

# Hakob Levon Margaryan

✉ marhakob@ysu.am



## Research Institute of Physics

Center of Semiconductor Devices and Nanotechnologies

Leading researcher

## Language skills

Հայերեն Русский English

## Publications

*Article*

### **Pyrolytic carbon/liquid crystal structure based platform for tunable THz components**

Hakob L. Margaryan, David L. Hovhannisyan, Nune H. Hakobyan, Valery K. Abrahamyan,

Petros K. Gasparyan, Pilip Y. Misiyuk, Alesia G. Paddubskaya, Nadzeya I. Valynets,

Konstantin G. Batrakov

International Conference on Microwave & THz Technologies, Wireless Communications and

OptoElectronics (IRPhE 2022)

2023 22987029/ 66-69

*Article*

### **ЖИДКОКРИСТАЛЛИЧЕСКИЙ УПРАВЛЯЕМЫЙ ОПТИЧЕСКИЙ ФИЛЬТР, КОМБИНИРУЕМЫЙ С УСТРОЙСТВАМИ ВИДЕОНАБЛЮДЕНИЯ**

А.Л. МАРГАРЯН, П.К. ГАСПАРЯН, В.К. АБРААМЯН, Н.Г. АКОПЯН, А.С. ЧИЛИНГАРЯН, Д.К. ПОХСРАРЯН,

Г.М. СТЕПАНЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2023

102-107

*Article*

### **Controlled Liquid Crystal Optical Filter Combined with Video Surveillance Devices**

H. L. Margaryan, P. K. Gasparyan, V. K. Abrahamyan, N. H. Hakobyan, H. S. Chilingaryan,

D. K. Pokhsraryana, G. M. Stepanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 73-76

*Article*

### **Apparatuses for preparing and investigation of liquid crystal devices**

Hakob L. Margaryan, Nune H. Hakobyan, Hakob S. Chilingaryan, Valery K. Abrahamyan,

Nelson V. Tabirian

Proceedings of SPIE. Emerging Liquid Crystal Technologies XVII 2022 120230C-1-6

*Article*

### **Azodyes for liquid crystal photoalignment in displays and diffraction optical elements**

Vladimir G. Chigrinov, Victor V. Belyaev, Vladimir M. Kozenkov, Denis N. Chausov, Hakob L. Margaryan,

Nune H. Hakobyan, Nelson V. Tabirian

Proceedings of SPIE. Emerging Liquid Crystal Technologies XVII 2022 1202305/1-11

*Article*

**Влияние воздушного пузыря на ориентацию жидкого кристалла**

А.Л. Маргарян, Н.Г. Акопян, В.К. Абраамян, Г.М. Степанян, В.В. Беляев, М.В. Ермакова,  
В.И. Машченко, В.А. Жачкин

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2022  
574-579

---

*Article*

**Effect of Air Bubble on Liquid Crystal Alignment**

H. L. Margaryan, N. H. Hakobyan, V. K. Abrahamyan, G. M. Stepanyan, V. V. Belyaev, M.V. Ermakova,  
V. I. Mashchenko, V. A. Zhachkin

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 389-392

---

*Article*

**Diffraction gratings made from optically anisotropic material with surface microrelief**

N. G. Akopyan, A. L. Margaryan, V.V. Belyaev, A. S. Solomatin, S. Kumar, D. N. Chausov, A. A. Belyaev

Journal of Optical Technology 2021 30-36

---

*Article*

**Дифракционные решетки с поверхностным микрорельефом из оптически анизотропного материала**

Н. Г. Акопян, А.Л. Маргарян, В.В. Беляев, А.С. Соломатин, S. Kumar, Д. Н. Чаусов, А.А. Беляев

