

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, Etienne Brasselet
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
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Chaos, Solitons and Fractals 2025 116905

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

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

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

Tristan Madeleine, Nina Podoliak, Oleksandr Buchnev, Ingrid Membrillo Solis, Tetiana Orlova,

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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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МЕТОД ОПТИЧЕСКОЙ МОЛЕКУЛЯРНОЙ ГЕНЕРАЦИИ ЛОКАЛИЗОВАННЫХ ХИРАЛЬНЫХ

СТРУКТУР В ФОТОАКТИВНЫХ ЖИДКОКРИСТАЛЛИЧЕСКИХ ПЛЕНКАХ

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

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Optical nonlinearity of a dual-frequency nematic liquid crystal via temperature-mediated mapping of dielectric anisotropy

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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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Light-Induced Structures and Microparticle Transportation in a Free-Surface Frustrated Chiral Nematic Film

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Nanoparticle-Induced Property Changes in Nematic Liquid Crystals

Nicolas Brouckaert, Nina Podoliak, Tetiana Orlova, Denitsa Bankova, Angela F. De Fazio,

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Journal of Physical Chemistry B 2022 3161 - 3169

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Tracking the time evolution of soft matter systems via topological structural heterogeneity

Ingrid Membrillo Solis, Tetiana Orlova, Karolina Bednarska, Piotr Lesiak, Tomasz R. Woliński,

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