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## Most Relevant Publications List

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1. Olikh O., Lozitsky O., Zavhorodnii O. «Estimation for iron contamination in Si solar cell by ideality factor: Deep neural network approach», Progress in Photovoltaics: Research and Applications, 2022, vol.30, is.6, p. 648-660; <https://doi.org/10.1002/pip.3539>
2. Olikh O., Lytvyn P. «Defect engineering using microwave processing in SiC and GaAs», Semiconductor Science and Technology, 2022, vol.37, Is.7, 075006; <https://doi.org/10.1088/1361-6641/ac6f17>
3. Olikh O., Kostylyov V., Vlasiuk V., Korkishko R., Chupryna R. «Intensification of iron–boron complex association in silicon solar cells under acoustic wave action », Journal of Materials Science: Materials in Electronics, 2022, vol.33, is.13, p. 13133-13142; <https://doi.org/10.1007/s10854-022-08252-3>
4. Olikh Ya., Lyubchenko O., Tymochko M., Lepikh Ya., Gapochenko S., Olikh O. «A new method for investigating the kinetics of acoustically induced processes in semiconductors with pulsed ultrasound loading», Conference Proceedings of 2022 IEEE 3rd KhPI Week on Advanced Technology (KhPIWeek), 2022, P.557-561; <https://doi.org/10.1109/KhPIWeek57572.2022.9916334>
5. Sachenko A.V., Kostylyov V.P., Korkishko R.M., Vlasiuk V.M., Sokolovskyi I.O., Evstigneev M., Olikh O.Ya., Shkrebtii A.I., Dvernikov B.F., Chernenko V.V. «Experimental investigation and theoretical modeling of textured silicon solar cells with rear metallization», Semiconductor Physics, Quantum Electronics & Optoelectronics, 2022, Vol. 25, N.3, P.331-341; <https://doi.org/10.15407/spqeo25.03>
6. Olikh O., Kostylyov V., Vlasiuk V., Korkishko R., Olikh Ya., Chupryna R. «Features of FeB pair light-induced dissociation and repair in silicon  $n^+-p-p^+$  structures under ultrasound loading», Journal of Applied Physics, 2021, vol.130, is.23, 235703; <https://doi.org/10.1063/5.0073135>
7. Vlasiuk V., Korkishko R., Kostylyov V., Olikh O. «Kinetics of Light-Induced Processes Due to Iron Impurities in Silicon Solar Cells», Proceedings of 2021 International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), 2021, P. 1-6; <https://doi.org/10.1109/ICECCME52200.2021.9591025>
8. Olikh O.Ya., Zavhorodnii O.V. «Modeling of ideality factor value in  $n^+-p-p^+$ -Si structure», Journal of Physical Studies, 2020, V. 24, №4, 4701; <https://doi.org/10.30970/jps.24.4701>
9. Olikh Ya. M., Tymochko M. D., Olikh O.Ya. «Mechanisms of two-stage conductivity relaxation in CdTe:Cl with ultrasound», Journal of Electronic Materials, 2020, vol.49, is.8, P. 4524-4530; <https://doi.org/10.1007/s11664-020-08179-7>
10. Gorb A.M., Korotchenkov O.A., Olikh O.Ya., Podolian A.O., Chupryna R.G. «Influence of  $\gamma$ -irradiation and ultrasound treatment on current mechanism in Au-SiO<sub>2</sub>-Si structure», Solid State Electronics, 2020, vol.165, 107712; <https://doi.org/10.1016/j.sse.2019.107712>

