

## Институт физики

Кафедра прикладной электродинамики и моделирования  
Заведующий кафедрой, профессор

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### **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

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### **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

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### **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

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### **Pulsars with the masses $2.14M_{\odot}$ and $2.27M_{\odot}$ as strange star candidates**

Hasmik Shahinyan, Tigran Sargsyan, Arsen Babajanyan  
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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  
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### **3D visualization of microwave electric and magnetic fields by using a metasurface-based indicator**

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### **Indicator Microscope**

G. Ohanyan, N. Margaryan, M. Manvelyan, L. Odabashyan, B. Minasyan, A. Movsisyan, R. Khachatryan,

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

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### **Microwave and Joule Heating Visualization by a Thermo-Elastic Microscope for Carbon Composite Materials**

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Tigran Abrahamyan, Hovhannes Haroyan, David Hambaryan, Henrik Parsamyan, Arsen Babajanyan, Kiejin Lee, Barry Friedman, Khachatur Nerkararyan

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### **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

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### **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

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### **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

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*Образовательный Руководство*

**Ատոմային և միջուկային ֆիզիկայի ընդհանուր դասընթացի լաբորատոր աշխատանքների ուղեցույց**

Հասմիկ Շահինյան, Լուսինե Ղազարյան, Արսեն Բաբաջանյան

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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

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**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,

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Measurement 2020 107189(1-7)

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*Статья*

**ОБНАРУЖЕНИЕ НАНОЧАСТИЦ ЖЕЛЕЗА В ВОДНЫХ РАСТВОРАХ С ПОМОЩЬЮ МИКРОВОЛНОВОГО СЕНСОРА**

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

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**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

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**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

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**Investigation of Ag Nanoparticles/Water Solutions by Microwave Stripline Sensor**

A. Babajanyan, T. Abrahamyan, R. Khachatryan, D. Hambaryan, B. Hovhannisyan, B. Minasyan,

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**Real-time sensing the glucose concentration by quadratic-shaped microwave sensor**

A. Zh. BABAJANYAN, B. A. HOVHANNISYAN, D. S. HAMBARYAN, L. A. ODABASHYAN

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

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**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,

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

A. Babajanyan, H. Parsamyan, K. Lee

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

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**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

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

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

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**Glucose Aqueous Solution Sensing by Modified Hilbert Shaped Microwave Sensor**

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

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**Characterization of Anisotropic Electrical Conductivity of Carbon Fiber Composite Materials by a Microwave Probe Pumping Technique**

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**Characteristics of Light Transfer in the Connected Conical Waveguides With the Same Symmetry Axis**

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**Specifications of Rabi oscillations in the quantum emitters systems coupled to the localized plasmon polaritons**

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**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

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

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

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**«Վիճակագրական ռադիոֆիզիկա» լաբորատոր աշխատանքների ձեռնարկ**

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**Noninvasive in-vitro monitoring of D-glucose concentration by using a microwave fractal sensor**

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