crystalline materials: growth, physical properties and applications

May 16, 17, 19, 2017

1. **Balabai R.M., Zalevskiy D.V.** SiGe epitaxial films with dislocations for the switchable memory: the accurate first-principle calculations (*Kryvyi Rih State Pedagogical University, Kryvyi Rih, Ukraine*) [94] balabai@i.ua, denys.zalevski@gmail.com
2. **Balovskyak S., Borchha M., Solodkyi M., Kuzmin A., Kazemirskyi T., Tkach V.** Determination of the Magnitude of Local Deformations in Synthesized Diamonds from the Data of Electron Backscatter Diffraction (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; V. Bakyl Institute for Superhard Materials of NASU, Kyiv, Ukraine*) [251] ifodchuk@ukr.net
3. **Bereznyak Yu., Ilin S., Poduremne D., Protsenko I., Shabelnyk Yu.** Crystalline Structure and Magnetoresistance Properties of High-Entropy Film Alloys (*Sumy State University, Sumy, Ukraine*) [150] shabelnyk@gmail.com
4. **Borkovska L., Vorona I., Khomenkova L., Stara T., Gudymenko O., Rudko V., Michailovska K., Kladko V., Labbe C.** The Effect of Sintering Conditions on Red Emission of Mn^{4+} Activated Mg_2TiO_4 Phosphors (*V. Lashkaryov Institute of Semiconductor Physics of the NAS of Ukraine, Kyiv, Ukraine; CIMAP, Normandie Univ, ENSICAEN, UNICAEN, CEA, CNRS, Caen, France*) [290] l_borkovska@ukr.net
5. **Bovsunivskiy O.V., Polotnyak S.B., Lysakovskii V.V., Lyeshchuk O.O.** Calculation of the Stress-Strain State of the Container of a Six-Punch HPD (*V.M. Bakul Institute for Superhard Materials, National Academy of Sciences of Ukraine, Kiev, Ukraine*) [105] olesbov@gmail.com
6. **Budzhak Ya.S., Druzhinin A.A., Nichkalo S.I.** Theoretical Analysis of Experimental Thermoelectric Characteristics of Silicon-Based Whiskers (*Lviv Polytechnic National University, Lviv, Ukraine*) [268] druzh@polynet.lviv.ua
7. **Burchenia A.V., Lysakovskii V. V., Zanevskii O. O., Ivakhnenko S.O.** Growing of Large Single Diamond Crystals (*Institute for Superhard Materials, National Academy of Sciences of Ukraine, Kiev, Ukraine*) [84] Burchenia@bigmir.net
8. **Chornii V.P., Nedilko S.G., Titov Yu.O., Boyko V.V., Chumak V.V., Sheludko V.I.** Crystal Structure, Electronic and Luminescence Properties of Undoped and Pr^{3+} -Doped $SrLa_4Ti_5O_{17}$ Powders (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; National University of Life and Environmental Sciences of Ukraine; Zhytomyr Ivan Franko State University, Zhytomyr, Ukraine; O. Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine*) [135] vchornii@gmail.com
9. **Danylchuk S.P., Fedosov S.A., Sakhnyuk V.E., Zakharchuk D.A.** Composition Dependence of the Direct and Indirect Bandgap for $TlInX_2-D^{IV}X_2$ (D^{IV} – Si, Ge, Sn; X – S, Se) (*Lesya Ukrainka Eastern European National University, Lutsk, Ukraine; Lutsk National Technical University, Lutsk, Ukraine*) [212] Fedosov.Serhiy@gmail.com