Оптический журнал 2021 44-52

---

*Article*

**NEW GENERATION OPTICAL ELEMENTS WITH CENTRALLY SYMMETRIC ORIENTATION BASED ON LIQUID CRYSTAL POLYMERS**

H. L. MARGARYAN, N. H. HAKOBYAN, V. K. Abrahamyan, V. V. BELYAEV, D. N. CHAUSOV, A. S. SPAKHOV

Proceedings of the YSU. Physical and Mathematical Sciences 2020 70-76

---

*Article*

**Diffraction on periodic surface microrelief grating with positive or negative optical anisotropy**

Nune Hakobyan, Hakob Margaryan, Victor V. Belyaev, Alexey S. Solomatin, Sandeep Kumar,

Denis N. Chausov, Andrey A. Belyaev, Alexander G. Smirnov, Artem A. Gorbunov

Applied Optics 2020 8443-8449

---

*Article*

**Properties of Diffraction Optical Elements on the Base of Discotic Liquid Crystal for Display Application**

Hakob Margaryan, Nune Hakobyan, Victor V. Belyaev, Alexey S. Solomatin, Andrey A. Belyaev,

Sandeep Kumar, Alexander G. Smirnov

SID Symposium Digest of Technical Papers 2020 1558-1561

---

*Article*

**New Prospects of Application of Liquid Crystal Polymer Cantilever**

H.L. Margaryan, N.H. Hakobyan, V.K. Abrahamyan, P.K. Gasparyan, A.S. Yeremyan, N.V. Tabiryan,

R. Vergara

Proceedings of the YSU. Physical and Mathematical Sciences 2020 165-171

---

Article

**Microlense liquid crystal devices on the base of cylindrical objects**

Nune Hakobyan, Hakob Margaryan, Victor V. Belyaev, Alexey S. Solomatin, Douglas R. Suarez,

Alexander G. Smirnov

JOURNAL OF THE SOCIETY FOR INFORMATION DISPLAY 2019 536-542

---

Article

**Device for real-time measuring of circular dichroism at a specific wavelength**

НАКОБ МАРГАРЯН, НУНЕ ХАКОБЯН, NELSON TABIRIAN, TIGRAN SARGSYAN, PETROS GASPARYAN,

VALERI ABRAHAMYAN, НАКОБ ЧИЛИНГАРЯН, DAVID POKHSRARYAN

Journal of the Optical Society of America B: Optical Physics 2019 D66-D69

---

Article

**Optical Recording Method of Patterned Microstructures Based on Liquid Crystal Polymer**

H. L. Margaryan, N. H. Hakobyan, V. K. Abrahamyan, V. M. Aroutiounian, P. K. Gasparyan, V. V. Belyaev,

A. S. Solomatin, D.N. Chausov

Journal of Contemporary Physics (Armenian Academy of Sciences) 2019 27-32

---

Article

**МЕТОД ОПТИЧЕСКОЙ ЗАПИСИ УПОРЯДОЧЕННЫХ МИКРОСТРУКТУР НА ОСНОВЕ ЖИДКОКРИСТАЛЛИЧЕСКОГО ПОЛИМЕРА**

А.Л. МАРГАРЯН, В.К. АБРАМЯН, Н.Г. АКОПЯН, В.М. АРУТЮНЯН, П.К. ГАСПАРЯН, В.В. БЕЛЯЕВ,

А.С. СОЛОМАТИН, Д.Н. ЧАУСОВ

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2019

36-43

---

Article

**Polarization Diffractive Waveplate as a Base of Circular Dichroism Meter**

Nune Hakobyan, Hakob Margaryan, Nelson Tabiryan, Andrey Belyaev, Victor Belyaev

JOURNAL OF THE SOCIETY FOR INFORMATION DISPLAY 2019 816-818

---

Article

**Запись геометрических фазовых элементов на основе жидкокристаллических полимеров**

А.Л. Маргарян, В.К. Абрамян, Д.Л. Оганесян, Н.Г. Акопян, В.М. Арутюнян, В.В. Беляев,

