

# Armen Hovhannesi Makaryan

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R<sup>6</sup>

## Institute of Physics

Chair of Radiophysics and Electronics  
Head of the chair, associate professor

## Language skills

Հայերեն Русский English

## Publications

### Article

**Narrowband terahertz generation in a plane-parallel Rb:KTP crystal using a phase mask**  
Yuri H. Avetisyan, Armen H. Makaryan

Journal of the Optical Society of America B: Optical Physics 2024 873-878

### Article

**Исследование параметров нейронной системы спинного мозга в терагерцовой области частот**

Տ. Հ. Օգանեսյան, Ա. Օ. Մակարյան, ակադեմիկ Ր. Մ. Մարտիրոսյան

Доклады НАН РА 2024 16-23

### Article

**Investigation of Nerve Fiber Network in THz Spectrum Range**

T. Hovhannisyan, A. Makaryan

Armenian Journal of Physics 2024 17-20

### Article

**Investigation of nonlinear properties of animal spinal cord in THZ range**

Tigran Hovhannisyan, Armen Makaryan, Radik Martirosyan

IET Conference Proceedings 2024 19 - 22 / 208333

### Article

**Statistical analysis of the electroencephalographic signals**

Babken Hovhannisyan, Tigran Hovhannisyan, Armen Makaryan, Eduard Sivolenko, Vanand Mkhoyan

IET Conference Proceedings 2024 23-25

### Article

**Generation of THz radiation in a plane-parallel artificial PPLN crystal with a THz diffraction grating in output**

Y. Sahakyan, Yu. Avetisyan, A. Kirakosyan, A. Makaryan, V. Tadevosyan

IET Conference Proceedings 2024 42-44/208333

### Article

**Biosignal processing using machine learning methods**

A. Mkoyan, A. Manasyan, A. Makaryan, B. Hovhannisyan, T. Hovhannisyan, S. Khachunts

*Article*

**Исследование оптического детектирования наносекундных лазерных импульсов в  
ферромагнитных кристаллах Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub> и YFeO<sub>3</sub>**

Д.А. Багдасарян, Г.С. Геворкян, А.О. Макарян, Ю.С. Саакян, В.Р. Татевосян

Известия НАН РА. Физика (Journal of Contemporary Physics) Armenian Academy of Sciences) 2023  
250-254

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*Article*

**Investigation of Nanosecond Laser Pulses Optical Detection in Ferrimagnetic Crystals  
Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub> and YFeO<sub>3</sub>**

D. H. Baghdasaryan, G. S. Gevorkyan, A. H. Makaryan, Y. S. Sahakyan, V. R. Tadevosyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 184-187

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*Article*

**Detection of amplitude-modulated laser radiation in transparent orthoferrite**

D. H. Baghdasaryan, A. H. Makaryan, Y. S. Sahakyan, V.R. Tadevosyan

International Conference on Microwave & THz Technologies, Wireless Communications and  
OptoElectronics (IRPhE 2022)  
2023 22987027/ 60-62

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*Article*

**Biosignal processing using machine learning methods**

T. Hovhannisyan, A. Makaryan, B. Hovhannisyan, S. Khachunts, A. Mkoyan, A. Manasyan

International Conference on Microwave & THz Technologies, Wireless Communications and  
OptoElectronics (IRPhE 2022)  
2023 3

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*Article*

**Генерация узкополосного терагерцового импульса в кристалле ниобата лития с помощью  
фазовой маски**

Ю.О. АВЕТИСЯН, А.О. МАКАРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics) Armenian Academy of Sciences) 2023  
555-563

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*Article*

**Narrow-band terahertz pulse generation in lithium niobate crystal using phase mask**

Y. H. Avetisyan, A.H. Makaryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 362-368

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*Article*

**High-energy multicycle THz pulse generation in artificial PPLN crystal**

Y. H. Avetisyan, A. H. Makaryan, M. I. Bakunov

Proceedings of SPIE - The International Society for Optical Engineering 2023 194067

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*Article*

**Registration of Brain Radio Signals and Their Bispectral Analysis**

Article

**Extracting Human Brain Signals from the EEG Records Using LabVIEW and Advanced Signal Processing**

Babken Hovhannisyan, Eduard Sivolenko, Armen Makaryan, Hamlet Ayvazyan, Andrei Medvedev,

Valentina Temkina

Springer Proceedings in Physics (International Youth Conference on Electronics, Telecommunications and Information Technologies)

2022 183-190

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Article

**РЕГИСТРАЦИЯ РАДИОСИГНАЛОВ МОЗГА И ИХ БИСПЕКТРАЛЬНЫЙ АНАЛИЗ**

Г.Л. АЙВАЗЯН, С.В. АНТОНЯН, А.О. МАКАРЯН, Б.А. ОГАНЕСЯН, Э.Р. СИВОЛЕНКО, Г.А. ЦАТУРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2022  
125-130

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Article

**Laterally Emitting Nearly Single-Cycle THz Pulse Generation in Two-Dimensional Aperiodically Poled Lithium Niobate Crystal**

Y. Avetisyan, A. Makaryan, G. Arabajyan, M. Tonouchi

IEEE Xplore 2022 183280

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Article

**Միկրոալիքային խոցող գենը. սեսության և կառուցվածքի որոշ հարցեր**

Հ. Ս. Հարոյան, Խ. Վ. Ներկարարյան, Ա. Ա. Հախումյան, Ա. Հ. Մակարյան, Գ. Ռ. Միրզոյան

Հայկական Բանակ 2021 67-82

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Article

**ЧАСТОТНО-ВРЕМЕННОЙ АНАЛИЗ ЭЛЕКТРОКАРДИОГРАММ**

Б.А. ОГАНИСЯН, А.О. МАКАРЯН, Т.Н. ОГАНЕСЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2020  
575-581