10. **Fodchuk I., Sumaryuk O., Romankevych V., Roman Y. Myhailovich V.** Structuring in Concrete Composites of High Density and Density, Modified Complex of Transformed Additives (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine*) [253] ifodchuk@ukr.net
11. **Fedosov S.A., Koval Yu.V., Zakharchuk D.A., Yashchynskiy L.V.** Influence of Gamma-Irradiation on Structural Disturbances in Cadmium Antimonide Crystals (*Lesya Ukrainka Eastern European National University, Lutsk, Ukraine, Lutsk National Technical University, Lutsk, Ukraine*) [233], dima.zakharchuk@gmail.com
12. **Gasinets S.M., Guranich P.P., Hreshchuk O.M., Makar L.I., Mykaylo O.A., Rizak I.M., Rubish V.M., Solomon V.M., Yasinko T.I., Yukhymchuk V.O., Yurkin I.M.** Obtaining, Structure and Properties of Glasses and Composites in As_2S_3 - Sb_2S_3 - SbI_3 System (*Institute for Information Recording, NAS of Ukraine, Uzhhorod, Ukraine; Uzhhorod National University, Uzhhorod, Ukraine; V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Institute of Electronic Physics, NAS of Ukraine, Uzhhorod, Ukraine*) [224] center.uzh@gmail.com
13. **Gentsar P.O., Vlasenko O.I., Levytskyi S.M.** Mechanisms of Laser-Stimulated Surface Treatment of Semiconductors (*V.Ye. Lashkarev Institute of Semiconductor Physics of NAS of Ukraine, Kyiv, Ukraine*) [88] rastneg@isp.kiev.ua
14. **Halyan V.V., Ivashchenko I.A., Kevshyn A.H., Tretyak A.P.** Photoluminescence Features of Er-Doped Chalcogenide Glasses and Crystals (*L. Ukrainka Eastern European National University, Lutsk, Ukraine*) [236] halyanv@ukr.net
15. **Hmaruk G. P., Myronchuk G.L., Koval Y.V.** Optical and Non-Linear Optical Properties of the Solid Solutions $AgGaGe_{3(1-x)}Si_{3x}Se_8$ (*Lesya Ukrainka Eastern European National University, Lutsk, Ukraine; Lutsk National Technical University, Lutsk, Ukraine*) [211] y.koval@lntu.edu.ua
16. **Ivanits'ka V.G., Tkachuk L. M., Fochuk P.M.** New Iodine-based Etchant for $Zn_xCd_{1-x}Te$ Single Crystals (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine*) [104] v.ivanitska@chnu.edu.ua
17. **Kanak A.I., Levchuk I.V., Mykhailovych V.V., Fochuk P.M.** Bridgman growth and characterization of $CsPbBr_3$ single-crystals (*Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; Institute of materials for Electronics and Energy Technology, Friedrich-Alexander-universitat Erlangen-Nurnberg, Erlangen, Germany*) [97] andriy.kanak@gmail.com
18. **Kevshyn A., Melnychuk K., Shugorin O., Shugorin P.** The Quaternary Sulfide as a Novel Nonlinear Optical Material (*Lesya Ukrainka Eastern European National University, Lutsk, Ukraine*) [235] fttkaf@gmail.com
19. **Kovalenko T. V., Lysakovskiy V. V., Ivakhnenko S. O.** Semiconductor Diamonds Crystallization in Fe-Co-Mg-C System (*Institute for Superhard Materials NAS of Ukraine, Kyiv, Ukraine*) [82] tetiana.v.kovalenko@gmail.com

20. **Kramar O., Skorenkyy Yu., Dovichaty Yu.** Effective Masses of Current Carriers in the Doubly Degenerated Conduction Band: Interplay of DOS Peculiarities and Magnetization (*Ternopil Ivan Puluj National Technical University, Ternopil, Ukraine*) [151] skorenkyy@tntu.edu.ua
21. **Makhnovets H.V., Myronchuk G.L., Korovytskyy A.M., Kot Y.O.** The Direct and Indirect Absorption Spectra of $\text{TiGaSe}_2\text{-Zn(Cd, Hg)Se}$ Crystals (*Lesya Ukrainka Eastern European National University, Lutsk, Ukraine*) [206] annamakhnovets@gmail.com
22. **Malyk O.P., Syrotyuk S.V.** Local Electron Interaction with Crystal Defects in $\text{CdSe}_x\text{Te}_{1-x}$ ($x=0.25$) Solid Solution: ab Initio Calculation. (*Lviv Polytechnic National University Semiconductor Electronics Department, Lviv, Ukraine*) [196] omalyk@ukr.net
23. **Panasjuk L.I., Koval Yu.V., Yashchynskyy L.V., Zakharchuk D.A., Misjuk S.Ya., Fedosov S.A.** Low-Temperature Plasticity of Uniaxially Deformed Silicon and Germanium Crystals (*Lutsk National Technical University, Lutsk, Ukraine; Lesya Ukrainka Eastern European National University, Lutsk, Ukraine*) [262] ftt@univer.lutsk.ua
24. **Pashchenko G.A., Trishchuk L.I.** The electrochemical processes at the phase boundary $p\text{-GaAs}$ electrode-HF water solution (V.Ye. *Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine*) [64] trishchukli@ukr.net
25. **Petrus R., Kashuba A., Semkiv I., Honchar F.** Electron Mobility in CdSe Crystal (*Lviv Polytechnic National University, Lviv, Ukraine; Ivan Franko National University of Lviv, Lviv, Ukraine*) [229] AndriyKashuba07@gmail.com
26. **Prigunova A.G.** Estimation of the size of Si clusters in the Al-Si melts according to the structure of rapidly cooled metal films (*Physical and Technological Institute of Metals and Alloys of NASU, Kyiv, Ukraine*) [44] adel_nayka@ukr.net
27. **Rodionova T.V.** Relative grain-boundary energy in undoped silicon films (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) [69] rodty@univ.kiev.ua
28. **Romaka L.P., Romaka V.A., Stadnyk Yu.V., Romaka V.V., Horyn A.M., Krayovskyy V.Ya.** Structural, Energy State and Electrokinetic Investigations of the $\text{Zr}_{1-x}\text{V}_x\text{NiSn}$ Semiconductive Thermoelectric Material (*Ivan Franko National University of Lviv, Lviv, Ukraine; National University "Lvivska Politechnika", Lviv, Ukraine; Institute for Solid State Research, IFW-Dresden, Dresden, Germany*) [246] lyubov.romaka@gmail.com
29. **Saliy Ya.P.** Migration of Sulfur to Surface of GaAs Stimulated by Vacancies. (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [228] saiyyroslav@gmail.com
30. **Saltykov D.I., Poduremne D.V., Shkurdoda Yu.O., Protsenko S.I.** Influence of the Conditions of Heat Treatment and Thickness of the Layers on the Magnetoresistive Properties of Three-layer Films Based on $\text{Fe}_{80}\text{Co}_{20}$ Alloy and Cu (*Sumy State University, Sumy, Ukraine*) [92] dmytros94@gmail.com

