

## Eduard Kazaryan

### List of publications 2007-2021

#### 2007

1. E.M. Kazaryan, V.A. Harutyunyan, A.A. Kostanyan, H.A. Sarkisyan, "Interband transitions in cylindrical layer quantum dot: influence of magnetic and electric fields", *Physica E*, **36**, 114-116 (2007).
2. E.M. Kazaryan, A.A. Kostanyan, H.A. Sarkisyan, "Optical absorption in GaAs quantum wells caused by donor-acceptor pair transitions", *Journal of Physics: Condensed Matter*, **19**, id 046212(9pp) (2007).
3. K.G. Dvoyan, A.A. Tshantshapanyan, E.M. Kazaryan, "Electronic States and Light Absorption in Thin Ellipsoidal Quantum Lens under the Influence of Strong Magnetic Field", *Journal of Contemporary Physics*, Springer, vol. **42**, pp.428-434 (2007).
4. Д.Б. Айрапетян, Э.М. Казарян, К.Г. Двоян, "Прямое межзонное поглощение света в сильно сплюснутой эллипсоидальной квантовой точке", *Известия НАН Армении, Физика*, том **42**, 227-235 (2007).
5. Э.М. Казарян, А.А. Костанян, А.А. Саркисян, «Межзонные переходы в квантовом сферическом слое при наличии электрического поля: модель сферического ротатора», *Известия НАН Армении, Физика*, том **42**, 18-26 (2007).
6. E.M. Kazaryan, L.S. Petrosyan, H.A. Sarkisyan, "Hidden symmetry, excitonic transitions and two-dimensional Kane's exciton in the quantum well", *Electronic Journal of Theoretical Physics*, vol. **4**, 91-100 (2007).
7. Э.М. Казарян, А.В. Меликсетян, А.А. Саркисян, «Межзонные переходы в узкозонной цилиндрической квантовой точке InSb», *Письма в ЖТФ*, том **33**, 49-56 (2007).
8. K.G. Dvoyan, D.B. Hayrapetyan, E.M. Kazaryan, A.A. Tshantshapanyan, "Electron States and Light Absorption in Strongly Oblate and Strongly Prolate Ellipsoidal Quantum Dots in Presence of Electrical and Magnetic Fields", *Nanoscale Research Letters* vol. **2**, pp. 601-608 (2007).

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1. A.A. Tshantshapanyan, K.G. Dvoyan, E.M. Kazaryan, "Light absorption in coated ellipsoidal quantum lenses", *J Mater Sci:Mater Electron* DOI 10.1007/ s 10854 008-9753-7(2008).
2. A.K. Atayan, E.M. Kazaryan, A.V. Meliksetyan, H.A. Sarkisyan, "Magneto-absorption in cylindrical quantum dots", *European Physical Journal B*, vol. 63, pp. 485-492 (2008).
3. E.M. Kazaryan, L.S. Petrosyan, H.A. Sarkisyan, "Hidden symmetry and excitonic transitions in the quantum well", *Physica E*, vol. 40, pp. 536-541 (2008).
4. A.A. Avetisyan, E.M. Kazaryan, A.P. Djotyan, K. Mouloupos, "Exciton-donor complexes in

semiconductor quantum dots in a magnetic field: Infinite and finite potential barriers”, *Physica E* 40, pp.1648-1650 (2008).

5. A.L.Vartanian, E.M. Kazaryan, L.A. Vardanyan, “Effect of electric and magnetic fields on the binding energy of a Coulomb impurity bound polaron in a cylindrical quantum dot”, *Phys. Stat.sol.(b)* 245, No.1,pp. 123-131(2008).

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7. Л.А. Варданян, Э.М.Казарян, А.Л. Вартанян, “Влияние электрического поля на собственную энергию и эффективную массу полярона в полупроводниковой квантовой проволоке”, *Ученые записки, ЕГУ, Естественные науки, Физика*, с.49-52 (2008).

## 2009

1. K.G. Dvoyan, D.B. Hayrapetyan, E.M. Kazaryan, "Direct Interband Light Absorption in Strongly Prolated Ellipsoidal Quantum Dots' Ensemble", *Nanoscale Research Letters*, vol. 4, pp.106-112 (2009).

