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

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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

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

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Sergey A. Shvetsov, Darina D. Darmoroz, Alexey Vasil'ev, Tetiana Orlova, Igor S. Lobanov,  
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Journal of Chemical Information and Modeling 2025 11064-11078

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Darina Darmoroz, Tetiana Orlova, Anastasiia Piven

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

Anastasiia Piven, Darina Darmoroz, Ekaterina Skorb, Tetiana Orlova

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

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

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

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