А.С. Соломатин

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2017

353-360

<http://www.flib.sci.am/eng/Fizika/Frame.html>

---

Article

**Obtaining of Graphene by Chemical Vapor Deposition**

H.L. Margaryan, V.M. Aroutiounian, N.H. Hakobyan, V.K. Abrahamyan, H.S. Chilingaryan,

Arpi S. Dilanchian Gharghani

SEMICONDUCTOR MICRO- AND NANOELECTRONICS. PROCEEDINGS OF THE ELEVENTH INTERNATIONAL CONFERENCE

2017 169-172

<http://icsmn.yasu.am/11th%20ICSMN-Proceedings.pdf>

---

Article

### **Recording of Geometric Phase Elements Based on Liquid Crystal Polymers**

H. L. Margaryan, V. K. Abrahamyan, D. L. Hovhannisyan, N. H. Hakobyan, V. M. Aroutiounian, V. V. Belyaev, A. S. Solomatin

Journal of Contemporary Physics (Armenian Academy of Sciences) 2017 258–263

<https://link.springer.com/article/10.3103/S1068337217030112>

---

#### *Article*

### **Electro-optical characteristics of a liquid crystal cell with graphene electrodes**

Nune H. Hakobyan, Hakob L. Margaryan, Valeri K. Abrahamyan, Vladimir M. Aroutiounian, Arpi S. Dilanchian Gharghani, Amalya B. Kostanyan, Timothy D. Wilkinson, Nelson V. Tabirian

Beilstein Journal of Nanotechnology 2017 2802–2806

<https://www.beilstein-journals.org/bjnano/articles/8/279>

---

#### *Article*

### **Circular dichroism meter based on polarization diffractive waveplate**

Hakobyan Nune, Margaryan Hakob, Chilingaryan Hakob, Tabiryan Nelson, Belyaev Victor,

Solomatin Aleksey

Вестник московского государственного областного университета. Серия: Физика-математика 2017 88–94

<http://vestnik-mgou.ru/Articles/Doc/11927>

---

#### *Article*

### **Управляемые дифракционные элементы на основе жидкокристаллических композитов**

Акопян Н.Г., Маргарян А.Л., Соломатин А.С., Мащенко В.И., Беляев В.В.

Вестник московского государственного областного университета. Серия: Физика-математика 2017 76 - 83

---

#### *Article*

### **Technique for spectropolarimetry based on liquid crystal polarization diffraction grating**

Hakobyan N., Margaryan H., Hovhannisyan D., Sargsyan T., Gasparyan P., Aroutiounian V.,

Chilingaryan H., Pokhsranyan D., Tabirian N.

Molecular Crystals and Liquid Crystals 2015 63-69

<http://www.tandfonline.com/loi/gmcl20>

---

#### *Article*

### **Управление излучением в среднем ИК диапазоне длин волн с помощью жидкокристаллической фазовой решетки**

Д.Л. Оганесян, А.Л. Маргарян, Н.Г. Акопян, В.М. Арутюнян, В.В. Беляев, А.С. Соломатин

