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The main areas of research: low-dimensional carbon condensed structures, organic polymers, composites, sorption properties, thermal properties and mechanical properties of materials.

Academic degrees: Doctor of Philosophy.

Professional activity:

B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Department of Thermal Properties and Structure of Solids and Nanosystems:

from 11.27.2020 engineer, from 1.11.2024 to the present time - junior researcher.

Education:

from 2019 - National Technical University «Kharkiv Polytechnic Institute» specialty 132 – Materials Science, Master;

from 9 December 2024 - Doctor of Philosophy, specialty 104 Physics and Astronomy.

Publications in science journals:

1. A. V. Dolbin, N. A. Vinnikov, V. B. Esel’ son, V. G. Gavrilko, R. M. Basnukaeva, M. V. Khlistyuck, A. I. Prokhvatilov, V. V. Meleshko, O. L. Rezinkin, M. M. Rezinkina, S. V. Cherednychenko, L. Kępiński, The impact of treating graphene oxide with a pulsed high-frequency discharge on the low-temperature sorption of hydrogen, Low Temperature Physics, Low Temp. Phys. 46, 293 (2020), https://doi.org/10.1063/10.0000701 (Q3).
2. A. V. Dolbin, V. I. Dubinko, N. A. Vinnikov, V. B. Esel'son, V. G. Gavrilko, R. M. Basnukaeva, M. V. Khlistyuck, S. V. Cherednichenko, V. O. Kotsyubynsky, V. M. Boychuk, P. I. Kolkovsky, Low-temperature sorption of hydrogen by porous carbon material containing palladium nanoclusters, Low Temp. Phys. 46, 1030 (2020), https://doi.org/10.1063/10.0001921 (Q3).

3. N. A. Vinnikov, S. V. Cherednichenko, A. V. Dolbin, V. B. Eselson, V. G. Gavrilko, R. M. Basnukaeva, A. M. Plokhotnichenko, The new approach for obtaining aqueous solutions of fullerene C60@{H2O}n by the cryogenic sublimation method, Low Temp. Phys. 48, 336 (2022), https://doi.org/10.1063/10.0009739 (Q3)
4. H. V. Rusakova, L. S. Fomenko, S. V. Lubenets, V. D. Natsik, A. V. Dolbin, N. A. Vinnikov, R. M. Basnukaeva, S. V. Cherednichenko, A. V. Blyznyuk, Low-temperature micromechanical properties of polyolephin/graphene oxide nanocomposites with low weight percent filler, Low Temp. Phys. 49, 1213 (2023), https://doi.org/10.1063/10.0021363 (Q3).
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6. S. V. Cherednichenko, G. V. Andrievsky, N. A. Vinnikov, A. V. Dolbin, M. V. Kosevich, V. S. Shelkovsky, R. M. Basnukaeva, O. P. Gnatyuk, O. Bezkrovnyi, M. Ptak, M. Chaika, P. O. Kuzema, G. I. Dovbeshko, Raman, UV-Vis, MS, and IR characterization of molecular-colloidal solution of hydrated fullerenes C_{60} obtained using vacuum-sublimation cryogenic deposition method. Is the C_{60} molecule truly highly hydrophobic?, Low Temp. Phys. 50, 248 (2024) https://doi.org/10.1063/10.0024965 (Q3).

Reports presented at international scientific conferences:

1. R. M. Basnukaeva, A. V. Dolbin, V. B. Eselson, V. G. Gavrilko, N. A. Vinnikov, M. V. Khlistuck, S. V. Cherednychenko, “Effect of cold plasma treatment on low-temperature sorption by thermally reduced graphene oxide” in Book of Abstract of the International Advanced Study Conference «Condensed Matter & Low Temperature Physics 2020» (CM&LTP 2020), Ukraine, Kharkiv, June 8-14, 2020.
2. S. V. Cherednychenko, A. V. Dolbin, N. A. Vinnikov, V. B. Esel’son, V. G. Gavrilko, R. M. Basnukaeva, “Graphene-based nanocomposite adhesive compounds” in Book of Abstract of the International Advanced Study Conference «Condensed Matter & Low Temperature Physics 2021» (CM&LTP 2021), Ukraine, Kharkiv, June 6-12, 2021.
3. R. M. Basnukaeva, A. V. Dolbin, N. A. Vinnikov, A. M. Plohotnichenko, V. B. Esel’son, V. G. Gavrilko, S. V. Cherednychenko, “Electrophysical properties of aqueous colloidal solutions of aqueous colloidal solutions of C_{60}” in Book of Abstract of the International Advanced Research Workshop “Thermal conductivity of solid states at low temperature”, Ukraine, Kharkov, June 8, 2021.
4. S. V. Cherednychenko, A. V. Dolbin, N. A. Vinnikov, V. B. Esel’son, V. G. Gavrilko, “Preparation of colloidal aqueous solution of C60 fullerene by the sublimation method and its optical/electrophysical properties” in Book of Abstract of the 7th International Conference «NANOBIOPHYSICS: Fundamental and Applied Aspects» (NBP 2021), Ukraine, Kharkov, October 4-8, 2021.
5. S. V. Cherednychenko, A. V. Dolbin, G. I. Dovbeshko1, N. A. Vinnikov, V. B. Esel’son, V. G. Gavrilko, R. M. Basnukaeva, “Optical properties of aqueous colloidal solution of fullerenes C60” in Book of Abstract of the III International Advanced Study Conference «Condensed Matter & Low Temperature Physics 2023» (CM & LTP 2023), Ukraine, Kharkov, June 5-11, 2023.
6. S. Cherednychenko, N. Vinnikov, V. Boiko, G. Dovbeshko, A. Dolbin, “Spectroscopic and electrophysical studies of a solution of fullerene C60 molecules in water” in Book of

Abstract of the 8th International Conference «NANOBIOPHYSICS: Fundamental and Applied Aspects» (NBP 2023), Ukraine, Kyiv, October 3-6, 2023.

7. R. M. Basnukaeva, S. V. Cherednichenko, G. V. Andrievsky, N. A. Vinnikov, A. V. Dolbin, M. V. Kosevich, V. S. Shelkovsky, L. M. Buravtseva, G. I. Dovbeshko, O. P. Gnatyuk, O. Bezkrovnyi, M. Ptak, M. Chaika, P. O. Kuzema, “Raman, UV-Vis, MS and IR Characterization of Molecular-Colloidal Solution of Hydrated Fullerenes C60 Obtained Using Vacuum-Sublimation Cryogenic Deposition Method”, in Book of Abstract of the IV International Advanced Study Conference «Condensed Matter & Low Temperature Physics 2024» (CM & LTP 2024), Ukraine, Kharkiv, June 3-7, 2024.
8. H. V. Rusakova, L. S. Fomenko, S. V. Lubenets, A. V. Dolbin, N. A. Vinnikov, R. M. Basnukaeva, S. V. Cherednichenko, “Low-temperature micromechanical properties of epoxy resin/graphene oxide nanocomposites”, in Book of Abstract of the IV International Advanced Study Conference «Condensed Matter & Low Temperature Physics 2024» (CM & LTP 2024), Ukraine, Kharkiv, June 3-7, 2024.