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🌐 Language skills

Հայերեն Русский English

📖 Publications

Article

Observation of coherent Cherenkov radiation of electron bunches from a partially dielectric loaded waveguide

L.Sh. Grigoryan, A.P. Potylitsyn, M.V. Shevelev, A.V. Vukolov, P.V. Karataev, S.B. Dabagov, A.S. Vardanyan, A.S. Yeremyan, M.M. Sukiasyan, A.A. Saharian, V.R. Kocharyan, T.R. Muradyan, M.L. Grigoryan, D.E. Baghdasaryan, V.Kh. Kotanjyan, A.V. Sargsyan, H.P. Harutyunyan, H.F. Khachatryan, A.R. Mnatsakanyan, A.H. Mkrtchyan

Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment
2024 169177

Article

Spectral-angular distribution of radiation generated by a train of electron bunches passing through the centre of a ball

L. Sh. Grigoryan, A. H. Mkrtchyan, P. A. Aleksandrov, A. A. Saharian, W. Wagner, M. L. Grigoryan, J. P. Markosyan, A. V. Sargsyan, A. V. Martirosyan, H. F. Khachatryan

Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment
2024 168991

Article

Vacuum currents for a scalar field in models with compact dimensions

Aram A. Saharian
Symmetry 2024 92

Article

Quasidiscrete spectrum Cherenkov radiation by a charge moving inside a dielectric waveguide

A. A. Saharian, S. B. Dabagov, H. F. Khachatryan, L. Sh. Grigoryan
Journal of Instrumentation 2024 C06017

Manual

Տեսական մեխանիկայի խնդիրների ժողովածու

Ռուսերեն և անգլերեն, Արամ Սահարյան, Տիգրան Պետրոսյան
2024 244

Article

Fermionic vacuum stresses in models with toroidal compact dimensions

A. A. Saharian, R. M. Avagyan, G. H. Harutyunyan, G. H. Nikoghosyan

Астрофизика (Astrophysics) 2024 231-245

Article

Plane symmetric gravitational fields in (D+1)-dimensional General Relativity

R.M. Avagyan, T.A. Petrosyan, A.A. Saharian, G.H. Harutyunyan

Астрофизика (Astrophysics) 2024 405 - 419

Article

Electromagnetic vacuum stresses and energy fluxes induced by a cosmic string in de Sitter spacetime

A.A, Saharyan, V.F. Manukyan, V. Kh. Kotanjyan, A. A. Grigoryan

International Journal of Modern Physics D 2023 2350042

Article

Surface-polariton excitation and energy losses by a charged particle in cylindrical waveguides

A.A. Saharian, L.Sh. Grigoryan, A.S. Kotanjyan, H.F. Khachatryan

Physical Review A 2023 063513

Article

Fermionic condensate and the mean energy-momentum tensor in the Fulling-Rindler vacuum

S. Bellucci, V.Kh. Kotanjyan, A.A. Saharian

Physical Review D 2023 085014

Article

Motion of a Particle in the Field of an Infinite Flat Slab

R.M. Avagyan, A.A. Saharian, S.S. Jibilyan

Astrophysics 2023 411-422

Article

Radiation processes on acoustic superlattices

A.A. Saharian, L. Sh. Grigoryan, H. F. Khachatryan, V. V. Parazian

Journal of Physics: Conference Series 2023 012017

Article

On investigations of radiation processes in media under external influences conducted at the IAPP

L. Sh. Grigoryan, A. A. Saharian, M. L. Grigoryan, V. Kh. Kotanjyan, H. F. Khachatryan

Journal of Physics: Conference Series 2023 012012

Article

Helical vacuum currents for a scalar field in models with nontrivial spatial topology

A .A. Saharian, D. H. Simonyan, H. H. Mikayelyan, A. A. Vantsyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 341-348

Article

Surface Casimir densities on branes orthogonal to the boundary of anti-de Sitter spacetime

