Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Volodya Harutyunyan**
Address(es)	69/1, Duryan st., Duryan distr., Aringe, Kotayk province, Armenia.
Telephone(s)	Mobile: (+374) 93-302-444 (+374) 60 52-46-09 home
Fax(es)	
E-mail	volharut@gmail.com, volharut@mail.ru
Nationality	Armenian
Date of birth	17.06.1949

Work experience

Dates	September 2012-onward
Occupation or position held	Associate-Professor, Professor
Name and address of employer	Russian-Armenian (Slavonic) University, 123 H.Emin Str., 0051Yerevan, Armenia
Dates	April 2000-September 2012
Occupation or position held	Vice-Director
Name and address of employer	State Engineering University of Armenia, Gyumri Branch, 2, M.Mkrtchyan st., 3103 Gyumri, Armenia
Type of business or sector	Higher education
Dates	September 1992-April 2000
Occupation or position held	Assotiate-Professor
Name and address of employer	Physics department, State Engineering University of Armenia, Gyumri Branch, 2, M.Mkrtchyan st., 3103 Gyumri, Armenia
Type of business or sector	Higher education
Dates	September 1972 - September 1992
Occupation or position held	Assistant Professor (1972-1987), Associate Professor (1987-1992)
Name and address of employer	Physics Department, Vanadzor State Pedagogical Institute, 36 Tigran Mets street, Vanadzor, Armenia
Type of business or sector	Higher education

Education and training

Dates	1999
Title of qualification awarded	Doctor of Sciences (Physics)
Name and type of organisation providing education and training	Institute of Applied Problems of Physics, National Academy of Sciences of Armenia, Yerevan, Armenia
Dates	1985
Title of qualification awarded	Ph.D. (Physics)
Name and type of organisation providing education and training	Azerbaijan State University, Baku, Azerbaijan SSR
Dates	1966-1972

Title of qualification awarded	Diploma
Name and type of organisation providing education and training	Yerevan State University, Physics Department Yerevan, Armenia

Personal skills and competences

Mother tongue(s) **Armenian**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
Russian	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
English	A2	Basic user	B1	Independent user	A1	Basic user	A1	Basic user	B1	Independent user

Publications:

More than 80 scientific and

5 methodical publications,

1 monograph

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MAIN PUBLICATIONS

(as author of articles: **V.A. Harutyunyan**, or **V.A. Arutyunyan**, or **V.A. Haroutyunian**, or **V.A. Haroutunian**)

1**. Davit A. Baghdasaryan, Volodya A. Harutyunyan, David B. Hayrapetyan, Eduard M. Kazaryan, Sotirios Baskoutas and Hayk A. Sarkisyan,** Exciton States and Optical Absorption in CdSe and PbS Nanoplatelets, **Nanomaterials 2022, 12(20), 3690; doi:10.3390/nano12203690**

2. **V.A. Harutyunyan,** Confined Stark effect and statistical distribution of charge carriers in β-HgS cylindrical quantized layer, **Physica E, v.143, sept. 2022, pp.115346-1-10**

3. **V.A. Harutyunyan, D. B. Hayrapetyan, E. M. Kazaryan**, Optical Transitions and Photoluminescence in Cylindrical Core/Layer/Shell β-CdS/β-HgS/β-CdS Heterostruture, **Physics of the Solid State 62 (8), pp.1305-1316 (2020).**

4. **V.A.Harutyunyan , D.B.Hayrapetyan, E.M.Kazaryan,** Optical absorption and photoluminescence in the spherical InP/InSb/InP core/shell/shell nanostructure, **Advances in Material Sciences and Engineering, 2018,v.2, Iss.1,pp1-7.**

5. **V.A.Harutyunyan,** Statistics of charge carriers of quantum semiconductor film in the presence of strong lateral electrostatic field, **AIMS Material Science, 2018, v.5, Iss.2, pp.257-275.**

6. **D.A. Baghdasaryan, D.B. Hayrapetyan, V.A. Harutyunyan,** Optical transitions in semiconductor nanospherical core/shell/shell heterostructure in the presence of radial electrostatic field, **Physica B, volume 510, Feb.2017, pp.33-37.**

7 .**V.A. Harutyunyan, D. B. Hayrapetyan, D. A. Baghdasaryan**, Single-electron states in semiconductor nanospherical layer of large radius, **Journal of Contemporary Physics (Armenian Academy of Sciences), October 2016, Volume 51, Iss.4, pp 350–359.**

8.**V.A.Harutyunyan, E.M.Kazaryan, H.A.Sarkisyan,** Electroabsorption in a narrow gap semiconductor nanotube in the field of uniformely charged ring, **Physica E: Low – dimensional systems and nanostructures, v.64, p.p.7-14 (2014).**

9. **V.A.Harutyunyan**,Semiconductor nanotube in the field of uniformely charged ring: Additional quantization in the form of one-dimensional hydrogen-type levels, **Physica E: Low – dimensional systems and nanostructures, v.57, p.p.69-75 (2014).**

10. **V.A.Harutyunyan**, Single-particle states and interband optical transitions in radially-symmetric semiconductor heterolayer , **Physica E: Low – dimensional systems and nanostructures, v. 56, p.p.189-1955 (2014).**

