

Publications

Article

Dual effect of L-Cysteine on the reorientation and relaxation of Fe₃O₄-decorated graphene oxide liquid crystals

M. Zhezhu, Y. Melikyan, V. Hayrapetyan, A. Vasil'ev, H. Gharagulyan

Heliyon 2025 e43010

Article

L-cysteine polymorph coatings for THz sensing metasurfaces

M. Zhezhu, A. Vasil'ev, H. Parsamyan, T. Abrahamyan, G. Baghdasaryan, S. Gyoalyan, D. Ghazaryan,

H. Gharagulyan

Results in Physics 2025 108351

Article

Chemical vapor deposition synthesis of (GeTe)_n(Sb₂Te₃) gradient crystalline films as promising planar heterostructures

M. Zhezhu, A. Vasil'ev, M. Yapryntsev, E. Ghalumyan, D.A. Ghazaryan, H. Gharagulyan

Materials Science in Semiconductor Processing 2025 109863

Article

Revisiting THz absorption in GO and rGO liquid crystalline films

A. Vasil'ev, M. Zhezhu, H. Parsamyan, G. Baghdasaryan, M. Sargsyan, D.A. Ghazaryan, H. Gharagulyan

Optics and Laser Technology 2025 113628

Article

E-beam induced micropattern generation and amorphization of L-cysteine-functionalized graphene oxide nano-composites

Y. Melikyan, H. Gharagulyan, A. Vasil'ev, V. Hayrapetyan, M. Zhezhu, A. Simonyan, D.A. Ghazaryan,

M.S. Torosyan, A. kharatyan, J. Michalicka, M. Yeranosyan

Colloids and Interface Science Communications 2024 100766-7

Article

Improving the electro-optical properties of MoS₂/rGO hybrid nanocomposites using liquid crystals

A. Vasil'ev, Y. Melikyan, M. Zhezhu, V. Hayrapetyan, M.S. Torosyan, D.A. Ghazaryan, M. Yeranosyan,

H. Gharagulyan

Materials Research Bulletin 2024 113036

Article

Broadband THz metasurface bandpass filter/antireflection coating based on metalized Si cylindrical rings

Karen Simonyan, Hermine Gharagulyan, Henrik Parsamyan, Ashot Khachatryan, Mkrtich Yeranosyan

Semiconductor Science and Technology 2024 095012

Article

Essential L-Amino Acid-Functionalized Graphene Oxide for Liquid Crystalline Phase Formation

H. Gharagulyan, Y. Melikyan, V. Hayrapetyan, Kh. Kirakosyan, D.A. Ghazaryan, M. Yeranosyan

Materials Science and Engineering: B 2023 116564

Article

Strong light absorption and absorption absence in photonic crystals with helical structure in an external static magnetic field

A. H. Gevorgyan, N. A. Vanyushkin, I. M. Efimov, A. O. Kamenev, S. S. Golik, H. Gharagulyan,

T. M. Sarukhanyan, Malek G. Daher, K. B. Oganesyanyan

Journal of the Optical Society of America B: Optical Physics 2023 1986-1993

Article

Magnetically Induced Transparency in Media with Helical Dichroic Structure

Mushegh S. Rafayelyan, Gvidon K. Matinyan, Hermine Gharagulyan, Tatevik M. Sarukhanyan,

Meruzhan Z. Hautyunyan, Ilya M. Efimov, Nikolay A. Vanyushkin, Sergey S. Golik, Ashot H. Gevorgyan

MATERIALS 2021 2172

Article

Multimode Robust Lasing in a Dye-Doped Polymer Layer Embedded in a Wedge-Shaped Cholesteric

Tatevik M. Sarukhanyan, Hermine Gharagulyan, Mushegh S. Rafayelyan, Sergey S. Golik,

Ashot H. Gevorgyan, Roman B. Alaverdyan

Molecules 2021 6089

Article

Lasing peculiarities in cholesteric multilayer structure with dye-doped polymer film depending on the concentration of laser dye and pumping energy

T. M. Sarukhanyan, H. S. Gharagulyan, M. L. Sargsyan, H. Grigoryan, R. S. Hakobyan, A. H. Gevorgyan,

R. B. Alaverdyan

Molecular Crystals and Liquid Crystals 2020 15-25

Article

Spectral Peculiarities of Multilayer Cholesteric Wedge-Cell System with Dye-Doped Polymer Layer

H. Gharagulyan, T. M. Sarukhanyan, A.V. Ninoyan, A. H. Gevorgyan, R. B. Alaverdyan

Optics and Spectroscopy 2020 1644-1648

Article

Diffusion in liquid crystals of two cholesterics with different pitches.

Ashot H. Gevorgyan, Roman B. Alaverdyan, Hermine Gharagulyan, Mushegh S. Rafayelyan,

Hayarpi Grigoryan

Journal of Nanophotonics 2015 093591(1-12)

<https://spie.org/publications/journals/journal-of-nanophotonics>

Conference

Experimental and Theoretical Investigation of Polarization Plane Rotation of Light in Nanoparticle-Enriched Chiral liquid-crystalline Photonic Structures with an Anisotropic Defect Layer

A.H. Gevorgyan, H. Gharagulyan, M.S. Rafayelyan, R.B. Alaverdyan

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Asymmetric Transmission liquid-crystals of Two Cholesterics with Different Pitches and Chiralities

A.H. Gevorgyan, M.S.Rafayelyan, Zh.V.Ninoyan, Hermine Gharaguiyan, R.B.Alaverdjan

