

Институт физики

Кафедра радиофизики и телекоммуникаций
Заведующий кафедрой, профессор

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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

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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

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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

Journal of High Energy Astrophysics 2024 126-131

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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

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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

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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

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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 Baghdasaryan, 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

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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

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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

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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

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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

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

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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,

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. БАБАДЖАНИЯН

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

251-258

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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

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. Hovhannisyanyan, 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. БАБАДЖАНИЯН, 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. БАБАДЖАНЫАН, К. ЛЕЕ
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 Heating formesh-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/>

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

A. Zh. Babajanyan, S. Kh. Nerkararyan

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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

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

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

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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,

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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

Kiejin Lee, Shant Arakelyan, Hanju Lee, Sunghoon Jeon, Do-Suck Han, G. Berthiau, Arsen Babajanyan

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

Tigran Abrahamyan, Stella Sargsyan, Arsen Babajanyan, Khachatur Nerkararyan

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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, Hanju Lee, Barry Friedman, Kiejin Lee

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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

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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.

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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

Arsen Babajanyan, Shant Arakelyan, Hanju Lee, Kiejin Lee, Barry Friedman

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Effect of Pentacene Deposition Rate on OTFT

Arsen Babajanyan, Jinho Hwang, Duri Kim, Meenwoo Kim, Levon Odabashyan, Zhirayr Baghdasaryan, Seungwan Kim, Jongchel Kim, Hanju Lee, Kiejin Lee, Deokjoon Cha

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Characterization of Heat Distribution and Microwave Absorption in a Carbon Composite Material by a Thermo-Elastic Optical Indicator Microscope

Aarsen Babajanyan, Zhirayr Baghdasaryan, Levon Odabashyan, Hanju Lee, Seungwan Kim, Jongchel Kim, Jinho Hwang, Duri Kim, Meenwoo Kim, Deokjoon Cha, Kiejin Lee

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

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3D visualization of electromagnetic fields and thermal distribution by the thermo-elastic optical indicator microscope

A. Babajanyan, K. Lee, Zh. Baghdasaryan, L. Odabashyan, S. Kim, J. Kim, Gerard Berthiau, B. Friedman

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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

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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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Detecting Low Dose of Glucose in the Microwave Range By Using Thermoelastic Optical Indicator Microscope

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

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Resonant interaction between microwaves and thin conducting microstructure with finite length

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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