Aram Saharian
Physics (Switzerland) 2023 1145-1162

Article

Topological Effects in a Fermionic Condensate Induced by a Cosmic String and Compactification on the AdS Bulk

Stefano Bellucci, Wagner Oliveira dos Santos, Eugenio R. Bezerra de Mello, Aram A. Saharian
Symmetry 2022 584

Article

Fermionic vacuum polarization around a cosmic string in compactified AdS spacetime

S. Bellucci, E. R. Bezerra de Mello, W. Oliveira dos Santos, A. A. Saharian
Journal of Cosmology and Astroparticle Physics 2022 010

Article

Mean field squared and energy-momentum tensor for the hyperbolic vacuum in dS spacetime

A. A. Saharian, T. A. Petrosyan, V. S. Torosyan
Annals of Physics 2022 168728

Article

Cosmological Evolution With Negative Energy Densities

A.A. SAHARIAN, R.M. AVAGYAN, E.R. BEZERRA DE MELLO, V.KH. KOTANJYAN, T.A. PETROSYAN,
H.G. BABUJYAN
Astrophysics 2022 427-440

Article

Vacuum currents in partially compactified Rindler spacetime with an application to cylindrical black holes

V. Kh. Kotanjyan, A. A. Saharian, M. R. Setare
Nuclear Physics B 2022 115838

Article

Cosmic string and brane induced effects on the fermionic vacuum in AdS spacetime

S. Bellucci, W. Oliveira dos Santos, E. R. Bezerra de Mello, A. A. Saharian
Journal of High Energy Physics 2022 021

Article

Vacuum densities and the Casimir forces for branes orthogonal to the AdS boundary

S. Bellucci, A. A. Saharian, V. Kh. Kotanjyan
Physical Review D 2022 065021

Article

Radiation of surface polaritons in cylindrical waveguides

A. A. Saharian, L. Sh. Grigoryan, H. F. Khachatryan, A. S. Kotanjyan
Springer Proceedings in Physics (Optics and Its Applications) 2022 113-127

Article

Finite temperature charge and current densities around a cosmic string in AdS spacetime with compact dimension

E. R. Bezerra de Mello, W. Oliveira dos Santos, A. A. Saharian
Physical Review D 2022 125009

Article

Casimir Effect for Fermion Condensate in Conical Rings

Aram Saharian, Tigran Petrosyan, Arshak Hovhannisyán

UNIVERSE 2021 73 (1-20)

Article

FLAP Collaboration: Tasks and Perspectives. Study of Fundamentals and New Applications of Controllable Generation of Electromagnetic Radiation by Relativistic Electrons Using Functional Materials

L. Aloyan, A. Avetisyan, Y. Dalyan, L. Grigoryan, N. Karapetyan, V. Kocharyan, A. Mkrtchyan, A. Movsisyan, A. Saharian, A. Shahbazyan, A. Baldin, 37

Physics of Particles and Nuclei Letters 2021 338-353

Article

Vacuum fermionic currents in braneworld models on AdS bulk with a cosmic string

A. A. Saharian, S. Bellucci, W. Oliveira dos Santos, E. R. Bezerra de Mello

Journal of High Energy Physics 2021 190

Article

Casimir densities induced by a sphere in the hyperbolic vacuum of de Sitter spacetime

A. A. Saharian, T. A. Petrosyan

Physical Review D 2021 065017

Article

The Holographic cosmology with axion field

A. A. Saharian, A. V. Timoshkin

International Journal of Geometric Methods in Modern Physics 2021 2150174

Article

Dynamics of a cosmological model with a conformally-coupled scalar field

R. M. Avagyan, G. H. Harutunyan, A. S. Kotanjyan, A. V. Hovsepian, A. A. Saharian

Astrophysics 2021 355-369

Article

Fermionic condensate in de Sitter spacetime

A. A. Saharian, E. R. Bezerra de Mello, A. S. Kotanjyan, T. A. Petrosyan

Astrophysics 2021 529-543

Article

Fermionic vacuum currents in topologically nontrivial braneworlds: Two-brane geometry

