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Публикации

Статья
Maximal mass strange quark stars based on the modified MIT model with variable vacuum pressure
Hasmik Shahinyan, Tigran Sargsyan, Arsen Babajanyan

Nuclear Physics B 2026 117277

Статья
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

Статья
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

Статья
Reflective multi-layer metasurface based on half-wave plate structure for polarization control in the visible-near-infrared region
Artyom Movsisyan, Hasmik Manukyan, Billi Minasyan, Arsen Babajanyan

Physica Scripta 2024 095545

Статья
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

Статья
Pulsars with the masses 2.14M⊙ and 2.27M⊙ as strange star candidates
Hasmik Shahinyan, Tigran Sargsyan, Arsen Babajanyan

Journal of High Energy Astrophysics 2024 126-131

Статья
Numerical Solutions of Certain Time-Independent Quantum Mechanics Problems by Using the

Python Environment
H. Shahinyan, L. Ghazaryan, A. Babajanyan

Armenian Journal of Physics 2024 43-51

Статья

Mice Glucose Level Monitoring by a Non-Invasive Microwave Imaging Technique
Zhirayr Baghdasaryan, Arsen Babajanyan, Sua Jeong, Jung-Ha Lee, Barry Friedman, Kiejin Lee

IEEE Access 2024 139711-139723

Статья

Resonant detection of surface microwaves using dielectric-coated conductive rods coupled with a cut Goubau line
Tigran Abrahamyan, Gor Ohanyan, Hovhannes Haroyan, Arsen Babajanyan, Khachatur Nerkararyan

IET Conference Proceedings 2024 11-14

Статья

Characterization of microwave response of the mesh-pattern vs. uniformly-coated indium-tin-oxide indicator for the thermoelastic optical microscope: a comparative analysis
Artyom Movsisyan, Hasmik Manukyan, Billi Minasyan, Zhirayr Baghdasryan, Kiejin Lee,

Arsen Babajanyan

IET Conference Proceedings 2024 15-18

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Characterization of interaction phenomena of electromagnetic waves with metamaterials via microwave near-field visualization technique
Zhirayr Baghdasaryan, Arsen Babajanyan, Barry Friedman, Kiejin Lee

Scientific Reports 2023 18457

Статья

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

Статья

Characterization of Metal Nanoparticles Aqueous Solution by a Thermoelastic Optical Indicator Microscope
G. Ohanyan, N. Margaryan, M. Manvelyan, L. Odabashyan, B. Minasyan, A. Movsisyan, R. Khachatryan,

A. Babajanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 187-191

Статья

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

Статья

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

Статья

Microwave and Joule Heating Visualization by a Thermo-Elastic Microscope for Carbon Composite Materials
Sh. Arakelyan, A. Babajanyan, G. Berthiau, B. Friedman, K. Lee

Springer Proceedings in Physics (Optics and Its Applications) 2022 69-77

Статья

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

Статья

Microwave response phase control of a graphite microstrip
Arsen Babajanyan, Tigran Abrahamyan, Hovhannes Haroyan, Billi Minasyan, Torgom Yezekyan,

Kiejin Lee, Barry Friedman, Khachatur Nerkararyan

Carbon 2022 151-156

Статья

Noninvasive in Vivo Evaluation of Mouse-Blood Glycemia with a Microwave Spiral Sensor
A. Babajanyan, B. Minasyan, L. Odabashyan, S. Kim, J. Kim, J.-H. Lee, B. Friedman, K. Lee

Journal of Contemporary Physics (Armenian Academy of Sciences) 2021 47–54

Статья

Visualization of microwave near-field distribution in sodium chloride and glucose aqueous solutions by a thermo-elastic optical indicator microscope
Arsen Babajanyan, Zhirayr Baghdasaryan, Levon Odabashyan, Jung-Ha Lee, Barry Friedman, Kiejin Lee

Scientific Reports 2021 2589

Статья

Performance of Pentacene Based Organic Thin Film Transistor with an Octadecyltrichlorosilane Self-Assembled Monolayer Interface
A. Babajanyan, B. Minasyan, A. Movsisyan, B. Friedman, K. Lee

Journal of Contemporary Physics (Armenian Academy of Sciences) 2021 208-213

Образовательный Руководство

Ատոմային և միջուկային ֆիզիկայի ընդհանուր դասընթացի լաբորատոր աշխատանքների ուղեցույց
Հասմիկ Շահինյան, Լուսինե Ղազարյան, Արսեն Բաբաջանյան