31. **Semkiv I.V., Ilchuk H.A., Petrus R.Yu., Kashuba A.I., Zmiiovska E.O.** Optical and Electronic Characteristics of the CdMnTe solid Solution (Lviv Polytechnic National University, Lviv, Ukraine; Ivan Franko National University of Lviv, Lviv, Ukraine) [243] Semkiv.Igor.5@gmail.com
32. **Solodin S.V., Fochuk P.M., Panchuk O.E.** Modeling of Point Defects Structure in Mn-Doped CdTe Crystals (Chernivtsi National University, Chernivtsi, Ukraine) [98] fochukp@gmail.com
33. **Solodkyi M., Balovsyak S., Borchha M., Fodchuk I., Kuzmin A., Tkach V.** Distribution of Local Deformation in Germanium Plates Defined by the Power Fourier Spectrum of Kikuchi Patterns (Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine; V. Bakyl Institute for Superhard Materials of NASU, Kyiv, Ukraine) [252] ifodchuk@ukr.net
34. **Suprun O. M., Lysakovskiy V. V., Zanevskii O. O.** Physical and Mechanical Properties of Structurally Perfect Diamond Single Crystals (Institute for Superhard Materials, National Academy of Sciences of Ukraine, Kyiv, Ukraine) [85] alona.suprun@gmail.com
35. **Terebilenko K.V., Nedilko S.G., Slobodyanik M.S., Chornii V.P., Boyko V.V.** Luminescent Properties and Electronic Structure of Pr^{3+} and Eu^{3+} -Doped BiPO_4 Nanocrystals (Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; National University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine) [137] kterebilenko@gmail.com
36. **Titov I.N., Nedolya A.V.** Study of the thermal processes during cathode-arc deposition using the truncated cone emitter model (UAD-Systems, Zaporizhzhya, Ukraine; Zaporizhzhya National University, Zaporizhzhya, Ukraine) [55] titovigorn@gmail.com
37. **Turovska L.V.** Defect subsystem of $\text{Pb}_{1-x}\text{Ag}_x\text{Te}$ solid solutions (Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine) [289] tlv87@i.ua
38. **Vodoriz O.S., Tavrina T.V., Rogachova O.I.** Thermoelectric Properties of $\text{PbSe}_{1-x}\text{Te}_x$ Solid Solutions (National Technical University "KhPI", Kharkiv, Ukraine) [79] vodorez@kpi.kharkov.ua
39. **Zakharuk Z.I., Dremlyuzhenko S.G., Kolisnik M.G., Rarenko A.I., Fochuk P.M.** Influence of $\text{Cd}_{1-x}\text{Mn}_x\text{Te}:\text{In}$ Crystals Purification by Te Zone on Electro-physical and Optical Properties (Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine) [93] microel-dpt@chnu.edu.ua
40. **Zamurueva O.V., Kityk I.V., Piskach L. V., Tsisar O.V., Piasieski M.** Spectral Dependence of the Absorption Coefficient $\text{Tl}_2\text{S}-\text{Ga}_2\text{S}_3-\text{GeS}_2$ (Lesya Ukrainka Eastern European National University, Lutsk, Ukraine) [209] Zamurueva.o@gmail.com
41. **Zinchenko V.F., Magunov I.R., Volchak G.V., Mozkova O.V.** Effect of B_2O_3 Additive to the Systems GeO_2-Ge (GeO), $\text{ZnO}-\text{Ge}$ on the Properties of Obtained Thin-Film Coatings (A.V.Bogatsky Physico-Chemical Institute of NAS of Ukraine, Odessa, Ukraine; State Enterprise for Special Instrument Making "Arsenal", Kyiv, Ukraine) [139] borisgor@i.com.ua vfzinchenko@ukr.net

