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Знание языков

English Русский Deutsch

Публикации

Статья

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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Kohn Anomaly with Spin-Orbit Coupling in Monolayer Graphene: A Method to Determine the Rashba Parameter

Arshak L. Vartanian

ACS Applied Electronic Materials 2025 6348 - 6355

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Coherent Control of a Shallow Impurity Quantum States in Graphene Monolayer by Bichromatic Phase Modulated Laser Pulses: Influence of Relaxation Processes [Когерентное управление квантовыми состояниями мелкой примеси в монослое графена с помощью фазомодули]

A.A. Avetisyan, A.P. Djotyan, G.P. Djotyan, A.L.Vartanian, A.L. Asatryan

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Comparative study on polaronic quantum confinement effects in wurtzite ZnO and GaN nanowires under external fields

Anna Asatryan, Arshak Vartanian, Serob Hayrapetyan, Tigran Ghukasyan, Artak Avetisyan, Ya-Hong Xie

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In situ microstructural and electrical characterizations of liquid metal stretchable conductors

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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

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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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Образовательный Руководство

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

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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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Статья

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

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Effect of Rashba spin-orbit coupling on polaron properties in CdSe nanowire under electric field

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Spin relaxation mediated by spin-orbit and acoustic phonon interactions in a single-electron two-dimensional quantum dot

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

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

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The influence of electric field on the interface polaron properties in a wurtzite nitride nanowire.

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

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

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

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Spin Relaxation in the Presence of Spin-Orbit Interactions in Single Electron Quantum Dots Embedded in a Suspended Phonon Cavity

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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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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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Confined acoustic phonon-mediated spin relaxation in a two-dimensional quantum dot in the presence of perpendicular magnetic field.

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Dilatational and flexural acoustic-phonon mediated spin relaxation in a two-dimensional quantum dot in the presence of perpendicular magnetic field.

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Impurity-bound polaronic states under an external electric field in quantum dots: Image charge effect.

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.

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

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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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Confined and interface polar optical phonon-limited electron mobility in quantum wires in the presence of perpendicular electric field.

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Influence of Phonon Confinement on Optical Phonon-Mediated Carrier Capture into CdSe/ZnS/H₂O Quantum Dots

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Image charge effect on oscillator strength and intradonor absorption spectra under external electric field in quantum dots.

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

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Dielectric mismatch and polaron effects on optical-absorption spectra and refractive index changes associated with impurities in quantum dots

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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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Magnetic field control of phononmediated decoherence of spin-based qubit in two-dimensional quantum dot embedded in a suspended slab

Arshak L. Vartanian

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Wurtzite-nitride quantum wires under electric and magnetic fields: Polaron basic parameters

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

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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

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

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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 Frohlich-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
