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## 🌐 Знание языков

English Русский Deutsch

## 📖 Публикации

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### **Exciton-optical phonon coupling in non-spherical quantum dots: A resonant Raman study of InP/ZnSe nanocrystals**

A.L. Vartanian, A.L. Asatryan, A.H. Movsisyan, L.A. Vardanyan, N. Del Fatti, F. Valle'e

Computational Materials Science 2025 113394/11

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### **Intermediate interaction theory of the Dirac fermions with plasmon-surface LO-phonon excitations in the monolayer graphene on polar substrate**

Arshak L.Vartanian

Journal of Physics and Chemistry of Solids 2022 110790

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### **Simultaneous effects of the confinement of polar optical phonons and spin-orbit coupling on the free carrier absorption of a nanowire**

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

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### **Polaronic effects on the electron Raman scattering in a spherical anisotropic quantum dot**

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

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### **External electric and magnetic field effects on the polaron in a wurtzite nitride nanowire embedded in a nonpolar matrix**

Anna L. Asatryan, Ashot H. Movsisyan, Arshak L. Vartanian

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**Polaronic effects on the impurity-related linear and nonlinear optical properties in a nanowire with magnetic field**

Arshak L. Vartanian, Tigran K. Ghukasyan

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**Possible Frohlich surface polaron formation in graphene on a polar substrate**

Arshak L. Vartanian

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**Effect of spin-orbit coupling on the hot-electron energy relaxation in nanowires**

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

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**Influence of image charge effect on the binding energy of hydrogen-like donor impurity in a near-surface quantum well under transverse electric field**

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

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**Energy loss rate of hot electrons due to polar-optical phonon modes in a semiconductor nanowire under transverse electric field**

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**EFFECTS OF ELECTRIC FIELD AND IMAGE CHARGES ON THE IMPURITY-RELATED OPTICAL ABSORPTION COEFFICIENTS IN A SPHERICAL QUANTUM DOT**

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

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**presence of perpendicular magnetic field**

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**Spin-orbit interaction enhanced polaron effect in wurtzite semiconductor quantum well.**

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

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Lyudvig Vardanyan, Arshak Vartanian, Anna Asatryan

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**Electric field effect on hot-electron energy-loss rate via LA-phonon scattering in a cylindrical quantum wire.**

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**Rashba and Dresselhaus spin-orbit coupling effects on the electronic structure of quantum wires under the influence of in-plane magnetic field.**

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**Influence of image charge effect on impurity-related optical absorption coefficient in a spherical quantum dot.**

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

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A. Asatryan, L. Vardanyan, A. Vartanian

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

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*Электронный материал*

**Պինդ մարմնի ֆիզիկայի լաբորատոր աշխատանքներ**

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**Exciton-Phonon Interaction in Elliptically Shaped Core-Shell Quantum Dots: Resonant Raman Scattering**

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

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

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**First-order Raman spectra induced by the Fröhlich excitation-lattice interaction in a non-spherical core/shell nanocrystals**

Anna Asatryan, Ashot Movsisyan, Siranush Avetisyan, Tatevik Hayriyan, Arshak Vartanian

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**Exciton Resonant Raman Scattering in Colloidal Quantum Dots: The Role of the Fröhlich-Type Interaction**

A. Asatryan, A. Movsisyan, L. Vardanyan, A. Vartanian

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**Intermediate Coupling Theory of the Dirac Fermions with Plasmon-Surface Polar Optical Phonon Excitations in the Monolayer Graphene on Polar Substrate**

Arshak Vartanian

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