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2015 74-84

<http://www.flib.sci.am/eng/Fizika/Frame.html>

---

#### *Article*

### **Technique for Spectropolarimetry Based on Liquid Crystal Polarization Diffraction Grating**

Hakobyan N., Margaryan H., Hovhannisyan D., Սարգսյան Տիգրան, Գասպարյան Պետրոս,

Aroutiounian V.M., Չիլինգարյան Հ., Փոխարարյան Ղազիթ, Թաբիրյան Նելսոն

Molecular Crystals and Liquid Crystals 2015 63-69

<http://www.tandfonline.com/loi/gmcl20>

---

Article

**Radiation control in the mid IR wavelength range using the liquid crystal phase grating**

H. L. Margaryan, N. H. Hakobyan, V. M. Aroutiounian, D. L. Hovhannisyanyan, V. V. Belyaev, A. S. Solomatin

Journal of Contemporary Physics (Armenian Academy of Sciences) 2015 55-63

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/11958>

---

Article

**Electrically Controlled Phase Gratings for Terahertz Radiation Based on Nematic Liquid Crystal**

D. Hovhannisyanyan, N. Tabiryan, H. Margaryan, V. Abrahamyan, N. Hakobyan

Journal of Physics: Conference Series 2014 1-4

<http://iopscience.iop.org/journal/1742-6596>

---

Article

**Restoration of diffracted far field at the output of circular diffraction waveplate**

D. Hovhannisyanyan, N. Tabiryan, H. Margaryan, V. Abrahamyan, N. Hakobyan

Journal of Physics: Conference Series 2014 1-4

<http://iopscience.iop.org/journal/1742-6596>

---

Article

**Conformations of DNA in the presence of nanomole concentrations of Co<sup>+2</sup> ions and mezo-tetra (4-N-oxyethylpyridil) porphyrin**

Jamlet Monaselidze, Maya Gorgoshidze, David Khachidze, Maya Kiladze, Vasil Bregadze, Eugene Kiziria, Hakob Margaryan, Nune Hakobyan

Journal of Biomolecular Structure and Dynamics 2014 267-273

<http://www.tandfonline.com/action/journalInformation?journalCode=tbsd20#.V25anP...>

---

Article

**Device for Measuring the Circular Dichroism Spectrum in Real Time**

Hakob Margaryan, David Hovhannisyanyan, Nune Hakobyan, Tigran Sargsyan, Petros Gasparyan,

David Pokhsranyan, Nelson Tabiryan

Journal of Nonlinear Optical Physics & Materials 2013 1350042-7

<http://www.worldscientific.com/worldscinet/jnopm>

---

Article

**Zn Ions Change Binding Mode of TOEPyP4 with DNA and Cause DNA Transition from B to C and Zn-Like Conformations**

Hakob Margaryan, Nune Hakobyan, Jamlet Monaselidze, Maya Gorgoshidze, David Khachidze,

Maya Kiladze, Vasil Bregadze, Eugene Kiziria

American Journal of Analytical Chemistry 2013 744-748

<http://www.scirp.org/journal/ajac>

---

Article

**Features of Polarization Diffraction Gratings Switching under the Influence of Bipolar Electric Pulses**

H.L. Margaryan, N.H. Hakobyan, D.L. Hovhannisyanyan, V.K. Abrahamyan, T.K. Sargsyan, A.M. Movsisyan

SID Symposium Digest of Technical Papers 2013 92-93

[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2168-0159](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2168-0159)

---

Article

**CD and DSC Investigation of Individual and Complex Influence of Meso-Tetra(4-Oxiethylpyridil) Porphyrin (TOEPyP4) and Its Zn-Complex on DNA**

H. Margaryan, N. Hakobyan, J. Monaselidze, E. Kiziria, M. Gorgoshidze, E. Lomidze, D. Khachidze,

M. Kiladze

American Journal of Analytical Chemistry 2012 698-703

<http://www.scirp.org/journal/ajac>

---

*Article*

**Optimizing of Control Signal Shape for Improving of Time Characteristics of Liquid Crystal Based Devices**

H.L. Margaryan, N.H. Hakobyan, D. L. Hovhannisyan, V. K. Abrahamyan, D. K. Pokhsroryan,

S. R. Manucharyan

Molecular Crystals and Liquid Crystals 2012 p. 170-176

<http://www.tandfonline.com/loi/gmcl20>

---

*Article*

**Some Peculiarities of the Recording of Polarization Diffraction Gratings by Doubling Method**

H.L. Margaryan, V.M. Aroutiounian, N.H. Hakobyan, D.L. Hovhannisyan, V.K. Abrahamyan

Molecular Crystals and Liquid Crystals 2012 214-227

<http://www.tandfonline.com/loi/gmcl20>

---

*Article*

**Restoration of Electro Optically Induced Phase Shift of Light Passed Through the Liquid Crystal**

N.H. Hakobyan, V.M. Aroutiounian, H.L. Margaryan, V.K. Abrahamyan, A.R. Mailian, D.L. Hovhannisyan,