2021 64

Статья

Detection of Iron Nanoparticles in Aqueous Solutions by Microwave Sensor
L. Odabashyan, N. Margaryan, G. Ohanyan, M. Manvelyan, D. Hambaryan, T. Abrahamyan,

R. Khachatryan, A. Babajanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 171-175

Статья

Thermal distribution in unidirectional carbon composite material due to the direct heating and microwave influence visualized by a thermo-elastic optical indicator microscope
Zhirayr Baghdasaryan, Arsen Babajanyan, Levon Odabashyan, Shant Arakelyan, Hanju Lee,

Gerard Berthiau, Barry Friedman, Kiejin Lee

Measurement 2020 107189(1-7)

Статья

ОБНАРУЖЕНИЕ НАНОЧАСТИЦ ЖЕЛЕЗА В ВОДНЫХ РАСТВОРАХ С ПОМОЩЬЮ МИКРОВОЛНОВОГО СЕНСОРА
Л. ОДАБАШЬЯН, Н. МАРГАРЯН, Г. ОГАНЯН, М. МАНВЕЛЯН, Д. АМБАРЯН, Т. АБРААМЯН, Р. ХАЧАТРЯН,

А. БАБАДЖАНЯН

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

251-258

Статья

COMPUTER MODELING OF MICROWAVE STRIPLINE RESONATORS FOR NON-INVASIVE SENSING
A. Zh. BABAJANYAN, B. J. MINASYAN, L. A. ODABASHYAN, Zh. A. BAGHDASARYAN, K. LEE

Proceedings of the YSU A. Physical and Mathematical Sciences 2019 60-64

Статья

Antenna Investigation by a Thermoelastic Optical Indicator Microscope: Defects Measurement and 3D Visualization of Electromagnetic Fields
Arsen Babajanyan, Shant Arakelyan, Hanju Lee, Seungwan Kim, Gerard Berthiau, Barry Friedman,

Kiejin Lee

IEEE ANTENNAS AND PROPAGATION MAGAZINE 2019 27-31

Статья

Investigation of Ag Nanoparticles/Water Solutions by Microwave Stripline Sensor
A. Babajanyan, T. Abrahamyan, R. Khachatryan, D. Hambaryan, B. Hovhannisyan, B. Minasyan,

L. Odabashyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2019 196-202

Статья

ИССЛЕДОВАНИЕ РАСТВОРОВ НАНОЧАСТИЦ Ag В ВОДЕ С ПОМОЩЬЮ МИКРОВОЛНОВОГО ПОЛОСКОВОГО СЕНСОРА
А. БАБАДЖАНЯН, Т. АБРАМЯН, Р. ХАЧАТРЯН, Д. АМБАРЯН, Б. ОГАНЕСЯН, Б. МИНАСЯН,

Л. ОДАБАШЯН

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

263-271

Статья

Real-time sensing the glucose concentration by quadratic-shaped microwave sensor
A. Zh. BABAJANYAN, B. A. HOVHANNISYAN, D. S. HAMBARYAN, L. A. ODABASHYAN

Proceedings of the YSU A. Physical and Mathematical Sciences 2019 132-137

Статья

Real-Time Noninvasive Measurement of Glucose Concentration Using a Modified Hilbert Shaped Microwave Sensor

Levon Odabashyan, Arsen Babajanyan, Zhirayr Baghdasaryan, Seungwan Kim, Jongchel Kim,

Barry Friedman, Jung-Ha Lee, Kiejin Lee

Sensors 2019 5525(1-11)

Статья

Microwave Heating Visualization for Carbon Fibers Composite Material: Development of Tunable Microstrip Structures

Shant Arakelyan, Hanju Lee, Do-Suck Han, Arsen Babajanyan, Gerard Berthiau, Barry Friedman,

Kiejin Lee

IEEE Transactions on Microwave Theory and Techniques 2018 883-888

Статья

Microwave Fractal Bandpass Filters Based on Modified Hilbert Curves of the First and the Second Orders

A. Babajanyan, H. Parsamyan, K. Lee

Journal of Contemporary Physics (Armenian Academy of Sciences) 2018 146-151

Статья

МИКРОВОЛНОВЫЕ ФРАКТАЛЬНЫЕ ПОЛОСОВЫЕ ФИЛЬТРЫ, ОСНОВАННЫЕ НА МОДИФИЦИРОВАННЫХ КРИВЫХ ГИЛЬБЕРТА ПЕРВОГО И ВТОРОГО ПОРЯДКОВ

Г. ПАРСАМЯН, А. БАБАДЖАНЯН, K. LEE

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2018

193-200

Статья

DETERMINATION OF GLUCOSE CONCENTRATION IN AQUEOUS SOLUTION BY USING MODIFIED HILBERT SHAPED MICROWAVE METAMATERIAL SENSOR

