

## Ֆիզիկայի գիտահետազոտական ինստիտուտ

Ֆոտոնիկայի և արհեստական բանականության լաբորատորիա  
Առաջատար գիտաշխատող

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### **A Dynamic Analysis of Toron Formation in Chiral Nematic Liquid Crystals Using a Polarization Holographic Microscope**

Tikhon V. Reztsov, Aleksey V. Chernykh, Tetiana Orlova, Nikolay V. Petrov

Polymers MDPI 2025 1849

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### **Polarization-controlled orbital angular momentum of light passing through a cholesteric spherulite**

A. N. Shalev, A. A. Misura, A. O. Georgieva, A. V. Chernykh, N. V. Petrov, T. Orlova, I. S. Lobanov, E. V. Aksenova, V. M. Uzdin, A. D. Kiselev

Optics Letters 2025 4866-4869

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### **Rewritable Binary Recording of the Photon Spin State in Chiral Liquid Crystals**

Nicolas Bruni, Charles Loussert, Mushegh Rafayelyan, Tetiana Orlova, Delphine Coursault,

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Physical Review Letters 2025 223804

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### **Fine Tuning of the Rotational Speed of Light-Driven, Second-Generation Molecular Motors by Fluorine Substitution**

Ivan Tambovtsev, Yorick L. A. Schmerwitz, Gianluca Levi, Darina D. Darmoroz, Pavel V. Nesterov, Tetiana Orlova, Hannes Jónsson

Journal of Physical Chemistry Letters 2025 4014 - 4020

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### **Microsecond-scale observation of phase transition and diffusion in 5CB liquid crystal at the molecular level**

N. Kasapenko, T. Orlova, N. Kondratyuk

Journal of Chemical Physics 2025 154901

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### **Light-Induced Heating of Microsized Nematic Volumes**

Dmitrii Shcherbinin, Denis A. Glukharev, Semyon Rudyi, Anastasiia Piven, Tetiana Orlova, Izabela Sliwa,

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Chaos, Solitons and Fractals 2025 116905

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*Հոդված***On-Demand Photopatterned Twisted Nematics for Generation of Polychromatic Vector Fields**

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*Հոդված***Nanostructured Material Design via a Retrieval-Augmented Generation (RAG) Approach: Bridging Laboratory Practice and Scientific Literature**

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Maxim G. Stepanov, Anastasiia O. Piven, Timur A. Aliev, Tetiana Orlova, Mushegh S. Rafayelyan,

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Journal of Chemical Information and Modeling 2025 11064-11078

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*Հոդված***Large Supramolecular Patterns in Photoactive Chiral Liquid Crystals for Light-Controllable Soft Micromechanical Systems**

Darina Darmoroz, Tetiana Orlova, Anastasiia Piven

Small Structures 2025 e202500506

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*Հոդված***Machine learning methods for liquid crystal research: phases, textures, defects and physical properties**

Anastasiia Piven, Darina Darmoroz, Ekaterina Skorb, Tetiana Orlova

Soft Matter 2024 1380 - 1391

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*Հոդված***Topological Learning for the Classification of Disorder: An Application to the Design of Metasurfaces**

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ACS Nano 2024 630–640

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*Հոդված***Reactions of 5-(Trialkyl)silylpent-1-en-4-yn-3-ones with Hydrazines: Original Synthetic Routes to Luminescent Substances Containing Azole Motifs**

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Anna V. Vologzhanina, Stanislav A. Grabovskiy, Ilya M. Sosnin, Anton I. Ukolov, Olga I. Orlova,

Vladimir A. Lazarenko, Pavel V. Dorovatovskii, Darina D. Darmoroz, Anastasiia O. Piven, Tetiana Orlova,

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Д. Д. ДАРМОРОЗ, А. О. ПИВЕНЬ, Т. ОРЛОВА

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Optics Express 2022 47909-47920

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### **Optical Imaging and Analytical Design of Localized Topological Structures in Chiral Liquid Crystals**

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Journal of Physical Chemistry B 2022 3161 - 3169

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