D.K. Pokhsroryan

Molecular Crystals and Liquid Crystals 2010 . 59(215)-64(220)

<http://www.tandfonline.com/loi/gmcl20>

---

*Article*

**Influence of the voltage applied to the semiconductor substrate on birefringence of nematic liquid crystal**

H.L. Margaryan, V.M. Aroutiounian, N.H. Hakobyan, D.L. Hovhannisyan, V.K. Abrahamyan

Molecular Crystals and Liquid Crystals 2010 78-87

<http://www.tandfonline.com/loi/gmcl20>

---

*Article*

**Влияние граничного значения угла наклона директора нематического жидкого кристалла на время переориентации**

Н.Г. Акопян, В.М. Арутюнян, А.Л. Маргарян, Д.Л. Оганесян

Поверхность. Рентгеновские, синхротронные и нейтронные исследования (Journal of Surface Investigation)

2010 98-102

<http://www.issp.ac.ru/journal/surface/>

---

*Article*

**Улучшение времени включения жидкокристаллического фазового модулятора с помощью дополнительного управляющего напряжения**

Н.Г. Акопян, В.М. Арутюнян, А.Л. Маргарян, В.К. Абрамян, Д.Л. Оганесян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2010  
429-439  
<http://www.flib.sci.am/eng/Fizika/Frame.html>

---

*Article*

**Improvement of Turn-on Time of Liquid-Crystal Phase Retarder by Using an Additional Control Voltage**

N. H. Hakobyan, V. M. Aroutiounian, H. L. Margaryan, V. K. Abrahamyan, D. L. Hovhannisyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2010 pp. 278-285

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/11958>

---

*Article*

**Влияние дополнительного электрического поля на двулучепреломление нематического жидкого кристалла**

Н.Г. Акопян, В.М. Арутюнян, А.Л. Маргарян, В.К. Абрамян, Д.Л. Оганесян, Д.К. Похсрарян,

Н.В. Каманина

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2009  
433-443

<http://www.flib.sci.am/eng/Fizika/Frame.html>

---

*Article*

**Influence of additional electric field on the birefringence of a nematic liquid crystal**

N.H. Hakobyan, V.M. Aroutiounian, H.L. Margaryan, V.K. Abrahamyan, N.V. Kamanina,

D.L. Hovhannisyan, D.K. Pokhsraryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2009 p.283-290

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/11958>

---

*Article*

**Исследование характеристик жидкокристаллических электрически-управляемых фазовых пластинок**

Акопян Н.Г., Арутюнян В.М., Маргарян А.Л., Абрамян В.К., Бабаджанян В.Г., Оганесян Д.Л.,

Погосян А.Т., Похсрарян Д.К.

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2009  
с.124-132

<http://www.flib.sci.am/eng/Fizika/Frame.html>

---

*Article*

**Investigation of Characteristics of Electrically-Controlled Liquid-Crystal Retarders**

N. H. Hakobyan, V. M. Aroutiounian, H. L. Margaryan, V. K. Abrahamyan, V. G. Babajanyan,

D. L. Hovhannisyan, A. T. Poghosyan, D. K. Pokhsraryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2009 84-90

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/11958>

---

*Article*

**Investigation of Transient Processes in Nematic Liquid Crystal Cells with Semiconductor Substrate, Caused by the Electric Field Applied to Semiconductor**

Hakob Margaryan, Vladimir Aroutiounian, Nune Hakobyan, Vahan Babajanyan, Vahe Harutyunyan,