11. Olikh O.Ya. «Relationship between the ideality factor and the iron concentration in silicon solar cells», Superlattices and Microstructures, 2019, vol.136, 106309; <https://doi.org/10.1016/j.spmi.2019.106309>
12. Olikh Ya. M., Tymochko M. D., Olikh O.Ya., Shenderovsky V. A. «Clusters of point defects near dislocations as a tool to control CdZnTe electrical parameters by ultrasound», Journal of Electronic Materials, 2018, vol.47, is.8, P. 4370-4378; <https://doi.org/10.1007/s11664-018-6332-4>
13. Olikh O.Ya. «Acoustically driven degradation in single crystalline silicon solar cell», Superlattices and Microstructures, 2018, vol.117, p. 173-188; <https://doi.org/10.1016/j.spmi.2018.03.027>
14. Olikh O.Ya., Gorb A.M., Chupryna R.G., Pristay-Fenenkov O.V. «Acousto-defect interaction in irradiated and non-irradiated silicon  $n^+-p$  structures», Journal of Applied Physics, 2018, vol.123, is.16, 161573; <https://doi.org/10.1063/1.5001123>
15. Olikh O. Ya., Voitenko K. V., Burbelo R. M., Olikh Ja. M. «Effect of ultrasound on reverse leakage current of silicon Schottky barrier structure», Journal of Semiconductors, 2016, vol.37, is.12, 122002; <https://doi.org/10.1088/1674-4926/37/12/122002>
16. Olikh O.Ya., Voytenko K.V. «On the mechanism of ultrasonic loading effect in silicon-based Schottky diodes», Ultrasonics, 2016, vol.66, p. 1-3; <https://doi.org/10.1016/j.ultras.2015.12.001>
17. Olikh O.Ya. «Review and test of methods for determination of the Schottky diode parameters», Journal of Applied Physics, 2015, vol.118, is.2, 024502; <https://doi.org/10.1063/1.4926420>
18. Olikh O.Ya., Voytenko K.V., Burbelo R.M. «Ultrasound influence on I–V–T characteristics of silicon Schottky barrier structure», Journal of Applied Physics, 2015, vol.117, is.4, 044505; <https://doi.org/10.1063/1.4906844>
19. Olikh O.Ya. «Reversible influence of ultrasound on  $\gamma$ -irradiated Mo/ $n$ -Si Schottky barrier structure», Ultrasonics, 2015, vol.56, p. 545-550; <https://doi.org/10.1016/j.ultras.2014.10.008>
20. Olikh O.Ya. «Effect of ultrasonic loading on current in Mo/ $n$ - $n^+$ -Si with Schottky barriers», Semiconductors, 2013, v. 47, p. 987-992; <https://doi.org/10.1134/S106378261307018X>
21. Olikh O.Ya. «Non-Monotonic  $\gamma$ -Ray Influence on Mo/ $n$ -Si Schottky Barrier Structure Properties», Nuclear Science, IEEE Transactions on, 2013, vol.60, is.1, part 2, p.394-401; <https://doi.org/10.1109/TNS.2012.2234137>
22. Olikh O.Ya. «Features of dynamic acoustically induced modification of photovoltaic parameters of silicon solar cells», Semiconductors, 2011, V. 45, p. 798-804; <https://doi.org/10.1134/S1063782611060170>
23. Gorb A.M., Korotchenkov O. A., Olikh O.Ya., Podolian A.O. «Ultrasonically Recovered Performance of  $\gamma$ -Irradiated Metal-Silicon Structures», Nuclear Science, IEEE Transactions on, 2010, vol.57, is.3, p.1632-1639; <https://doi.org/10.1109/TNS.2010.2047655>
24. Olikh O.Ya. «The variation in activity of recombination centers in silicon p-n structures under the conditions of acoustic loading», Semiconductors, 2009, V. 43, p. 745-750; <https://doi.org/10.1134/S1063782609060116>

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## Most Relevant Publications List (2015-2023)

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1. **V. Kuryliuk**, O. Tyvonovych, S. Semchuk. Impact of Ge clustering on the thermal conductivity of SiGe nanowires: atomistic simulation study. *Phys. Chem. Chem. Phys.*, 2023. Vol.25. P. 6263 (7p.).
2. **V.V. Kuryliuk**, S.S. Semchuk, K.V. Dubyk, R.M. Chornyi Structural features and thermal stability of hollow-core Si nanowires: A molecular dynamics study. *Nano-Structures and Nano-Objects*, 2022. V. 29. P. 100822 (8p.).
3. A. Nadtochiy, **V. Kuryliuk**, V. Strelchuk, O. Korotchenkov, P.-W. Li and S.-W. Lee Enhancing the Seebeck effect in Ge/Si through the combination of interfacial design features. *Scientific Reports*, 2019. V.9. P. 16335 (11 p.).
4. **V. Kuryliuk**, O. Nepochatyi, P. Chantrenne, D.Lacroix, and M. Isaiev Thermal conductivity of strained silicon: Molecular dynamics insight and kinetic theory approach. *Journal of Applied Physics*, 2019. V.126. P. 055109 (13 p.).
5. B. Gorelov, A. Gorb, A. Nadtochiy, D. Starokadomsky, **V. Kuryliuk**, N. Sigareva, S. Shulga, V. Ogenko, O. Korotchenkov, O. Polovina. Epoxy filled with bare and oxidized multi-layered graphene nanoplatelets: a comparative study of filler loading impact on thermal properties. *Journal of Materials Science*, 2019. V. 54. P. 9247 – 9266.
6. **V.V. Kuryliuk**, O.A. Korotchenkov. Atomistic simulation of the thermal conductivity in amorphous SiO<sub>2</sub> matrix/Ge nanocrystal composites. *Physica E: Low-dimensional Systems and Nanostructures*. 2017. V 88. P. 228–236.
7. M. I. Zakirov, **V. V. Kuryliuk**, O. A. Korotchenkov. Optical properties of ZnO fabricated by hydrothermal and sonochemical synthesis. *Journal of Physics: Conference Series*. 2016. V 741. P. 012028.
8. A. Gorb, O. Korotchenkov, **V. Kuryliuk**, A. Medvid, A. Nadtochiy, A. Podolian. Increase of Photoelectric Response of Ge Nanocones Formed on SiGe by Laser Radiation. *Advanced Materials Research*. 2015. Vol. 1117. P. 23–25
9. **V. Kuryliuk**, A. Nadtochiy, O. Korotchenkov, C.-C. Wang and P.-W. Li. A model for predicting the thermal conductivity of SiO<sub>2</sub>-Ge nanoparticle composites *Phys. Chem. Chem. Phys.* 2015. Vol.17. P. 13429-13441.
10. A. Gorb, O. Korotchenkov, **V. Kuryliuk**, A. Medvid, G. Mozolevskis, A. Nadtochiy, A. Podolian. Electron and hole separation in Ge nanocones formed on Si<sub>1-x</sub>Ge<sub>x</sub> solid solution by Nd:YAG laser radiation. *Applied Surface Science*. 2015. Vol. 346. P. 177–181.

