Diana Hurova

PERSONAL INFORMATION

Date of birth: 01 July 1997

Place of birth: Odesa reg.

Nationality: Ukrainian

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AFFILIATION

B. Verkin Institute for Low Temperature Physics and Engineering of the NAS of Ukraine

Department of thermal properties and structure of solids and nanosystems

Current address: 47 Nauky Ave., Kharkiv 61103, Ukraine

SCIENTIFIC DEGREE

Doctor of Philosophy (16.12.2024) - Physics and astronomy, title of the thesis: “Features of the structure of solid molecular compounds. Nitrogen $^{14}N_2$ and $^{15}N_2$ and polymers”.

RESEARCH INTERESTS

X-ray powder diffractometry. Structural properties of solids in crystalline and amorphous state: including molecular compounds, nanostructures and composites based of them, some type of polymers, etc.

EDUCATION

PhD student (2020-2024) – Physics and astronomy, B. Verkin ILTPE of NAS of Ukraine, Kharkiv, Ukraine.

Master of Science (2018-2019) – Physics and astronomy, V. N. Karazin Kharkiv National University, Kharkiv, Ukraine.

Bachelor of Science (2014-2018) – Physics, V. N. Karazin Kharkiv National University, Kharkiv, Ukraine.

POSITIONS

2024 – present: Junior Recearcher at Department of thermal properties and structure of solids and nanosystems B. Verkin ILTPE of NASU, Kharkiv, Ukraine.

2020 – 2024: PhD Student at B. Verkin ILTPE of NASU, Kharkiv, Ukraine.

13.01.2020 – 31.10.2020 – engineer at Department of thermal properties and structure of solids and nanosystems B. Verkin ILTPE of NASU, Kharkiv, Ukraine.

SCIENTIFIC ACTIVITIES

Member of Council of Young Scientists and Specialists of B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine (since 2020, since 2024 – Head).

Member of Organizing Committee of International Conference “Condensed Matter & Low-Temperature Physics (CM&LTP)” (2020 – present, 2024,2025 - Chair).

Member of IRE SPIE Student Chapter (2018-2023).

Member of ILTPE OSA Student Chapter (2021- 2023).

SCHOOLS AND RECEARCH VISITS

- CryoCourse 2022, The European Microkelvin Platform, Ruprecht-Karls Universität, Heidelberg, Germany, 9 -21 September, 2022.
- Three-month internship to the Institute of Low Temperature and Structure Research, PAS, Wroclaw, Poland; for conducting X-ray measurement for dissertation work (from October to December 2022).
- One-month research visit to the Institute of Low Temperature and Structure Research, PAS, Wroclaw, Poland (November 2024).

GRANTS, SCHOLARSHIPS, AND AWARDS:

- Scholarships of the President of Ukraine for Young Scientists, The NAS of Ukraine (2022 – 2024, and 2024 – 2026).
- Grant NRFU No. 2020.02/0094 "Quantum tunneling of vibrational excitations in thermal conductivity of crystalline and amorphous materials and composites". Head: prof. O.I. Krivchikov (2020-2023).
- Grant NRFU No. 2023.03/0012 “Low-temperature quantum nanoscale effects in the thermal properties of compacted carbon materials and their composites”. Head: prof. O.I. Krivchikov (2024-2026).

PUBLICATIONS

All published works – 4 articles, 14 conference report.

Articles:

1. Alekseeva L. A., Syrkin E. S., Hurova D. E., Aksenova N. A., Galtsov N. N. and Feodosyev S. B. Translational vibrations in α-N_2 from x-ray data. Low Temperature Physics. 2022. Vol. 48, No. 2. P. 113–116. https://doi.org/10.1063/10.0009289, Q3.

2. Hurova D. E., Erenburg A. I., Aksenova N. A., Galtsov N. N. and Zinoviev P. V. Orientational order parameter and mean square displacement of solid heavy nitrogen in the low-temperature phase. Experimental data. Low Temperature Physics. 2023. Vol. 49, No. 10. P. 1184–1189. https://doi.org/10.1063/10.0020873, Q3.
3. Hurova D. E., Cherednichenko S. V., Aksenova N. A., Vinnikov N. A., Dolbin A. V. and Galtsov N. N. Structural studies of epoxy resin with impurities of carbon nanostructures. Low Temperature Physics. 2024. Vol. 50, No. 2. P. 167–170. https://doi.org/10.1063/10.0024329, Q3.
4. Hurova D. E., Geidarov V. G., Braude I. S., Aksenova N. A., Stepanian S. G., Adamowicz L. and Galtsov N. N. Structural studies of amorphous polymer films: Experiment and calculation. Low Temperature Physics. 2024. Vol. 50, No. 3. P. 272–278. https://doi.org/10.1063/10.0024972, Q3.

Conference proceedings (for last 5 years):

1. D.E. Hurova, V.G. Geidarov, N.A. Aksenova, N.N.Galtsov, Scattering by molecules of the Kapton H polymer. Amorphous films, II International Conference “Condensed Matter & Low-Temperature Physics (CM&LTP)”, 2021, Kharkiv, Ukraine
2. L.A. Alekseeva, E.S. Syrkin, D.E. Hurova, N.A. Aksenova, N.N.Galtsov, Mean squared displacement of molecules in the low-temperature phase of solid Nitrogen, CM&LTP-2021, Kharkiv, Ukraine
3. Hurova D.E., Erenburg A.I., Aksenova N.A., Alekseeva L.A., Galtsov N.N. Temperature behavior of the thermal factor of scattering in the ordered phase of solid Nitrogene-15, "YOUNG MULTIS 2023", Poland, Krakiv (online).
4. Hurova D.E., Erenburg A.I., Aksenova N.A., Galtsov N.N., Determination of orientational order parameter in the low-temperature phase of solid Nitrogen-15, "CM&LTP 2023“, Kharkiv, Ukraine.
5. Hurova D.E., Geidarov V.G., Aksenova N.A., Braude I.S., X-ray studies of the P-MA polyimide films under external action, “8th international conference Nanobiophysics: fundamentl and applied aspects, 2023, 3-6 Oktober, Kyiv, Ukraine.
6. Aksenova N.A., Hurova D.E., Galtsov N.N., Structural characteristics of solid nitrogen. Isotopic effect, CM&LTP-2024, 3-7 June, Kharkiv, Ukraine (online).
7. Y. Semerenko, V. Natsik, N. Galtsov, D. Hurova, V. Zoryansky, E. Tabachnikova, T. Bednarchuk, M. Tikhonovsky, Experimental and theoretical study of low-temperature dislocation structure and dynamics in high-entropy alloy $Al_{0.5}CoCrCuFeNi$, S2P-2025 The 18th International Conference on Semi Solid Processing of Alloys & Composites, September 24-26, QC Canada.
8. N.A. Aksenova, D.E. Hurova, V. Kinzhybalo, N.N. Galtsov, Scattering amplitude of C_{60} fullerite in the ordered phase. Theory and calculations, CM&LTP-2025, 2-6 June, Kharkiv, Ukraine (online).
9. Y. Semerenko, V. Natsik, N. Galtsov, D. Hurova, V. Zoryansky, E. Tabachnikova, T. Bednarchuk, Yu. Lipovska, Investigation of Low-Temperature Dislocation Structure and Dynamics in the High-Entropy Alloy $Al_{0.5}CoCrCuFeNi$, CM&LTP-2025, 2-6 June, Kharkiv, Ukraine (online).