Conference

Nonreciprocal Transmission in Electro-Tunable Cholesterics

H. Gharagulyan, M. S. Rafayelyan, A. H. Gevorgyan, R. B. Alaverdyan

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Optical Properties of Polymer-Dispersed Cholesteric Liquid- Crystalline Wedge-Cell

H. Gharagulyan, R. B. Alaverdyan, A. H. Gevorgyan, Zh. V. Ninoyan, T. M. Sarukhanyan

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Lasing in Cholesteric-Polymer Wedge-Cell System

T. M. Sarukhanyan, R. B. Alaverdyan, A. H. Gevorgyan, H. Gharagulyan

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Light energy accumulation by cholesteric liquid crystal layer at oblique incidence

M.S. Rafayelyan, H. Gharagulyan, T. M. Sarukhanyan, A.H. Gevorgyan, R.B. Alaverdyan

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Lasing polarization peculiarities in cholesterics separated by dye-doped polymeric layer

T.M. Sarukhanyan, H. Gharagulyan, A.H. Gevorgyan, R.B. Alaverdyan

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Controlling Possibilities of Functionalized Graphene Oxide Liquid Crystalline Microdroplets

Gharagulyan Hermine, Melikyan Yeghvard, Vasilev Alexey, Hayrapetyan Vardan, Khachatryan Ashot, Apreyan Ruben, Yerosyan Mkrkich

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Spatial evolution of light polarization in wedge-shaped cholesteric liquid crystal cell

R. Alaverdyan, L. Aslanyan, G. Gevorgyan, H. Gharagulyan, H. Hovakimyan, Zh. Ninoyan

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Lasing in three-layer cholesteric-dye-doped polymer-cholesteric sandwich cell

T.M. Sarukhanyan, H. Gharagulyan, R.B. Alaverdyan, A.H. Gevorgyan

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The role of the geometric phase in cholesteric with a defect layer toward multimodal robust lasing

T.M. Sarukhanyan, M.S. Rafayelyan, H. Gharagulyan, R.B. Alaverdyan, S.S. Golik, A.H. Gevorgyan

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Filtering of terahertz radiation by a metasurface structure

Simonyan Karen, Parsamyan Henrik, Gharagalyan Hermine, Khachatryan Ashot, Yerosyan Mkrkich

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Manipulating Optical Features of MoS₂-decorated rGO Nanosystems

Hermine Gharagulyan, A. Vasil'ev, M. Zhezhu, Y. Melikyan

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Studying Graphene Oxide Stability Depending on Particle Sizes

Yeghvard Melikyan, A. Vasil'ev, M. Zhezhu, H. Gharagulyan

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Comparison of the Electro-Optical Properties of MoS₂/rGO Heterostructures Fabricated via CVD and Soft Chemistry Methods

Marina Zhezhu, A. Vasil'ev, Y. Melikyan, H. Gharagulyan

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Stability Controlling of L-arginine- and L-nitroarginine-Functionalized Graphene Oxide

Yeghvard MELIKYAN, Alexey VASIL'EV, Marina ZHEZHU, Elen MNATSAKANYAN, Deren PETROSYAN,

Mkrtich YERANOSYAN, Ruben APREYAN, Hermine GHARAGULYAN

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Functionalized Graphene Oxide Liquid Crystalline Systems Under External Fields

Hermine Gharagulyan, Alexey Vasil'ev, Marina Zhezhu, Gayane Baghdasaryan, Yeghvard Melikyan

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Synthesis, Characterization and Liquid Crystalline Phase Formation of MoS₂

Sara Gyozyalyan, Yeva Melikyan, Marina Zhezhu, Alexey Vasil'ev, Hermine Gharagulyan

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Liquid Crystalline Nanosystems for Advanced Optoelectronics

Hermine Gharagulyan, Alexey Vasil'ev, Marina Zhezhu, Sara Gyozyalyan, L. Avanesyan, V. Mehrabyan

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ELECTRON-BEAM DRIVEN MICROPATTERNING OF L-CYSTEINEFUNCTIONALIZED CHALCOGENIDES

Sara Gyozyalyan, L Avanesyan, V Mehrabyan, M Zhezhu, A Vasil'ev, H Gharagulyan

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AMINO ACID-CONTROLLED MAGNETIC ALIGNMENT OF FE₃ O₄ - ENRICHED GOLC

Lilit Avanesyan, S Gyozyalyan, V Mehrabyan, M Zhezhu, A Vasil'ev, H Gharagulyan

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TERAHERTZ RESPONSE OF GRAPHENE-LIKE STRUCTURES

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Liquid Crystalline Nanosystems: Research Directions, Methods, and Achievements

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Ge-Sb-Te Gradient Crystalline Films for Potential Optical Filtering

Marina Zhezhu, Alexey Vasil'ev, Maxim Yaprntsev, Davit Ghazaryan, Hermine Gharagulyan

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Resonances Induced by Structural Asymmetry in the THz Domain and Their Applications

Sara Gyoalyan, Marina Zhezhu, Alexey Vasil'ev, Henrik Parsamyan, Tigran Abrahamyan,

Gayane Baghdasaryan, Davit A. Ghazaryan, Hermine Gharagulyan

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Terahertz Response of Liquid Crystalline GO and rGO Thin Films

Lilit Avanesyan, Alexey Vasil'ev, Marina Zhezhu, Henrik Parsamyan, Gayane Baghdasaryan,

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Optical Properties of Chitosan-Functionalized Graphene Oxide

Valentina Mehrabyan, Gayane Baghdasaryan, Adrine Sahakyan, Marina Zhezhu, Alexey Vasil'ev,

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