S. Bellucci, A. A. Saharian, H. G. Sargsyan, V. V. Vardanyan

Physical Review D 2020 045020(1-23)

Article

The Casimir effect for fermionic currents in conical rings with applications to graphene ribbons

S. Bellucci, I. Brevik, A. A. Saharian, H. G. Sargsyan
European Physical Journal C 2020 281(1-22)

Article

Electromagnetic Casimir densities for planar boundaries in AdS spacetime

A. A. Saharian, A. S. Kotanjyan, A. A. Saharyan, H. G. Sargsyan

International Journal of Modern Physics A 2020 2040029(1-5)

Article

Synchrotron radiation from a charge circulating around a cylinder with negative permittivity

A.A. Saharian, A.S. Kotanjyan, L.Sh. Grigoryan, H.F. Khachatryan, V.Kh. Kotanjyan

International Journal of Modern Physics B 2020 2050065(1-18)

Article

The Casimir densities for a sphere in the Milne universe

Aram A. Saharian, Tigran A. Petrosyan

Symmetry 2020 619(1-30)

Article

Scalar Field Modes in de Sitter Spacetime with Negative Curvature Spatial Foliation

A.A. Saharian, T.A. Petrosyan, S.S. Chitchyan, A.Kh. Grigoryan

Armenian Journal of Physics 2020 316-329

Article

Quantum vacuum effects in braneworlds on AdS bulk

Aram A. Saharian

UNIVERSE 2020 181

Article

Electromagnetic field correlators and the Casimir effect for planar boundaries in AdS spacetime with application in braneworlds

A. A. Saharian, A. S. Kotanjyan, H. G. Sargsyan

Physical Review D 2020 105014

Article

Cherenkov radiation and emission of surface polaritons from charges moving paraxially outside a dielectric cylindrical waveguide

A. A. Saharian, L. Sh. Grigoryan, A. Kh. Grigorian, H.F. Khachatryan, A.S. Kotanjyan

Physical Review A 2020 063517

Article

Angular distribution of high power radiation from a charge rotating around a dielectric ball

T.A. Petrosyan, L.Sh. Grigoryan, A.A. Saharian, H.F. Khachatryan, M.L. Grigoryan, A.V. Sargsyan

Journal of Instrumentation 2020 C04035

Article

Angular Distribution of Intensive Radiation from a Charge Rotating Around a Conductive Ball

L.Sh. Grigoryan, A.A. Saharian, A.H. Mkrtchyan, H.F. Khachatryan, M.L. Grigoryan, T.A. Petrosyan,

H.P. Harutyunyan

Article

ИНДУЦИРОВАННАЯ ГРАНИЦЕЙ ПОЛЯРИЗАЦИЯ ВАКУУМА В ПРОСТРАНСТВЕ ДЕ СИТТЕРА С КОМПАКТНЫМИ ИЗМЕРЕНИЯМИ

А.С. КОТАНДЖЯН, А.А. СААРЯН, Д.А. СИМОНЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2019 3-15

Article

СИНХРОТРОННОЕ ИЗЛУЧЕНИЕ ЗАРЯДА НА СОБСТВЕННЫХ МОДАХ ДИЭЛЕКТРИЧЕСКОГО ЦИЛИНДРА

А. С. Котанджян, А. А. Саарян, В. Х. Котанджян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2019 151-159

Article

Generation of surface polaritons in dielectric cylindrical waveguides

A. S. Kotanjyan, A. R. Mkrtychyan, A. A. Saharian, V. Kh. Kotanjyan

Physical Review Special Topics-Accelerators and Beams 2019 040701(1-10)

Article

Vacuum fluxes from a brane in de Sitter spacetime with compact dimensions

A.A. Saharian, D.H. Simonyan, T.A. Petrosyan

Armenian Journal of Physics 2019 51-61

Article

Transition radiation on a superlattice in finite thickness plate generated by two acoustic waves

A. R. Mkrtychyan, V. V. Parazian, A. A. Saharian

Journal of Instrumentation 2018 C01032(1-7)