Valeri Abrahamyan

Molecular Crystals and Liquid Crystals 2008 231-237

<http://www.tandfonline.com/loi/gmcl20>

---

Conference

**Light Diffraction on Gratings with Periodic Microrelief with Negative Optical Anisotropy**

V. Belyaev, A. Solomatin, A. Gorbunov, H. Margaryan, V. Abramyan, D. Oganesyanyan, N. Hakobyan

---

Conference

**New Method of Light Polarization Determination**

H. Margaryan, N. Tabiryan, D. Hovhannisyan, V. Aroutiounian, V. Abrahamyan, N. Hakobyan,

T. Sargsyan, P. Gasparyan, A. Movsisyan

---

Conference

**New Approach to Determination of Light Polarization State**

H. Margaryan, N. Tabiryan, D. Hovhannisyan, V. Aroutiounian, V. Abrahamyan, N. Hakobyan,

T. Sargsyan, P. Gasparyan

---

Conference

**Nematic Liquid Crystal based electrically controlled phase gratings for terahertz radiation**

H. Margaryan, V. Aroutiounian, N. Hakobyan, D. Hovhannisyan

---

Conference

**Technique for Spectropolarimetry Based on Liquid Crystal Polarization Diffraction Grating**

N. Hakobyan, H. Margaryan, V. Aroutiounian, N. Tabiryan, H. Chilingaryan, D. Pokhsranyan

---

Conference

**Electrically Controlled Phase Gratings for Terahertz Radiation Based on Nematic Liquid Crystal**

D. Hovhannisyan, N. Tabiryan, H. Margaryan, V. Abrahamyan, N. Hakobyan

---

Conference

**Restoration of Diffracted Far Field at the Output of Circular Diffraction Waveplate**

D. Hovhannisyan, N. Tabiryan, H. Margaryan, N. Hakobyan, V. Abrahamyan

---

Conference

**Исследование структуры жидкий кристалл-полупроводник и разработка элементов фотоники на ее основе**

А.Л. Маргарян, Н.Г. Акопян, Д.Л. Оганесян, Н.В. Табирян, В.К. Абрамян

---

Conference

**Investigation of oscillations in nematic liquid crystal cells with semiconductor substrate, caused by the electric field applied to semiconductor**

H. Margaryan, V. Aroutiounian, V. Babajanyan, N. Hakobyan, V. Harutyunyan, V. Abrahamyan

---

Conference

**Some peculiarities of photorefraction in nematic liquid crystal cells with a semiconductor substrate**

H. Margaryan, V. Aroutiounian, V. Babajanyan, N. Hakobyan, D. Harutyunyan, V. Abrahamyan

---

Conference

**Some peculiarities of photorefraction in nematic liquid crystals with a silicon substrate**

H. Malkhasyan, V. Babajanyan, N. Hakobyan, D. Harutyunyan

---



Conference

**Some electrooptical characteristics of Semiconductor-liquid crystal interface**

H. Margaryan, N. Hakobyan, V. Harutyunyan, V. Abrahamyan

---

Conference

**Recording of dynamic diffraction gratings in spatial light modulators of semiconductor-liquid crystal structure**

V.K. Abrahamyan, N.H. Hakobyan, H.L. Margaryan, M.V. Isaev, N.L. Ivanova, N.A. Feoktistov

---

Conference

**NI-SbRIO Based Platform for Real Time Spectroscopy**

D. Pokhsraryan, H. Margaryan, N. Hakobyan, T. Sargsyan, P. Gasparyan, D. Hovhannisyan,

H. Chilingaryan

---

Conference

**Optical Tweezers Based on Radial Symmetric Phase Retarder and Circular Diffraction**

**Waveplate**

H. Margaryan, V. Abrahamyan, D. Hovhannisyan, N. Hakobyan, T. Sargsyan, P. Gasparyan, A. Movsesyan

---

Conference

**Circular Dichroism Meter Based on Polarization Diffractive Waveplate**

Nune Hakobyan, Hakob Margaryan, Hakob Chilingaryan, Nelson Tabiryan, Victor Belyaev,

Aleksey Solomatin

---

Conference

**Some electro-optical characteristics of liquid crystal cell with graphene electrodes**

Nune H. Hakobyan, Hakob L. Margaryan, Valeri K. Abrahamyan, Vladimir M. Aroutiounian,

