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Education

Institution	- Other -
Faculty	Department of Problems of Physics and Energetics
Date	2010 - 2012
Degree name	Masters

Institution	- Other -
Faculty	Department of Problems of Physics and Energetics
Date	2006 - 2010
Degree name	Bachelor

Scientific Rank/degree

Institution	- Other -
Date	2017
Degree name	Candidate
Scientific Supervisor	A.S. Zolot'ko
Research Topic	Light-induced orientational effects in liquid crystalline polymers and composite systems

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 & Fractals 2025 116905

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

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

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

Liquid Crystals and their Application 2023 66-76

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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https://photonicsai.com/optics11/

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

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