Article

Radiation of surface waves from a charge rotating around a dielectric cylinder

A. S. Kotanjyan, A. R. Mkrtychyan, A. A. Saharian, V. Kh. Kotanjyan

Journal of Instrumentation 2018 C01016(1-6)

Article

Scalar Casimir densities and forces for parallel plates in cosmic string spacetime

E. R. Bezerra de Mello, A. A. Saharian, S. V. Abajyan

Physical Review D 2018 085023(1-22)

Article

Induced cosmological constant in brane models with a compact dimension

A. A. Saharian, H. G. Sargsyan

Astrophysics 2018 375-390

Article

Electromagnetic vacuum densities induced by a cosmic string

A. A. Saharian, V. F. Manukyan, N. A. Saharyan

Particles 2018 175-193

Article

Models of Compact Stars in the Bimetric Scalar-Tensor Theory of Gravitation

Levon Sh. Grigorian, Hrant F. Khachatryan, Aram A. Saharian

Particles 2018 203-211

Article

Fermionic currents in topologically nontrivial braneworlds

S. Bellucci, A. A. Saharian, D. H. Simonyan, V. V. Vardanyan

Physical Review D 2018 085020(1-22)

Article

Scalar Casimir effect in a linearly expanding universe

A. A. Saharian, T. A. Petrosyan, S. V. Abajyan, B. B. Nersisyan

International Journal of Geometric Methods in Modern Physics 2018 1850177(1-26)

Article

Induced Cosmological Constant in Braneworlds with Compact Dimensions

A. A. Saharian, H. G. Sargsyan

Communications of the Byurakan Astrophysical Observatory 2018 315-326

Article

Qualitative Analysis of Cosmological Models in $f(R)$ -Gravity

R. M. Avagyan, E. V. Chubaryan, G. H. Harutyunyan, A. A. Saharian

Communications of the Byurakan Astrophysical Observatory 2018 291-302

Article

Superdense Stellar Configurations in the Bimetric Scalar-Tensor Theory of Gravity

L. Sh. Grigorian, H. F. Khachatryan, A. A. Saharian

Communications of the Byurakan Astrophysical Observatory 2018 327-337

Article

The Casimir effect for parallel plates in Friedmann-Robertson-Walker universe

E.R. Bezerra de Mello, A.A. Saharian, M.R. Setare

Physical Review D 2017 065024

<http://journals.aps.org/prd/>

Article

Fermionic condensate and the Casimir effect in cosmic string spacetime

A.Kh. Grigoryan, A.R. Mkrtychyan, A.A. Saharian

International Journal of Modern Physics D 2017 1750064

<http://www.worldscientific.com/worldscinet/ijmpd>

Article

Electromagnetic Quantum Effects in Anti-De Sitter Spacetime

A. S. Kotanjyan, A. A. Saharian

Physics of Atomic Nuclei 2017 562-571

<http://link.springer.com/journal/11450>

Article

Synchrotron and Smith-Purcell radiations from a charge rotating around a cylindrical grating

A.A. Saharian, A.S. Kotanjyan, A.R. Mkrtchyan, B.V. Khachatryan

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS
2017 162-166

<https://www.journals.elsevier.com/nuclear-instruments-and-methods-in-physics-re...>

Article

Radiation from a charge rotating inside a cylindrical grating

A.S. Kotanjyan, A.R. Mkrtchyan, A.A. Saharian

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS
2017 173-176

<https://www.journals.elsevier.com/nuclear-instruments-and-methods-in-physics-re...>

Article

Electromagnetic vacuum fluctuations around a cosmic string in de Sitter spacetime

A. A. Saharian, V. F. Manukyan, N. A. Saharyan

European Physical Journal C 2017 478, 13

<http://link.springer.com/journal/10052>

Article

Излучение заряда, вращающегося вокруг идеально проводящего цилиндра

Саарян, А. А., Котанджян, А. С., Врданян, Т. С.