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## Most Relevant Publications List

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1. **Pavlo Lishchuk**, Alina Vashchuk, Sergiy Rogalsky, Lesia Chepela, Mykola Borovy, David Lacroix, Mykola Isaiev (2023) Thermal transport properties of porous silicon filled by ionic liquid nanocomposite system // Scientific Reports, vol. 13, Article number: 5889
2. Isaiev, M., Mussabek, G., **Lishchuk, P.**, Lacroix, D., Lysenko, V. (2022) Application of the Photoacoustic Approach in the Characterization of Nanostructured Materials // Nanomaterials, 12(4), 708
3. Vashchuk, A., Motrunich, S., **Lishchuk, P.**, Isaiev, M., Iurzhenko, M. (2022) Thermal conductivity and mechanical properties of epoxy vitrimer nanocomposites reinforced with graphene oxide // Applied Nanoscience (Switzerland)
4. Litvinenko, S., **Lishchuk, P.**, Lysenko, V., Isaiev, M. (2021) Bi-modal photothermal/optical microscopy for complementary bio-imaging with high resolution and contrast // Applied Physics B: Lasers and Optics, 127(10), 139
5. **Lishchuk, P.** (2021) Optimized photoacoustic gas-microphone cell for semiconductor materials thermal conductivity monitoring // Physics and Chemistry of Solid State, 22(2), pp. 321–327
6. Poperenko, L.V., Rozouvan, S.G., Yurglevych, I.V., **Lishchuk, P.O.** (2020) Angular ellipsometry of porous silicon surface layers // Journal of Nano- and Electronic Physics, 12(3), 03024K.
7. Dubyk, L. Chepela, **P. Lishchuk**, A. Belarouci, D. Lacroix, M. Isaiev (2019) Features of photothermal transformation in porous silicon based multilayered structures // Applied Physics Letters – Vol. 115 – 021902 1-5
8. **Lishchuk, P.**, Isaiev, M., Osminkina, L., Burbelo, R., Nychyporuk, T., Timoshenko, V. (2019) Photoacoustic characterization of nanowire arrays formed by metal-assisted chemical etching of crystalline silicon substrates with different doping level // Physica E: Low-dimensional Systems and Nanostructures – Vol. 107 – P. 131-136
9. **Lishchuk P.**, Dekret A., Pastushenko A., Kuzmich A., Burbelo R., Belarouci A., Lysenko V., Isaiev M. (2018) Interfacial thermal resistance between porous layers: Impact on thermal conductivity of a multilayered porous structure // International Journal of Thermal Sciences, vol. 134, pp. 317-320.
10. **П.О. Ліщук**, Р.М. Бурбело, М.В. Ісаєв (2018) Особливості теплового транспорту у композитних системах на основі кремнієвих нанониток // Наносистеми, Наноматеріали, Нанотехнології, v. 16, №. 2, С. 313-321 (in ukrainian)
11. **Pavlo Lishchuk**, Dmytro Andrusenko, Mykola Isaiev, Vladimir Lysenko, Roman Burbelo (2015) Investigation of Thermal Transport Properties of Porous Silicon by Photoacoustic Technique // Int. J. Thermophys., vol. 36, no. 9, pp. 2428–2433.
12. M. Isaiev, P. J. Newby, B. Canut, A. Tytarenko, **P. Lishchuk**, D. Andrusenko, S. Gomès, J.-M. Bluet, L. G. Fréchette, V. Lysenko, R. Burbelo. (2014) Thermal conductivity of partially amorphous porous silicon by photoacoustic technique // Materials Letters, Vol. 128, pp. 71–74.
13. A. Assy, S. Gomès, **P. Lishchuk**, M. Isaiev. Thermal wave methods. In: K. Termentzidis ed. Nanostructured semiconductors: amorphisation and thermal properties. Boca Raton: CRC Press (2017)