

## Ֆիզիկայի ինստիտուտ

Կոնդենսացված վիճակի ֆիզիկայի ամբիոն  
Պրոֆեսոր

## Լեզուների իմացություն

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### Magneto-Optical Properties of Electron Gas in a Chain of Planar Quantum Rings: Effect of Screening on the Signature of Quantum Phase Interference

Armen Harutyunyan, Vram Mughnetsyan, Albert Kirakosyan, Vidar Gudmundsson

Annalen der Physik 2025 2400337

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### Effect of two-dimensional non-local screening on characteristics of transition metal dichalcogenide monolayers

Vram Mughnetsyan, Aram Manaselyan, Ashot Movsisyan, Albert Kirakosyan

Semiconductor Science and Technology 2024 045016

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### Planar quantum dots: Theoretical approaches

Aram Manaselyan, Vram Mughnetsyan, Albert Kirakosyan

Encyclopedia of Condensed Matter Physics (Second Edition) 2024 297-307

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### Quasi-One-Dimensional Fröhlich Polaron Characteristics in ZnO Nanowires under the External Fields [Характеристики квазиодномерного фрелиховского полярона в нанопроволоках ZnO во внешних полях]

A. Asatryan, A. Movsisyan, L. Vardanyan, S. Hayrapetyan, A. Kirakosyan

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2024 287 - 293

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Physica E: Low-dimensional Systems and Nanostructures 2022 115366

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Vram Mughnetsyan, Aram Manaselyan, Manuk Barseghyan, Albert Kirakosyan, Laura M. Perez, David Laroze  
Springer Proceedings in Physics (Optics and Its Applications) 2022 145-154

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Physica E: Low-dimensional Systems and Nanostructures 2020 113722(1-6)

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Physica E: Low-dimensional Systems and Nanostructures 2020 113807(1-7)

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International Journal of Modern Physics B 2020 2050322(1-13)

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A.L. Vartanian, A.L. Asatryan, A.A. Kirakosyan, K.A. Vardanyan

Physica E: Low-dimensional Systems and Nanostructures 2019 1-4

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Vram Mughnetsyan, Albert Kirakosyan

Micro and Nanostructures (Previously known as Superlattices and Microstructures) 2019 243-251

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M.G. Barseghyan, V.N. Mughnetsyan, L.M. Perez, A.A. Kirakosyan, D. Laroze

Physica E: Low-dimensional Systems and Nanostructures 2019 91-97

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Physical Review B 2019 195132(1-8)

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David Laroze

Scientific Reports 2018 6145(1-10)

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H.M. Baghramyan, M.G. Barseghyan, A.A. Kirakosyan, D. Laroze

Physics of Quantum Rings 2018 411-445

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A. Stepanyan, A. Asatryan, M. Yerosyan, K. Vardanyan, A. Kirakosyan, A. Vartanian

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**Laser driven intraband optical transitions in two-dimensional quantum dots and quantum rings**

M.G. Barseghyan, A.A. Kirakosyan, D. Laroze

Optics Communications 2017 571-576

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**Effect of interdiffusion and magnetic field on two-electron states in Gaussian-shaped double quantum rings**

V.L. Aziz Aghchegala, V.N. Mughnetsyan, A.A. Kirakosyan

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Vram Mughnetsyan, Aram Manaselyan, Albert Kirakosyan

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**Energy-loss rate of hot electrons due to confined acoustic phonon modes in a semiconductor quantum wire under transverse electric field.**

A. Stepanyan, M. Yerosyan, L. Vardanyan, A. Asatryan, A. Kirakosyan, A. Vartanian

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Arshak Vartanian, Albert Kirakosyan, Karen Vardanyan

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A.L. Vartanian, A.L. Asatryan, A.A. Kirakosyan, A.A. Mkhitarian, S.S. Avetisyan

Proceedings of the YSU A. Physical and Mathematical Sciences 2017 124-127

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## **ONE-DIMENSIONAL FRÖHLICH POLARON WITH SPIN-ORBIT COUPLING**

K. Vardanyan, A. Kirakosyan, A. Vartanian

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Vram Mughnetsyan, Albert Kirakosyan

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### **Elastic strain distribution in one layer quantum ring superlattice**

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H.M. Baghramyan, M.G.Barseghyan, D.Laroze, A.A.Kirakosyan

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### **Impurity-modulated Aharonov-Bohm oscillations and intraband optical absorption in quantum dot-ring nanostructures**