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Article

**ВЛИЯНИЕ ПОГЛОЩЕНИЯ НА ЭФФЕКТИВНОСТЬ ГЕНЕРАЦИИ ТЕРАГЕРЦОВОГО ИЗЛУЧЕНИЯ В МЕТАЛЛИЧЕСКОМ ВОЛНОВОДЕ, ЧАСТИЧНО ЗАПОЛНЕННОМ НЕЛИНЕЙНЫМ КРИСТАЛЛОМ LiNbO<sub>3</sub>, DAST ИЛИ ZnTe**

Ա.Ս. ՆԻԿՈՂՈՏՅԱՆ, Պ.Մ. ՄԱՐՏԻՐՈՍՅԱՆ, Ա.Ա. ԱԽՈՒՄՅԱՆ, Ա.Օ. ՄԱԿԱՐՅԱՆ, Վ.Բ. ՏԱԹԵՎՈՅԱՆ, Գ.Ն. ԳՈԼՅՑՄԱՆ,

Հ.Վ. ԱՆՏԻՊՈՎ

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2019  
128-137

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Article

**Optical detection of femtosecond laser pulses in a ferromagnet as a result of its magnetization by the magnetic field of the laser pulse**

A. H. Makaryan, V. R. Tadevosyan, A. S. Nikoghosyan, T. S. Yezekyan, M. A. Kazaryan

Proceedings of SPIE - The International Society for Optical Engineering 2019 113222E(1-4)

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*Article*

**Frequency Conversion in The Ferromagnet at Low Magnetic Bias Fields**

T. Yezekyan, A. Makaryan, V. Tadevosyan

Armenian Journal of Physics 2018 191-195

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*Article*

**Effect of Absorption on The Efficiency of THz Radiation Generation in a Nonlinear Crystal**

**Placed Into a Waveguide**

A.S. Nikoghosyan, R.M. Martirosyan, A.A. Hakhoumian, A.H. Makaryan, V.R.Tadevosyan, G.N. Goltsman,

S.V. Antipov

Armenian Journal of Physics 2018 257-262

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*Article*

**Investigation of Detection of Microwave Radiation in Ferromagnetic YIG**

H. Julfayan, A. Makaryan, V.R. Tadevosyan

Armenian Journal of Physics 2017 9-13

<http://ajp.asj-oa.am/>

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*Article*

**Design of a Multistep Phase Mask for High-Energy Terahertz Pulse Generation by Optical Rectification**

Y. Avetisyan, A. Makaryan, V. Tadevosyan, M. Tonouchi

Journal of Infrared Millimeter and Terahertz Waves 2017 1439-1447

<https://www.springer.com/engineering/electronics/journal/10762>

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**ИССЛЕДОВАНИЕ ПАРАМЕТРОВ ТЕРАГЕРЦОВЫХ ИМПУЛЬСОВ, ГЕНЕРИРУЕМЫХ В ОДНОДОМЕННОМ КРИСТАЛЛЕ LiNbO<sub>3</sub> С ПОМОЩЬЮ СТУПЕНЧАТОЙ ФАЗОВОЙ МАСКИ**  
Г.К. АБГАРЯН, Ю.О. АВЕТИСЯН, А.О. МАКАРЯН, В.Р. ТАТЕВОСЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2016  
46-52

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

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*Article*

**Detection of CO<sub>2</sub> laser radiation in a ferrite**

H. Haroyan, A. Makaryan, K. Movsisyan, Farokh Nazari, V. Tadevosyan, H Julfayan

Journal of Physics: Conference Series 2016 012007

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

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*Article*

**Магнитно-нелинейные материалы для детектирования электромагнитного излучения**  
Джулфаян А., Мартиросян Р. М., Макарян А. О., Мыхитарян В. М., Назари Ф., Татевосян В. Р.

Физические Основы приборостроения 2016 88-97

[http://elibrary.ru/title\\_about.asp?id=37911](http://elibrary.ru/title_about.asp?id=37911)

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*Manual*

**«Վիճակագրական ռադիոֆիզիկա» լաբորատոր աշխատանքների ձեռնարկ**  
Ա. Ժ. Բաբաջանյան, Վ. Ռ. Թադևոսյան, Հ. Ս. Հարոյան, Ա. Վ. Մակարյան

2012 86

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*Conference*

**High Efficient Terahertz Generation Using Tilted-Pulse- Front Photoexcitation of Semiconductor Surface**

Yu. Avetisyan,, A. Makaryan, M. Tonouchi

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*Conference*

**Ferromagnetic detector of infrared radiation**

D. Bagdasaryan, A. Hakhoumian, R. Martirosian, A. Julfayan, A. Makaryan, F. Nazari, V. Tadevosyan

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*Conference*

**Terahertz pulses generation via optical rectification in LiNbO<sub>3</sub> crystal by step-wise phase mask**

G. Abgaryan, Yu. H. Avetisyan, A. H. Makaryan, V. R. Tadevosyan

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*Conference*

**Design of a multistep phase mask for high-energy THz pulse generation in ZnTe crystal**

Yuri H. Avetisyan, Armen Makaryan, Vahe Tadevosyan

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*Conference*

**Frequency conversion in the ferromagnet at low magnetic bias fields**

T. Yezekyan, A. Makaryan, V. Tadevosyan

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*Conference*

**Effect of attenuation on the efficiency of THz radiation generation in a nonlinear crystal integrated into a waveguide**

A.S. Nikoghosyan, R.M. Martirosyan, A.A. Hakhoumian, A.O. Makaryan, V.R. Tadevosyan, G.N. Goltsman, S.V. Antipov

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