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Research Institute of Physics

Center of Semiconductor Devices and Nanotechnologies

Senior researcher

🌐 Language skills

Русский English Հայերեն

📖 Publications

Article

Modeling the Parameters of p-i-n Solar Cells Based on CH₃NH₃PbI₃ Perovskite

Ferdinand Gasparyan

Indian Journal of Pure and Applied Physics 2024 51-57

Article

Optical simulation and experimental investigation of the crystalline silicon/black silicon/perovskite tandem structures

Ferdinand Gasparyan, Gagik Ayvazyan, Vladimir Gasparian

Optical Materials 2023 113879

Article

Optical Properties of the Crystalline Silicon-black Silicon-perovskite Tandem Solar Cells

Ferdinand Gasparyan

Advanced Materials Science and Technology 2023 0517626.(1-11)

Article

Capacitive Immunosensors Based on Structures Electrolyte-Insulator-Semiconductor

F.V. Gasparyan, V.V. Simonyan, L.F. Gaspar

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 257-265

Article

ЕМКОСТНЫЕ ИММУНОСЕНСОРЫ НА ОСНОВЕ СТРУКТУР

ЭЛЕКТРОЛИТ-ИЗОЛЯТОР-ПОЛУПРОВОДНИК

Ф.В. ГАСПАРЯН, В.В. СИМОНЯН, Л.Ф. ГАСПАРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 354-365

Article

Dynamics of Charged Complex Molecules in Aqueous Solution

F.V. Gasparyan, L.F. Gasparyan, V.V. Simonyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 98-103

Article

Reflection and Transmission of Radiation of the Structure Crystalline Silicon-Black

Silicon-Perovskite

F. V. Gasparyan, G. Y. Ayvazyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 160-165

*Article***Effect of thermal annealing on the structural and optical properties of black silicon**

Ferdinand Gasparyan, Gagik Ayvazyan, Surik Khudaverdyan, Ashok Vaseashta

Journal of Materials Science: Materials in Electronics 2022 17001-17010

*Article***Internal Electrical Noises of BioFET Sensors Based on Various Architectures**

Lusine Gasparyan, Ferdinand Gasparyan, Vahan Simonyan

Open Journal of Biophysics 2021 177-204

*Manual***Պինդամառնային էլեկտրոնիկա**

Ֆերդինանտ Գասպարյան

2021 220

*Article***Activation-relaxation processes and related effects in quantum conductance of molecular junctions**

F. Gasparyan, N. Boichuk, S. Vitusevich

Nanotechnology 2020 045001(1-7)

*Article***Noises and Signal-to-Noise Ratio of Nanosize EIS and ISFET Biosensors**

Lusine Gasparyan, Ilya Mazo, Vahan Simonyan, Ferdinand Gasparyan

Open Journal of Biophysics 2020 1-12

*Article***Study of Molecular Junctions Metal-DNA-Metal for the DNA Sequencing**

L.F. Gasparyan, I. A. Mazo, V. V. Simonyan, F. V. Gasparyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 77-86

*Article***EIS Biosensor for Detection of Low Concentration DNA Molecules**

L. F. Gasparyan, I. A. Mazo, V. V. Simonyan, F. V. Gasparyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 101-109

*Article***DNA Sequencing Modified Method through Effective Regulation of Its Translocation Speed in Aqueous Solution**

Lusine Gasparyan, Ilya Mazo, Ferdinand Gasparyan, Vahan Simonyan

Open Journal of Biophysics 2020 96-112

*Article***ИССЛЕДОВАНИЕ МОЛЕКУЛЯРНЫХ ПЕРЕХОДОВ МЕТАЛЛ- ДНК-МЕТАЛЛ ДЛЯ СЕКВЕНИРОВАНИЯ ДНК**

Л.Ф. ГАСПАРЯН, И.А. МАЗО, В.В. СИМОНЯН, Ф.В. ГАСПАРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2020
104-116

Article

EIS БИОСЕНСОР ДЛЯ ОПРЕДЕЛЕНИЯ НИЗКОЙ КОНЦЕНТРАЦИИ МОЛЕКУЛ ДНК

Л.Ф. ГАСПАРЯН, И.А. МАЗО, В.В. СИМОНЯН, Ф.В. ГАСПАРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2020
136-146

Monograph

Ֆիզիկայի պատմություն

Ֆերդինանտ Գասպարյան

2020 438

Article

DNA Sequencing: Current State and Prospects of Development

F. Gasparyan, L. Gasparyan, I. Mazo, V. Simonyan

Open Journal of Biophysics 2019 169-197

Article

ISFET Based DNA Sensor: Current-Voltage Characteristic and Sensitivity to DNA Molecules

F. Gasparyan, L. Gasparyan, I. Mazo, V. Simonyan

Open Journal of Biophysics 2019 239-253

Article

Photoconductivity, pH Sensitivity, Noise, and Channel Length Effects in Si Nanowire FET Sensors

Ferdinand Gasparyan, Ihor Zadorozhny, Hrant Khondkaryan, Armen Arakelyan, Svetlana Vitusevich

Nanoscale Research Letters 2018 87-95

<https://nanoscalereslett.springeropen.com/>

Article

Noise spectroscopy of tunable nanoconstrictions: molecule-free and molecule-modified

Ferdinand Gasparyan, Volodymyr Handziuk, Lode K J Vandamme, Maristella Coppola, Viktor Sydoruk,

Mykhailo Petrychuk, Dirk Mayer, Svetlana Vitusevich

Nanotechnology 2018 385704 (1-12)

Article

Electrical Noises in Thin Metal Wires

F.V. Gasparyan.