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2017
298-306

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

Article

Fermionic currents in AdS spacetime with compact dimensions

S. Bellucci, A. A. Saharian, V. Vardanyan

Physical Review D 2017 065025(1-15)

Article

Electromagnetic Casimir Effect in AdS Spacetime

Anna S. Kotanjyan, Aram A. Saharian, Astghik A. Saharyan

Galaxies 2017 102(1-11)

Article

Casimir forces in models with non-trivial topology

T. Sh. Navasardyan, A. A. Saharian

Journal of Contemporary Physics (Armenian Academy of Sciences) 2017 348-354

Article

Vacuum Densities for a Charged Scalar Field in de Sitter Space-Time with Compact Dimensions

E. V. Chubaryan, A. S. Kotanjyan, A. A. Saharian, D. H. Simonyan

Gravitation & Cosmology 2016 187-192

<http://pleiades.online/en/journal/gravcos>

Article

Qualitative evolution in $f(R)$ cosmologies

R.M. Avagyan, E.V.Chubaryan, G.H. Harutyunyan, A.A.Saharian

General Relativity and Gravitation 2016 1-21

<http://link.springer.com/journal/10714>

Article

Casimir effect in hemisphere capped tubes

E. R. Bezerra de Mello, A. A. Saharian

International Journal of Theoretical Physics 2016 1167-1191

<http://link.springer.com/journal/10773>

Article

Induced fermionic current by a magnetic flux in a cosmic string spacetime at finite temperature

E. R. Bezerra de Mello, A. A. Saharian, A. Mohammadi

International Journal of Modern Physics A 2016 1641021,10

<http://www.worldscientific.com/worldscinet/ijmpa>

Article

Transition radiation on a dynamical periodical interface

A. R. Mkrtchyan, A. P. Potylitsyn, V. R. Kocharyan, A. A. Saharian

Physical Review E 2016 022117,9

<https://journals.aps.org/pre/>

Article

Finite temperature fermion condensate, charge and current densities in a (2+1)-dimensional conical space

S. Bellucci, E. R. Bezerra de Mello, E. Braganca, A. A. Saharian

European Physical Journal C 2016 76-350

<http://link.springer.com/journal/10052>

Article

Hadamard function and the vacuum currents in braneworlds with compact dimensions: Two-branes geometry

