

## Publications

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*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

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*Article*

**Improving the electro-optical properties of MoS<sub>2</sub>/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

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*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

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*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

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*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

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*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

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*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

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*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

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*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

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*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>

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*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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*Conference*

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

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

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*Conference*

**Nonreciprocal Transmission in Electro-Tunable Cholesterics**

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

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*Conference*

**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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*Conference*

**Lasing in Cholesteric-Polymer Wedge-Cell System**

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

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*Conference*

**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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*Conference*

**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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*Conference*

**Controlling Possibilities of Functionalized Graphene Oxide Liquid Crystalline Microdroplets**

Gharagulyan Hermine, Melikyan Yeghvard, Vasilev Alexey, Hayrapetyan Vardan, Khachatryan Ashot, Apreyan Ruben, Yeranossyan Mkrtych

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*Conference*

**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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*Conference*

**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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*Conference*

**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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*Conference*

**Filtering of terahertz radiation by a metasurface structure**

Simonyan Karen, Parsamyan Henrik, Gharagulyan Hermine, Khachatryan Ashot, Yeranossyan Mkrtych

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*Conference*

**Manipulating Optical Features of MoS<sub>2</sub>-decorated rGO Nanosystems**

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

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*Conference*

**Studying Graphene Oxide Stability Depending on Particle Sizes**

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

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*Conference*

**Comparison of the Electro-Optical Properties of MoS<sub>2</sub>/rGO Heterostructures Fabricated via CVD and Soft Chemistry Methods**

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

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*Conference*

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

Yeghvard MELIKYAN, Alexey VASIL'EV, Marina ZHEZHU, Elen MNATSAKANYAN, Deren PETROSYAN, Mkrtych YERANOSYAN, Ruben APREYAN, Hermine GHARAGULYAN

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*Conference*

**Functionalized Graphene Oxide Liquid Crystalline Systems Under External Fields**

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

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*Conference*

**Synthesis, Characterization and Liquid Crystalline Phase Formation of MoS<sub>2</sub>**

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

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