Arpi S. Dilanchian Gharghani, Amalya B. Kostanyan, Timothy D. Wilkinson, Nelson V. Tabirian

---

Conference

**Obtaining of Graphene by Chemical Vapor Deposition**

H.L. Margaryan, V.M. Aroutiounian, N.H. Hakobyan, V.K. Abrahamyan, H.S. Chilingaryan,

Arpi S. Dilanchian Gharghani

---

Conference

**Features of Polarization Diffraction Gratings Switching under the Influence of Bipolar Electric Pulses**

H.L. Margaryan, D.L. Hovhannisyan, N.H. Hakobyan, V.K. Abrahamyan, T.K. Sargsyan, A.M. Movsisyan

---

Conference

**ДИФРАКЦИЯ НА ОПТИЧЕСКИ АНИЗОТРОПНЫХ РЕШЕТКАХ С РАЗНЫМ ЗНАКОМ ДВУЛУЧЕПРЕЛОМЛЕНИЯ**

МАРГАРЯН А.Л., АКОПЯН Н.Г., БЕЛЯЕВ В.В., СОЛОМАТИН А.С., БЕЛЯЕВ А.А.

---

Conference

**Apparatuses for preparing and investigation of liquid crystal devices**

Hakob L. Margaryan, Nune H. Hakobyan, Hakob S. Chilingaryan, Valery K. Abrahamyan,

Nelson V. Tabirian

---

Conference

**Azodyes for liquid crystal photoalignment in displays and diffraction optical elements**

Hakob L. Margaryan, Nune H. Hakobyan, Vladimir G. Chigrinov, Victor V. Belyaev, Vladimir M. Kozenkov, Denis N. Chausov, Nelson V. Tabiryan

---

Conference

**Effect of Air Bubble on Liquid Crystal Alignment**

N.H. Hakobyan, H.L. Margaryan, V.K. Abrahamyan, G.M. Stepanyan, V.V. Belyaev, M.V. Ermakova, V.I. Mashchenko, V.A. Zhachkin

---

Patent

**The method for registration of changes of polarization state of monochromatic light radiation**

Margaryan H., Aroutiounian V.M., Tabirian N., Hakobyan N., Hovhannisyan D., Movsisyan A., Gasparyan P.

---

Patent

**Device for non-invasive determination of glucose concentration in human organizm**

Margaryan H., Hakobyan N., Hovhannisyan D., Aroutiounian V., Tabirian N., Rohatgi U., Abrahamyan V., Sargsyan T., Movsisyan A., Gasparyan P.

---

Patent

**Մարդու օրգանիզմում գլյուկոզայի պարունակության ոչ ինվազիվ որոշման սարք**

Հակոբ Մարգարյան, Նելսոն Թաբիրյան, Ուլաենդրա Ոռհաջի, Վլադիմիր Հարությունյան, Նունե Հակոբյան, Վալերի Աբրահամյան, Դավիթ Հովհաննիսյան, Տիգրան Սարգսյան, Արտաշես Մովսիսյան, Պետրոս Գասպարյան

---

Patent

**Հեղուկ բյուրեղային բջջի փոխարկման և փուլային մոդուլման կառավարման եղանակ և դրա իրականացման սարք**

Հ. Մարգարյան, Վ. Հարությունյան, Ն. Հակոբյան, Դ. Հարությունյան, Վ. Աբրահամյան

---

Patent

**Method and device for controlling of switching and phase modulation of a liquid crystal cell**

Margaryan Hakob, Aroutiounian Vladimir, Hakobyan Nune, Abrahamyan Valery, Hovhannisyan David

