

# Sergey Alexandrovich Shvetsov

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## Research Institute of Physics

Լույսի առաջադեմ կառավարման ինստիտուտ

Senior researcher

## Education

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<b>Institution</b>	Moscow Institute of Physics and Technology
<b>Faculty</b>	Department of Problems of Physics and Energetics
<b>Date</b>	2010 - 2012
<b>Degree name</b>	Masters

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<b>Institution</b>	Moscow Institute of Physics and Technology
<b>Faculty</b>	Department of Problems of Physics and Energetics
<b>Date</b>	2006 - 2010
<b>Degree name</b>	Bachelor

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## Scientific Rank/degree

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<b>Institution</b>	P.N. Lebedev Physical Institute
<b>Date</b>	2017
<b>Degree name</b>	Candidate
<b>Specialty</b>	Physico-mathematical sciences
<b>Scientific Supervisor</b>	A.S. Zolot'ko
<b>Research Topic</b>	Light-induced orientational effects in liquid crystalline polymers and composite systems

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## Publications

*Article*

### **Light-induced isotropic pen for generation of topological solitons and hopfion-toron transition in frustrated chiral nematic films**

Sergey A. Shvetsov, Darina D. Darmoroz, Alexey Vasil'ev, Tetiana Orlova, Igor S. Lobanov,

Mushegh Rafayelyan

Chaos, Solitons and Fractals 2025 116905

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*Article*

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

Edvard Grigoryan, Hayk H. Harutyunyan, Hrayr Hakobyan, Sergey A. Shvetsov, Tetiana Orlova,

Mushegh Rafayelyan, Vahram L. Grigoryan

Crystals 2025 877

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*Article*

**Light-controllable liquid crystal platform for microparticle oscillations and transport**

Sergey Shvetsov, Tetiana Orlova, Aleksandr Hayrapetyan, Alexey Vasil'ev, Mushegh Rafayelyan

Soft Matter 2024 6920-6928

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*Article*

**NON-LOCAL Q-TENSOR APPROACH FOR DESCRIPTION OF ELASTIC DEFORMATIONS OF NEMATIC LIQUID CRYSTALS AT SUB-MICRON SCALE [ПРИМЕНЕНИЕ НЕЛОКАЛЬНОГО Q-ТЕНЗОРА ДЛЯ ОПИСАНИЯ УПРУГИХ ДЕФОРМАЦИЙ ЖИДКИХ КРИСТАЛЛОВ НА СУБМИКРОННОМ МАСШТАБЕ]**

Сергей Александрович Швецов, Павел Анатольевич Стаценко, Максим Николаевич Хомяков,

Сергей Иванович Трашкеев

Жидкие кристаллы и их практическое использование (Liquid Crystals and their Application) 2023

66-76

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*Article*

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

S. A. Shvetsov, T. Orlova, A. V. Emelyanenko, A. S. Zolot'ko, H. L. Ong

Optics Express 2022 47909-47920

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*Article*

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

Sergey A. Shvetsov, Tetiana Orlova, Alexander V. Emelyanenko

Crystals 2022 549

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*Conference*

**Bragg-Berry cavities: orbital angular momentum manipulation of broadband light beams**

Sergey Shvetsov, Vahram Grigoryan, Valeri Abrahamyan, Nune Hakobyan, Hakob Margaryan,

Mushegh Rafayelyan

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