M.G. Barseghyan, A.Kh.Manaselyan, D.Laroze, A.A.Kirakosyan

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### **Image Charge and Electric Field Effects on Hydrogen-like Impurity-bound Polaron Energies and Oscillator Strengths in a Quantum Dot**

L.A. Vardanyan, A.L. Vartanian, A.L. Asatryan, A.A. Kirakosyan

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### **Electric field and image charge effects on impurity-bound polarons in a CdS colloidal quantum dot embedded in organic matrices**

A.L.Asatryan, A.L.Vartanian, A.A.Kirakosyan, L.A.Vardanyan

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M.G. Barseghyan, H.M.Baghrmalyan, D.Laroze, J.Bragard, A.A.Kirakosyan

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**Rashba Spin-Orbit Coupling in a Two-Dimensional Quantum Ring Superlattice**

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Micro and Nanostructures (Previously known as Superlattices and Microstructures) 2015 584-591

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**The influence of electric field on the quasi-confined and interface polaron basic parameters in a wurtzite nitride quantum wire.**

A.L. Asatryan, K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

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**Confined acoustic phonon-mediated spin relaxation in a twodimensional quantum dot in the presence of perpendicular magnetic field**

K A Vardanyan, A L Vartanian, A G Stepanyan, A A Kirakosyan

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**Electron capture processes in quantum dots due to one-and two-phonon assisted transitions: The role of optical phonon confinement**

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**Effect of Phonon Confinement on Optical Phonon-Mediated Carrier Capture into CdSe/ZnS Quantum Dots**

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**Effect of phonon confinement on one- and two-polar optical phonon capture processes in quantum dots**

K.A. Vardanyan, A.L. Vartanian, V.N. Mughnetsyan, A.A. Kirakosyan  
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**Phonon confinement effect on the polaron states in a double quantum ring structure in the presence of electric and magnetic fields**

Mkrtich A. Yeranosyan, Arshak L. Vartanian, Abbas Shahbandari, Albert A. Kirakosyan

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**Effect of interdiffusion on electronic states of strain-free Gaussian-shaped double quantum ring superlattice**

V.L. Aziz Aghchegala, V.N. Mughnetsyan, A.A. Kirakosyan

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V.L. Aziz Aghchegala, V.N. Mughnetsyan, A.A. Kirakosyan

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**Effect of interdiffusion on band structure in GaAs/Ga<sub>1-x</sub>Al<sub>x</sub>As quantum ring superlattices**

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**Պինդ մարմնի ֆիզիկայի ներածություն, Մաս I**

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**Effect of image charges on the impurity-bound polaronic states in colloidal quantum dots embedded in different organic matrices.**

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**Effect of Rashba and Dresselhaus spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum dot in the presence of external fields.**

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K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

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Arshak Vartanian, Karen Vardanyan, Armen Stepanyan, Albert Kirakosyan

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A. Stepanyan, L. Vardanyan, A. Asatryan, A. Vartanian, A. Kirakosyan

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**Influence of Phonon Confinement on Optical Phonon-Mediated Carrier Capture into CdSe/ZnS/H<sub>2</sub>O Quantum Dots**

Vartanian A, Vardanyan K, Kirakosyan A

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Գիտաժողովի նյութ

**Quasi-one-dimensional Fröhlich polaron with spin-orbit Rashba and Dresselhaus couplings**

Karen Vardanyan, Arshak Vartanian, Albert Kirakosyan

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**The influence of the transverse electric field on the hot electron energy loss rate via polar-optical phonons in nanowires**

A.Asatryan, A.Stepanyan, M.Yeranosyan, A.Kirakosyan, A.Vartanian

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A.L. Asatryan, L.A. Vardanyan, A.A. Kirakosyan, A.L. Vartanian

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Աբրեղիտ Կիրակոսյան, Արշակ Վարդանյան, Աննա Ասատրյան, Արամ Մանասեյան,

Գառնիկ Վերմիշյան

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Էլեկտրոնային նյութ

**Ատոմի ֆիզիկա**

Ա. Կիրակոսյան

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**Phonon-Assisted Optical Absorption for Nanowires with Spin-Orbit Coupling**

Ghukasyan T. K., Asatryan A.L., Vardanyan K.A., Kirakosyan A.A., Vartanian A.L.

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Գիտաժողովի նյութ

**Magneto-Optical Properties of Artificial Graphene Constructed of Cylindrical and Elliptical Quantum Dots**

YEGANYAN Lilit, MUGHNETSYAN Vram, MANSOURY Maryam, KIRAKOSYAN Albert, GUDMUNDSSON Vidar

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