2. K.G. Dvoyan, D.B. Hayrapetyan, E.M. Kazaryan, A.A. Tshantshapanyan, "Electronic States and Light Absorption in a Cylindrical Quantum Dot Having Thin Falciform Cross Section", *Nanoscale Research Letters*, vol. 4, pp.130-137 (2009).

3. K.G. Dvoyan, E.M. Kazaryan, A.A. Tshantshapanyan, "Light absorption in coated ellipsoidal quantum lenses", *Journal of Materials Science: Materials in Electronics*, vol. 20, pp. 491-498 (2009).

## 2010

1. A.A. Gusev, O. Chuluunbaatar, S.I. Vinitsky, V.L. Derbov, E.M. Kazaryan, A.A. Kostanyan, H.A. Sarkisyan, "Adiabatic approach to the problem of a quantum well with a hydrogen-like impurity", *Physics of Atomic Nuclei*, vol.73, pp. 331-338 (2010).

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4. А.К. Атаян, Э.М. Казарян, А.В. Меликсетян, А.А. Саркисян, "Магнитоэкситонные состояния в квантовом кольце с ограничивающим потенциалом Винтерница-Смородинского", *Известия НАН Армении, Физика*, том 45, N3, сс. 126-131 (2010).

5. A. A. Gusev, O. Chuluunbaatar, S. I. Vinitzky, E. M. Kazaryan, H. A. Sarkisyan, "The application of adiabatic method for the description of impurity states in quantum nanostructures", *Journal of Physics: Conference Series*, vol. 248, 012047 (8 pages) (2010).
6. N.G. Aghekyan, E.M. Kazaryan, A.A. Kostanyan, H.A. Sarkisyan, "Two electronic states in a quantum ring: Mathieu equation approach", *Journal of Physics: Conference Series*, vol. 248, 012048 (8 pages) (2010).
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## 2011

1. N.G. Aghekyan, E.M. Kazaryan, A.A. Kostanyan, H.A. Sarkisyan, "Two electronic states in spherical quantum nanolayer", *Proc. SPIE*, vol. 7998, 79981C (9 pages) (2011).
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6. Э.М. Казарян, А.А. Саркисян, "Слоистые наноструктуры", *Энциклопедия UNESCO "Нанонаука и нанотехнологии"*, Главные соредакторы: О. Аваделькарим, Ч. Бай, С.П. Капица, Изд. Магистр-пресс, Москва, сс. 120-133 (2011).
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  3. Bhattacharjee, Aranya B., Calvo, Maria L., Kazaryan, Eduard M., Papoyan, Aram V., Sarkisyan, Hayk A., International Symposium on Optics and its Applications (OPTICS-2011), *Journal of Physics: Conference Series*, vol. 350, Issue 1, pp. 011001 (2012).
  4. N.G. Aghekyan, E.M. Kazaryan, H.A. Sarkisyan, "Dipole and quadrupole moments of electron in spherical nanolayer", *Journal of Physics: Conference Series*, vol. 350, Issue 1, pp. 012014 (8 pages) (2012).
  5. Kazaryan, E. M., Kostanyan, A. A., Poghosyan, R. G., "Impurity states in ZnS/InP/ZnSe core/shell/shell spherical quantum dot", *Journal of Physics: Conference Series*, vol. 350, pp. 012020 (2012).
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- 1 E.M. Kazaryan, V.A. Shahnazaryan, H.A. Sarkisyan, "Quantum ring on sphere: electron state on spherical segment", *Physica E*, vol. 52, pp. 122-126 (2013).
- 2 D.B. Hayrapetyan, E.M. Kazaryan, H.Kh. Tevosyan, "Optical properties of spherical quantum dot with modified Pöschel-Teller potential", *Superlattices and Microstructures*, vol. 64, pp. 204-212 (2013).

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1. E.M. Kazaryan, V.A. Shahnazaryan, H.A. Sarkisyan, "Optical interband absorption and Stark shift in a quantum ring on a sphere", *Optics Communications*, vol. 315, pp. 253-257 (2014).
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## 2015

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