

# Henrik Ashot Parsamyan

## Research Institute of Physics

Group Leader

12-70

hparsamyan@ysu.am



## Education

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Radiophysics
<b>Date</b>	2018 - 2021
<b>Degree name</b>	PhD student

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Radiophysics
<b>Date</b>	2016 - 2018
<b>Degree name</b>	Masters

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Radiophysics
<b>Date</b>	2012 - 2016
<b>Degree name</b>	Bachelor

## Scientific Rank/degree

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Ռադիոֆիզիկա
<b>Date</b>	2021
<b>Degree name</b>	Candidate
<b>Specialty</b>	Physico-mathematical sciences
<b>Scientific Supervisor</b>	Khachatur Nerkararyan
<b>Research Topic</b>	Modulation and absorption of the infrared radiation in micro and nanostructures with cylindrical symmetry

## Language skills

Հայերեն English Русский

## Work experience

<b>Institution</b>	Yerevan State University
<b>Period of time</b>	2025 till now

**Rank/degree** Head of Working Group of Nano Optics and Modelling

---

**Institution** Yerevan State University

**Period of time** 2021 till now

**Rank/degree** Professor Assistant

---

## Membership

---

**Institution** Optica (formerly Optical Society of America)

**Period of time** 2018 till now

---

## Publications

---

*Article*

**Resonant conversion of THz waves with orthogonal polarization upon transmission through a woven mesh**

Tigran Abrahamyan, Henrik Parsamyan, Davit Manukyan, Khachatur Nerkararyan

Applied Optics 2025 123-128

---

*Article*

**Slotted gap-surface plasmon resonator as an efficient platform for sensing**

Roza Gabrielyan, Gurgen Arabajyan, Torgom Yezekyan, Henrik Parsamyan

Optics Express 2025 2593-2603

---

*Article*

**Resonant enhancement and confinement of microwave field in coupled conductive rod systems**

Tigran Abrahamyan, Gor Ohanyan, David Hambaryan, Artyom Movsisyan, Henrik Parsamyan,

Hovhannes Haroyan, Arsen Babajanyan, Khachatur Nerkararyan

Physica Scripta 2025 025515

---

*Article*

**L-cysteine polymorph coatings for THz sensing metasurfaces**

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

H. Gharagulyan

Results in Physics 2025 108351

---

*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*

**Dielectric coated conductive rod resonantly coupled with a cut transmission line as a tunable microwave bandstop filter and sensor**

David Hambaryan, Tigran Abrahamyan, Henrik Parsamyan, Artyom Movsisyan, Bill Minasyan,

Hovhannes Haroyan, Arsen Babajanyan, Kiejin Lee, Barry Friedman, Khachatur Nerkararyan  
Heliyon 2024 e24477

---

*Article*

**Gap-enhanced optical bistability in plasmonic core-nonlinear shell dimers**

Artyom Movsisyan, Henrik Parsamyan

Nanoscale 2024 2030-2038

---

*Article*

**Highly dispersive transmission conditions for a conductive rods-based ultrathin bilayer metastructure**

Tigran Abrahamyan, Gor Ohanyan, David Hambaryan, David Kalantar, Henrik Parsamyan,

Hovhannes Haroyan, Arsen Babajanyan, Kiejin Lee, Khachatur Nerkararyan

Journal of Physics D: Applied Physics 2024 355108

---

*Article*

**Laser polarization as a critical factor in the SERS-based molecular sensing performance of nano-gapped Au nanowires**

Simón Roa, Terunori Kaihara, María Laura Pedano, Henrik Parsamyan, Paolo Vavassori

Nanoscale 2024 15280 - 15297

---

*Article*

**High dispersion and bistability of the light transmission through a bilayer metasurface with resonant plasmonic elements**

Davit Manukyan, Henrik A. Parsamyan, Khachatur Nerkararyan

Applied Surface Science 2024 161105

---

*Article*

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

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

Semiconductor Science and Technology 2024 095012

---

*Article*

**Tunable ultra-broadband terahertz metamaterial absorber based on vanadium dioxide strips**

Lilit Gevorgyan, Hovhannes Haroyan, Henrik Parsamyan, Khachatur Nerkararyan

RSC Advances 2023 11948-11958

---

*Article*

**Dark-probe scanning near-field microscopy**

Henrik Parsamyan, Torgom Yezekyan, Khachatur Nerkararyan, Sergey I Bozhevolnyi

New Journal of Physics 2023 103015

---

*Manual*

**Գիտափորձի ավտոմատացում LabVIEW միջավայրում**

Տիգրան Աբրահամյան, Հենրիկ Պարսամյան

2023 93

---

*Article*

**3D visualization of microwave electric and magnetic fields by using a metasurface-based**

**indicator**

Zhirayr Baghdasaryan, Arsen Babajanyan, Henrik Parsamyan, Barry Friedman, Seungwan Kim,  
Jung-Ha Lee, Kiejin Lee  
Scientific Reports 2022 6150