---

Patent

**Մոնիթորմատիկ լուսային ճառագայթի բևեռացման փոփոխության գրանցման եղանակ**

Հակոբ Մարգարյան, Վլադիմիր Հարությունյան, Նելսոն Թաբիրյան, Նունե Հակոբյան, Վալերի Աբրահամյան, Դավիթ Հովհաննիսյան, Տիգրան Սարգսյան, Արտաշես Մովսիսյան, Պետրոս Գասպարյան

---

Patent

**Շրջանային դիքրոիզմի սպեկտրի չափման սարք**

Հ. Մարգարյան, Ն.Թաբիրյան, Ու. Ռոհաջի, Վ. Հարությունյան, Ն. Հակոբյան, Դ. Հովհաննիսյան, Տ. Սարգսյան, Պ. Գասպարյան

---

Patent

**Device and Method for measuring circular dichroism**

Margaryan Hakob, Hakobyan Nune, Hovhannisyan David, Aroutiounian Vladimir, Tabirian Nelson,  
Rohatgi Upendra, Jo Jae, Goushcha Oleksandr, Sargsyan Tigran, Gasparyan Petros

---

*Patent*

**Հեղուկ բյուրեղային բևեռային դիֆրակցիոն ալիքային թիթեղ**

Հակոբ Մարգարյան, Դավիթ Հովհաննիսյան, Նունե Հակոբյան, Վալերի Աբրահամյան,  
Վլադիմիր Հարությունյան, Նելսոն Թաբիրյան

---

*Patent*

**Centrally symmetric liquid crystal polarization diffractive waveplate and its fabrication**

Margaryan Hakob, Hakobyan Nune, Hovhannisyan David, Abrahamyan Valeri, Aroutiounian Vladimir,  
Tabirian Nelson

---

*Patent*

**Device for non-invasive determination of glucose concentration in human organism**

Margaryan, Hakob, Hakobyan, Nune, Hovhabbisyan, David, Aroutiounian, Vladimir, Tabirian, Nelson,  
Rohatgi, Upendra, Abrahamyan, Valeri, Sargsyan, Tigran, Movsissyan, Artashes, Gasparyan, Petros

---

*Patent*

**Հեղուկ բյուրեղային սարքը հեղուկ բյուրեղային նյութով լցման սարքավորում**

Հակոբ Լևոնի Մարգարյան, Նունե Հրանտի Հակոբյան, Հակոբ Զիլինգարյան, Վալերի Աբրահամյան,  
Պետրոս Գասպարյան

---

*Patent*

**«Apparatus for filling liquid crystal device with liquid crystal substance»**

H.L. Margaryan, N.H. Hakobyan, V.K. Abrahamyan, H.S. Chiligrayan, P.K. Gasparyan, Nelson Tabirian,  
Oleksandr Goushcha

---

*Conference*

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

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

---

*Conference*

**Analyses of the Characteristics of a Spherical Quantum Dot by Wavelet Transform Methods**

E. Kozhanova, S. Danilov, V. Belyaev, H. Margaryan, N. Hakobyan, V. Abrahamyan, P. Gasparyan

---

*Conference*

**Platform for real time spectroscopy based on NI-sbRIO system for optimal control of materials properties**

Margaryan H., Pokhsraryan D., Hakobyan N., Gasparyan P., Hovhannisyan D., Chilingaryan H.,  
Belyaev V., Kuznetsov M.

---

*Conference*

**МОДЕЛИРОВАНИЕ ПОДВИЖНОСТИ ЭЛЕКТРОНОВ В ОРГАНИЧЕСКИХ МАТЕРИАЛАХ  
ОПТОЭЛЕКТРОНИКИ**

Акопян Нуне Грантовна, Маргарян Акоп Левонович, Беляев Виктор Васильевич,  
Чаусов Денис Николаевич, Соломатин Алексей Сергеевич, Кучеров Роман Николаевич,

Сандип Кумар (Sandeep Kumar), Ермакова Мария Вадимовна, Царева Елена Владимировна,  
Беляев Андрей Андреевич, Ханна Георгий Михайлович, Коршаков Никита Алексеевич

---