S. Bellucci, A. A. Saharian, V. Vardanyan

Physical Review D 2016 084011,20

<http://journals.aps.org/prd/>

Article

Radiation from a longitudinal oscillator moving along a circular trajectory

A S Kotanjyan, A A Saharian

Journal of Physics: Conference Series 2016 012005/1-7

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

Article

The study of undulator radiation of transversal oscillator

A S Kotanjyan, A A Saharian

Journal of Physics: Conference Series 2016 012010/1-6

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

Article

Quantum effects in anti-de Sitter spacetime for the electromagnetic vacuum

A. S. Kotanjyan, A. A. Saharian, H. G. Sargsyan, D. H. Simonyan

Proceedings of Science 2016 021/1-13

<http://pos.sissa.it/POSwhat.html>

Article

The study of undulator radiation of transversal oscillator

A S Kotanjyan, A A Saharian

Journal of Physics: Conference Series 2016 012009/7

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

Article

ELECTROMAGNETIC CASIMIR DENSITIES FOR A PLATE IN ANTI-DE SITTER SPACETIME

A. A. Saharian, A. S. Kotanjyan, A. A. Saharyan

Proceedings of the YSU A. Physical and Mathematical Sciences 2016 37-41

<http://www.y-su.am/science/en/journals>

Article

Induced fermionic charge and current densities in two-dimensional rings

S. Bellucci, A.A. Saharian, A.Kh. Grigoryan

Physical Review D 2016 105007

<http://journals.aps.org/prd/>

Article

Electromagnetic Casimir densities for a cylindrical shell on de Sitter space

A.A. Saharian, V.F. Manukyan, N.A. Saharyan

International Journal of Modern Physics A 2016 1650183-29

<http://www.worldscientific.com/worldscinet/ijmpa>

Article

Electromagnetic Casimir effect for conducting plates in de Sitter spacetime

A. S. Kotanjyan, A. A. Saharian, H. A. Nersisyan

Physica Scripta 2015 065304/1-9

<http://iopscience.iop.org/journal/1402-4896>

Article

Scalar Casimir densities induced by a cylindrical shell in de Sitter spacetime

A. A. Saharian, V. F. Manukyan

Classical and Quantum Gravity 2015 025009,23

<http://iopscience.iop.org/journal/0264-9381>

Article

Induced fermionic currents in de Sitter spacetime in the presence of a compactified cosmic string

A. Mohammadi, E. R. Bezerra de Mello, A. A. Saharian

Classical and Quantum Gravity 2015 135002,25

<http://iopscience.iop.org/journal/0264-9381>

Article

Induced vacuum currents in anti-de Sitter space with toral dimensions

E. R. Bezerra de Mello, A. A. Saharian, V. Vardanyan

Physics Letters B 2015 155-162

<http://www.journals.elsevier.com/physics-letters-b>

Article

Vacuum currents induced by a magnetic flux around a cosmic string with finite core

E. R. Bezerra de Mello, V. B. Bezerra, A. A. Saharian, H. H. Harutyunyan

Physical Review D 2015 064034,19

<http://journals.aps.org/prd/>

Article

Finite temperature fermionic charge and current densities induced by a cosmic string with magnetic flux

A. Mohammadi, E. R. Bezerra de Mello, A. A. Saharian

Journal of Physics A-Mathematical and Theoretical 2015 185401

<http://iopscience.iop.org/journal/1751-8121>

Article

Vacuum densities for a brane intersecting the AdS boundary

E. R. Bezerra de Mello, A. A. Saharian, M. R. Setare

Physical Review D 2015 104005,11

<http://journals.aps.org/prd/>

Article

Casimir effect for scalar current densities in topologically nontrivial spaces

S. Bellucci, A. A. Saharian, N. A. Saharyan

European Physical Journal C 2015 378,17

<http://link.springer.com/journal/10052>

Article

Vacuum currents in braneworlds on AdS bulk with compact dimensions

S. Bellucci, A. A. Saharian, V. Vardanyan

Journal of High Energy Physics 2015 092,36

<http://www.springer.com/physics/particle+and+nuclear+physics/journal/13130>

Article

Wightman function and the Casimir effect for a Robin sphere in a constant curvature space

S. Bellucci, A. A. Saharian, N. A. Saharyan

European Physical Journal C 2014 3047,19

<http://link.springer.com/journal/10052>

Conference

Quantum effects in anti-de Sitter spacetime for electromagnetic vacuum state

KOTANJYAN Anna, Prof. SAHARIAN Aram, Mr. SARGSYAN Hayk, Mr. SIMONYAN David

Conference

Electromagnetic Casimir densities for a cylindrical boundary in de Sitter spacetime

V. F. Manukyan, A. A. Saharian

Conference

Electromagnetic quantum effects in anti-de Sitter spacetime

A.S. Kotanjyan, A.A. Saharian

Conference

The Synchrotron Radiation of the Transversal Oscillator

A. Kotanjyan, A. Saharian

Conference

On a possible interference of synchrotron and Smith-Purcell radiation

A.R. Mkrtvhyan, B.V. Khachatryan, A.A. Saharian, A. S. Kotanjyan

Conference

The study of undulator radiation of transversal oscillator

Anna Kotanjyan, Aram Saharian

Conference

Synchrotron radiation from a relativistic charged particle rotating around a cylindrical diffraction grating

Anna Kotanjyan, A. Saharian, B. Khachatryan

Conference

On the Features of Radiation from a Charge Rotating Around Dielectric and Conductive Ball

L.Sh. Grigoryan, A.A. Saharian, H.F. Khachatryan, M.L. Grigoryan, A.V. Sargsyan, T.A. Petrosyan