H. A. PARSAMYAN, A. Zh. BABAJANYAN, Sh. Kh. ARAKELYAN, K. LEE

Proceedings of the YSU A. Physical and Mathematical Sciences 2018 144-148

Статья

Performance of Pentacene-based Thin-film Transistors Fabricated at Different Deposition Rates

Arsen Babajanyan, Jinho Hwang, Duri Kim, Meenwoo Kim, Hanju Lee, Levon Odabashyan,

Zhirayr Baghdasaryan, Kiejin Lee, Deokjoon Cha

New Physics: Sae Mulli 2018 1192-1195

Статья

Glucose Aqueous Solution Sensing by Modified Hilbert Shaped Microwave Sensor

A. Babajanyan, L. Odabashyan, Zh. Baghdasaryan, B. Friedman, K. Lee

Armenian Journal of Physics 2018 214-222

Статья

Visualization of Microwave Heatingformesh-Patterned Indium-tin-Oxide by a Thermo-Elastic Optical Indicator Microscope

A. Babajanyan, Zh. Baghdasaryan, L. Odabashyan, H. Lee, B. Friedman, K. Lee

Armenian Journal of Physics 2018 175-179

Статья

Direct imaging of the SSD and USB memory drives heating by thermo-elastic optical indicator microscopy
Shant Arakelyan, Hanju Lee, Yeonghun Jeong, Arsen Babajanyan, Barry Friedman, Kiejin Lee

Case Studies in Thermal Engineering 2017 407-412

Статья

Characterization of Anisotropic Electrical Conductivity of Carbon Fiber Composite Materials by a Microwave Probe Pumping Technique
Hanju Lee, Ogsen Galstyan, Arsen Babajanyan, Barry Friedman, Gerard Berthiau, Jongchel Kim,

Do Suck Han, Kiejin Lee

Journal of Composite Materials 2016 1999-2004

https://us.sagepub.com/en-us/nam/journal/journal-composite-materials#description

---

Статья

Effects of Thermal Preparation on Copper Phthalocyanine Organic Light Emitting Diodes
Sul A. Choi, Kyungchul Kim, Su Jin Lee, Hanju Lee, Arsen Babajanyan, Barry Friedman, Kiejin Lee

Journal of Luminescence 2016 149-153

http://www.sciencedirect.com/science/journal/00222313

Статья

Direct Current Imaging Using a Magneto-Optical Sensor
Shant Arakelyan, Ogsen Galstyan, Hanju Lee, Arsen Babajanyan, Jung-Ha Lee, Barry Friedman, Kiejin Lee

SENSORS AND ACTUATORS A-PHYSICAL 2016 397-401

http://www.journals.elsevier.com/sensors-and-actuators-a-physical

---

Статья

Characteristics of Light Transfer in the Connected Conical Waveguides With the Same Symmetry Axis
Shant Arakelyan, Tigran Abrahamyan, Arsen Babajanyan, Khachatur Nerkararyan

Applied Optics 2016 3854-3857

https://www.osapublishing.org/ao/home.cfm

Статья

Near-Field Scanning Microwave Microscope As Nano-Resolution Characterization Technique
Babajanyan A. J., Friedman B., Lee K.

Физические Основы приборостроения 2016 98-111

http://elibrary.ru/title_about.asp?id=37911

Статья

Nondestructive Label-Free Mapping of DNA Bioassay Using a Near-Field Scanning Microwave Microscope
Arsen Babajanyan, Barry Friedman, Kiejin Lee

Armenian Journal of Physics 2016 148-153

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

Статья

Specifications of Rabi oscillations in the quantum emitters systems coupled to the localized plasmon polaritons
A. Zh. Babajanyan, S. Kh. Nerkararyan

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2016 48-52

http://ysu.am/science/hy/1355990920

Статья

Pre-Annealing Effects on a Pentacene Organic Thin Film Transistor With a Polymer Dielectric Interface

Arsen Babajanyan, Sul A Choi, Kyungchul Kim, Shant Arakelyan, Hanju Lee, Barry Friedman, Kiejin Lee

PROCEEDINGS of the International Conference on “Microwave and THz Technologies, Photonics and Wireless Communications”
2016 61-64

http://irphe.asj-oa.am/93/1/Proceedings-IRPhE-2016.pdf

Статья

Magneto-Optical Visualization by Bi:YIG Thin Films Prepared at Low Temperatures

Ogsen Galstyan, Hanju Lee, Arsen Babajanyan, Arsen Hakhoumian, Barry Friedman, Kiejin Lee