Journal of Contemporary Physics (Armenian Academy of Sciences) 2018 376-383

Article

Электрические шумы в тонких металлических проволоках

Ф. Гаспарян

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

501-511

Article

К теории переноса тока в механически управляемых обрывных переходах

Ф. Гаспарян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2017

166-176

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

Article

Double-gated Si NW FET sensors: Low-frequency noise and photoelectric properties

F.Gasparyan

Journal of Applied Physics 2016 064902(1-8)

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Article

ЭФФЕКТ СМЕЩЕНИЯ КРАЯ ПОГЛОЩЕНИЯ В КРЕМНИЕВОЙ НАНОПРОВОЛОКЕ

Ф.В. ГАСПАРЯН, А.А. АРАКЕЛЯН, Г.Д. ХОНДКАРЯН

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

464-470

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

Article

Double-gated Si NW FET sensors: Low-frequency noise and photoelectric properties

F. Gasparyan, H. Khondkaryan, A. Arakelyan, I. Zadorozhnyi, S. Pud, S. Vitusevich

Journal of Applied Physics 2016 064902-(1-9)

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

Article

The Effect of Shifting of the Absorption Edge in the Silicon Nanowire

F.V. Gasparyan, A.H. Arakelyan, H.D.Khondkaryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2016 345-349

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/11958>

Article

Quantum modulation of the channel charge and distributed capacitance of double gated nanosize FETs

F.V. Gasparyan, V.M. Aroutiounian

Advances in Nano Research 2015 49-54

<http://www.techno-press.org/?journal=anr&subpage=1>

Article

Single trap in liquid gated nanowire FETs: Capture time behavior as a function of current.

F. Gasparyan

Journal of Applied Physics 2015 174506(1-5)

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Quantum modulation of the channel charge and distributed capacitance of double gated nanosize FETs.

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Low-Frequency Noises in the Metal-Semiconductor Contact

F. V. Gasparyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2015 170-176

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Article

Низкочастотные шумы контакта металл-полупроводник

Ф.В. Гаспарян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2015

228-236

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

Article

CHARGE CARRIER'S DISTRIBUTION IN THE INVERSION CHANNEL OF NANOSIZED FETS

F.V. GASPARYAN

Armenian Journal of Physics 2014 136-146

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

Article

New Applications of the Noise Spectroscopy for Hydrogen Sensors

Ferdinand Gasparyan, Hrant Khondkaryan, Mikayel Aleksanyan

Journal of Modern Physics 2014 1-8

<http://www.scirp.org/journal/jmp/>

Article

Single trap dynamics in electrolyte-gated Si-nanowire field effect transistors

S. Pud, F. Gasparyan, M. Petrychuk, J. Li, A. Offenhäusser, S. A. Vitusevich

Journal of Applied Physics 2014 233705-(1-11)

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

Article

Статистические и шумовые характеристики нанокompозитных газовых сенсоров

Р.В. Оганесян, Г.Д. ХОНДКАРЯН, М.С. АЛЕКСАНЯН, В.М. АРАКЕЛЯН, Б.О. СЕМЕРДЖЯН,

Ф.В. ГАСПАРЯН, В.М. АРУТЮНЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2014

241 - 251

Article

Chapter 11: Noise Reduction in (Bio-) Chemical Sensors Functionalized with Carbon Nanotube Multilayers

F.V. Gasparyan

NATO Science for Peace and Security Series B: Physics and Biophysics, Advanced Sensors for Safety and Security

2013 139-150

<http://www.springer.com/gp/book/9789400770027>

Monograph

Դիէլեկտրիկների ֆիզիկա

Ֆ. Գասպարյան

Monograph

Low-Frequency Noise Spectroscopy at Nanoscale: Carbon Nanotube Materials and Devices

Svetlana Vitusevich, Ferdinand Gasparyan

2011 40

Conference

Ultraviolet photodetector on the base of silicon nanowires

F. Gasparyan

Conference

UV photodetector on the base of silicon nanowire FET

Ferdinand Gasparyan

Conference

Low-frequency noises and SNR of double gated Si NW ISFET based biochemical sensor

F.V. Gasparyan, H.D.Khondkaryan

Conference

Low-frequency noises of double-gated SiNW FET under irradiation

F. Gasparyan, H.Khondkaryan, A.Arakelyan

Conference

Optical properties of double-gated silicon nanowire FETs

Hrant Khondkaryan, Armen. Arakelyan, Ferdinand Gasparyan

Conference

BIOCHEMICAL SENSORS BASED ON SILICON NANORIBBON FETs Part 1: Samples Fabrication, CVCs, pH-sensitivity

F. Gasparyan, I.Zadorozhnyi, H.Khondkaryan, A.Arakelyan, S.Vitusevich

Conference

Noise Characterization of Molecular Junctions

F. Gasparyan, V.Handziuk, M.Coppola, V.Sudoruk, D.Mayer, S.Vitusevich

Conference

Biochemical Sensors Based on Silicon Nanoribbon FETs. Part 2: Low-frequency noise and size-dependent effects

F. Gasparyan, I. Zadorozhnyi, H. Khondkaryan, A. Arakelyan, S. Vitusevich

Conference

Transport Regimes in Tunable Gold Nanoconstructions: Proposed Solution by Low-Frequency Noise Spectroscopy

F. Gasparyan, V. Handziuk, L. Vandamme, M. Coppola, V. Sydoruk, M. Petrichuk, D. Mayer, S. Vitusevich

Patent

Method of 1/f Noise Reduction And Noise Level Manipulation In Semiconductor Based Devices

12. Gasparyan F.V.