Session 6

Thin films technology for energy application

May 21, 22, 24, 2019

2. **Iarova N., Samoilenko T., Brovko O., Horbatenko O.** Uv-Initiated Formation of Thin Films on the Basis of Interpenetrating Polymer Networks for Solar Cells Coatings (*Institute of Macromolecular Chemistry of the National Academy of Science of Ukraine, Kyiv, Ukraine*) [190] ynv25@ukr.net
3. **Smertenko P.S., Roshchina N.M., Solntsev V.S., Katashinski A.S., Barsukov V.Z.** Some Features of Electronic Structure of Tetracene - Silicon Cluster with Halogens (*V.Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv, Ukraine; Kyiv National University of Technologies and Design, Kyiv, Ukraine*) [120] petrosmertenko@gmail.com
4. **Shustava Elizaveta, Kiris Vasilii, Tarasenko Nikolai, Nevar Alena, Butsen Andrei, Zhavrid Kate, Mazgel Yulia** Laser Synthesis of Silicon and Metal Oxide Nanostructures for Thin Film Fabrication (*B. I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus; Belarusian State Technological University, Minsk, Belarus*) [213] a.butsen@gmail.com
5. **Virt I.S., Tur Yu., Dziedzic A., Cieniek B., Żak D., Lopatynskiy I.Ye., Frugynskiy M. S.** PbTe/Bi₂Te₃ thin films grown by PLD method (*Drogobych State Pedagogical University, Drogobych, Ukraine; University of Rzeszow, Rzeszow, Poland, National University "Lviv Polytechnic", Lviv, Ukraine*) [143] isvirt@email.ua
6. **Wisiz G., Sawicka-Chudy P., Yavorskyi R., Potera P., Bester M., Głowa Ł.** TiO₂/Cu₂O Heterojunctions for Photovoltaic Cells Application Produced by Reactive Magnetron Sputtering (*Rzeszow University, Rzeszow, Poland; Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [298] gwisiz@ur.edu.pl
7. **Yashchenko L.M., Vorontsova L.O., Alekseeva T.T., Tsebrienko T.V., Steblenko L.P., Kuryliuk A.M., Iarova N.V., Brovko O.O.** Optically Transparent Protective Coatings on the Basis of Ti-Containing Epoxyurethane Oligomers. (*Institute of Macromolecular Chemistry of NAS of Ukraine, Kyiv, Ukraine; Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) [191]
8. **Yavorskyi R.S.** CdS as a Window Layer for Photovoltaic Application of II Generation (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [292] roctyslaw@gmail.com
9. **Zapukhlyak Z.R.** Evaluation of thin film CdS/CdTe solar cells: SCAPS thickness simulation and analysis (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [126] zhanna.zapukhlyak@gmail.com

Session 7
Innovative methods for teaching
May 21, 22, 24, 2019

1. **Forostyana N.P., Romanenko R.P., Kryvoruchko M.Y.** Interactive Modelling for Remote Execution of Laboratory-Based Works (*Kyiv National University of Trade and Economics, Kyiv, Ukraine*) [174] Romanco@ukr.net
2. **Koshel V.I., Poplavskyi O.P., Dzundza B.S., Saviuk H.P., Matkivskiy O.M., Poplavskyi I.O.** Method of Determination of Risk Caused by Industrial Danger (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [295] kbqd@pu.if.ua
3. **Midak L.Ia., Kuzyshyn O.V., Kravets I.V., Buzhdyhan Kh.V., Lutsyshyn V.M.** Augmented Reality as a Tool for Improving Effectiveness of Natural Sciences Study (*Vasyl Stefanyk Precarpathian University, Ivano-Frankivsk, Ukraine*) [285] khrystja.buzhdyhan@gmail.com
4. **Pletenytska L.S.** Use of Technology of Organization of Project Activity in the Professional Training of Masters (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [273] ulja-cool@ukr.net
5. **Pletenytska L.S., Mezhylovska L.Y.** Competence Approach to Teaching Masters of Pedagogical Specialties the Disciplines of the Mathematical Cycle (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*) [274] ulja-cool@ukr.net
6. **Vozniak O.M., Turovska L.V., Prokopiv V.V., Nykyrui L.I.** Using Maple Environment in Teaching Quantum Mechanics (*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine, Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine*) [31] prkvv@i.ua
7. **Yurkovych N., Mar'yan M., Seben V.** Fractality and Innovative Concepts of Teaching Natural Sciences at Higher Educational Institutions and Universities (*Uzhhorod National University, Uzhhorod, Ukraine; University of Presov, Presov, Slovakia*) [144] nataliya.yurkovych@uzhnu.edu.ua