Journal of Applied Physics 2015 163914. 6

http://aip.scitation.org/jap/info/contact

Статья

Sensitive Detection of Nano-Scale Vibrations by the Metal-Coated Fiber Tip at the Liquid-Air Interface

A. J. Babajanyan, T. A. Abrahamyan, H. A. Minasyan, Kh. V. Nerkararyan

International Journal of Mechanical, Aerospace, Industrial and Mechatronics Engineering 2015 651-654

https://www.waset.org/journal/Mechanical

Статья

Influence of Bismuth Substitution on Yttriumorthoferrite Thin Films Preparation by the MOD Method

Ogsen Galstyan, Hanju Lee, Jongwon Park, Jung-Ha Lee, Arsen Babajanyan, Barry Friedman, Kiejin Lee

Journal of Magnetism and Magnetic Materials 2015 310-314

http://www.journals.elsevier.com/journal-of-magnetism-and-magnetic-materials

---

Образовательный Руководство

«Վիճակագրական ռադիոֆիզիկա» լաբորատոր աշխատանքների ձեռնարկ

Ա. Ժ. Բաբաջանյան, Վ. Ռ. Թադևոսյան, Հ. Ս. Հարոյան, Ա. Հ. Մակարյան

2012 86

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Sensitive Detection of Nano-Scale Vibrations by the Metal-Coated Fiber Tip at the Liquid-Air Interface

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---

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In Vitro Monitoring of HbA1C by a Microwave Biosensor

Seungwan Kim, Jongchel Kim, Armen Abrahamyan, Arsen Babajanyan, Jung-Ha Lee, Barry Friedman,

Kiejin Lee

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Nondestructive label-free mapping of DNA bioassay using a near-field scanning microwave microscope

Arsen Babajanyan, Barry Friedman, Kiejin Lee

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Microwave and Joule Heating Visualization by Thermo-Elastic Sensor for Carbon Fibers Composite Material
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---

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Detection of Resonant Oscillations of the Liquid Surface by using a Tapered Fiber Opto-Mechanical Sensor
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---

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---

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The Resonant Coupling of the Quantum Dots in the Environment of Metal Nanoparticle at Optical Frequencies
Sona Nerkararyan, Arsen Babajanyan, Khachatur Nerkararyan

Конференция

Microwave Characterization of Complex Dielectric Permittivity Dependence on Glucose Concentration in Blood Serum and Aqueous Solution
Babajanyan A., Lee K., Kim S., Kim J., Friedman B., Arakelyan Sh., Parsamyan H.

Конференция

Label-Free Monitoring of HbA1C by Microwaves
Babajanyan A., Kim S., Kim J., Abrahamyan A., Friedman B., Lee K.

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Detection of Nanometric Vibrations by Using Opto-Mechanical Sensor
Arsen Babajanyan, Tigran Abrahamyan, Shant Arakelyan, Khachatur Nerkararyan

---

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Noninvasive In Vitro Monitoring of Hba1c with a Microwave Biosensor
Arsen Babajanyan, S. Kim, J. Kim, Shant Arakelyan, K. Lee, J.-H. Lee, B Friedman

---

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Detecting Defects in Sub-Skin-Depth Metallic Layers by a Thermo-Elastic Sensor
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---

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Effect of Pentacene Deposition Rate on OTFT
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---

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---

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---

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---

Конференция
Noninvasive in-vitro monitoring of D-glucose concentration by using a microwave fractal sensor
A. Babajanyan, L. Odabashyan, Zh. Baghdasaryan, T. Abrahamyan, N. Harutyunyan, S. Kim, J. Kim, B. Friedman, K. Lee

---

Конференция
Sensing of silver nanoparticles in aqueous solutions by using an optical fiber probe-tip
A. Babajanyan, T. Abrahamyan, R. Khachatryan, Kh. Nerkararyan

---

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Characterization of Ag nanoparticles concentration in aqueous solution by microwave biosensor
Arsen Babajanyan, Zh. Baghdasaryan, T. Abrahamyan, L. Odabashyan, H. Lee, D. Kim, M. Kim, S. Kim, K. Lee

---

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Microwave and Joule heating visualization by a thermo-elastic sensor for carbon composite materials
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---

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---

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---

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---

Конференция

The impact of non-zero quark masses on the Equation of State and the Maximum Mass of Strange Quark Stars

Hasmik Shahinyan, TIgran Sargsyan, Arsen Babajanyan