---

*Article***Broadband tunable mid-infrared absorber based on conductive strip-like meta-atom elements**

Henrik Parsamyan, Hovhannes Haroyan, Khachatur Nerkararyan  
Materials Today Communications 2022 103692

---

*Article***Analysis of bistability at the coupling between waveguide and whispering gallery modes of a nonlinear hemicylinder**

Henrik Parsamyan, Khachik Sahakyan, Khachatur Nerkararyan  
Journal of Physics D: Applied Physics 2022 165102

---

*Article***3D Visualization Method Based on Metastructure Optical Indicator of Thermoelastic Polarization Microscope for Electromagnetic Fields in Microwave and THz Ranges**

A. Babajanyan, Zh. Baghdasaryan, H. Parsamyan, B. Friedman, K. Lee  
NanoWorld Journal 2022 S4

---

*Article***Resonant Interaction Between Microwaves and Thin Conducting Microstructure with Finite Length**

T. Abrahamyan, H. Haroyan, D. Hambaryan, H. Parsamyan, K. Lee, A. Babajanyan, Kh. Nerkararyan  
NanoWorld Journal 2022 S5

---

*Article***Surface-standing-wave formation via resonance interaction of a finite-length conductive rod with microwaves**

Tigran Abrahamyan, Hovhannes Haroyan, David Hambaryan, Henrik Parsamyan, Arsen Babajanyan,  
Kiejin Lee, Barry Friedman, Khachatur Nerkararyan  
Journal of Physics D: Applied Physics 2022 445001

---

*Article***Broadband Absorption of Microwaves in Periodic Cylindrical Structures**

Lilit Gevorgyan, Henrik A. Parsamyan, Hovhannes Haroyan  
Springer Proceedings in Physics (Optics and Its Applications) 2022 39-46

---

*Article***Broadband Infrared Absorption Due to Low Q-factor Dipole Modes of Cr Strips**

H. A. Parsamyan, D. S. Hambaryan, H. S. Haroyan  
Springer Proceedings in Physics (Optics and Its Applications) 2022 59-68

---

*Article***GRAPHITE-INSULATOR-METAL BASED METAMATERIAL ABSORBER AT X-BAND**

D. Hambaryan, L. Gevorgyan, H. Parsamyan, A. Yesayan, H. Haroyan, Kh. Nerkararyan  
IEEE Xplore 2022 15-17

---

Article

**Light control in a hemicylindrical whispering gallery microcavity-parallel plate waveguide system**

Hovhannes Haroyan, Henrik Parsamayn, Khachatur Nerkararyan

Optics Communications 2020 126122(1-5)

---

Article

**Near-perfect broadband infrared metamaterial absorber utilizing nickel**

Henrik Parsamyan

Applied Optics 2020 7504-7509

---

Article

**Broadband microwave absorption based on the configuration resonance of wires**

Henrik Parsamyan, Hovhannes Haroyan, Khachatur Nerkararyan

Applied Physics A: Materials Science and Processing 2020 773

---

Article

**Efficient broadband infrared absorbers based on core-shell nanostructures**

Khachatur V. Nerkararyan, Sergey I. Bozhevolnyi, Henrik A. Parsamyan

Journal of the Optical Society of America B: Optical Physics 2019 2643-2649

---

Conference

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

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

---

Conference

**Dielectric-Coated Conductive Rod Resonantly Coupled with a Cut Goubau Line as a Sensitive Microwave Sensor**

Tigran Abrahamyan, Hovhannes Haroyan, David Hambaryan, Artyom Movsisy, Henrik Parsamyan,

Arsen Babajanyan, Khachatur Nerkararyan, Kiejin Lee

---

Conference

**Resonant interaction between microwaves and thin conducting microstructure with finite length**

T. Abrahamyan, H. Haroyan, D. Hambaryan, H. Parsamyan, A. Babajanyan, Kh. Nerkararyan, K. Lee

---

Conference

**Engineering Electromagnetic Hotspots in Gap-Surface Plasmon Resonators**

Henrik Parsamyan, Roza Gabrielyan, Gurgen Arabajyan, Torgom Yezekyan

---

Conference

**TERAHERTZ RESPONSE OF GRAPHENE-LIKE STRUCTURES**

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

H. Gharagulyan

---

Conference

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

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

Gayane Baghdasaryan, Davit A. Ghazaryan, Hermine Gharagulyan

---

*Conference*

**Terahertz Response of Liquid Crystalline GO and rGO Thin Films**

Lilit Avanesyan, Alexey Vasil'ev, Marina Zhezhu, Henrik Parsamyan, Gayane Baghdasaryan,  
Maksim Sargsyan, Davit A. Ghazaryan, Hermine Gharagulyan

---

*Conference*

**Realizing multiple bound states in the continuum in optical and THz metasurfaces**

T. Abrahamyan, H. Parsamyan, D. Hambaryan, Kh. Nerkararyan

---