11. **V.A.Harutyunyan, V.A.Gasparyan**, Interband electrooptical transitions in InSb quantum well, **Physica E: Low – dimensional systems and nanostructures, v. 53, p.p. 78-87 (2013).**

12. **V.A.Harutyunyan, V.A.Gasparyan**, Analitical Consideration Of Quantum-Confined Stark-Effect

and Interband Optical transitions in Semiconductor Quantum Well, **Micro and Nanosystems, v.5, p.p. 61-69 (2013).**

13. **V.A.Harutyunyan, V.A.Gasparyan, E.M.Kazaryan, H.A. Sarkisyan,** Electron and hole states in a narrow-band semiconductor InSb film in the presence of uniform electrostatic field, **Journal of Contemporary Physics, v.48, No4, p.p. 162-172 (2013).**

14. **V.A.Harutyunyan, V.A.Gasparyan,** Effect of radial electrostatic field on optical absorption in semiconductor nanotube, **J. Phys. (Conference series) v. 350, p.p.012019-1-012019-6 (2012).**

15. **V. A. Harutyunyan**, Nanospherical heterolayer in strong electrostatic field, **Applied Nanoscience, v.2, p.p. 339-344 (2012).**

16. **V.A. Harutyunyan**, Electro-optical Transitions in a Semiconductor Cylindrical Nanolayer ,**Physics of Solid States, v.54, p.p.1096-1103 (2012).**

17. **V.A.Harutyunyan, M.Mkrtchyan**, Semiconductor quantum ring in strong lateral electrostatic field, **Quantum Computers and Computing, v. 11, p.p. 44-51 (2011).**

18. **V.A.Harutyunyan**, Semiconductor nanotube in strong electrostatic field, **Journal of Applied Physics, v.109, No 1, pp.014325-1 - 014325-8 (2011).**

19**. V.A.Harutyunyan, E.M.Kazaryan, H.A.Sarkisyan,** Optical absorption in a narrow-gap InSb cylindrical layered nanowire in the presence of strong electrostatic field, Journal of Contemporary Physics, v.46, No 6, p.p.440-450 (2011).

20. **V.A.Harutyunyan,G.H.Demirian. N.H.Gasparyan**, Semiconductor nanotube in strong radial electrostatic field: spectrum of carriers and interband transitions,
Physica E: Low – dimensional systems and nanostructures, v.42, No2, pp.614 - 619, 2010.

21. **V.A.Harutyunyan**, Semiconductor nanocylindrical layer in a strong electric field:spectrum of carriers and intraband transitions **Physics of the Solid State, v.52, No.8, pp. 1744 -1749, 2010 (Russian version:Fizika Tverdogo Tela, v.52, No.8,pp.1621-1626, 2010).**

22. **V.A.Harutyunyan**, Semiconductor nanocylindrical heterolayer in a radial electrostatic field: electronic spectrum and optical properties, **Applied Surface Science, v.256, No. 2, pp. 455 - 459, 2009.**

23. **V.A.Harutyunyan**, Cylindrical nanolayer in the strong uniform electrical field: the localization of carriers and electrooptical transitions**,**
Physica E: Low – dimensional systems and nanostructures, v.41, No2, pp.695 -700, 2009.

24. V.A.Harutyunyan, S.L. Harutyunyan, G.H.Demirjian, N.H.Gasparyan, Optical absorption in a semiconductor cylindrical nanolayer,**Journal of contemporary physics, v.43, No.5, pp. 218-225 (2008).**

25. **V.A.Harutyunyan**, Optical transitions in semiconductor nanospherical layer under the presence

of perturbating electrical field, **Physica E: Low – dimensional systems and nanostructures, v.39, No1, pp.37- 49 (2007).**

26. **V.A.Harutyunyan, E.M.Kazaryan, A.A.Kostanyan, H.A.Sarkisyan**, Interband transitions in cylindrical layer quantum dot: influence of magnetic and electrical field, **Physica E: Low – dimensional systems and nanostructures, v.36, pp. 114 - 118, 2007.**

27. **V.A.Arutyunyan, S.L.Arutyunyan, G.O.Demirchyan,G.Sh.Petrosyan**, Optical transitions in a quantized cylindrical layer in the presence of a homogeneous electric field, **Semiconductors, v.39, No.7 ,pp. 805 – 810 (2005), (Russian version: Fizika i Tekhnika Poluprovodnikov, v.39, No.7, pp.839 - 843, 2005).**

28**. V.A.Harutyunyan, H.Sh.Petrosyan,** Influence of a homogeneous electric field on the exciton states in a quantized wire, **Journal of Contemporary Physics, v.43, No.5, pp. 218-225 (2005).**

29. **V.A.Harutyunyan, K.S.Aramyan, H.Sh.Petrosyan, G.H.Demirjian,** Optical transitions in spherical quantized layer under the presence of radial electrical field, **Physica E: Low – dimensional systems and nanostructures, v.24, No3 - 4, pp.173 - 177, 2004.**

30. **V.A.Haroutyunian**, Interband optical absorption in a small-radius quantized spherical film, **Thin Solid Films, v.446, pp.258 - 263, 2004.**

31. **V.A.Harutyunyan, K.S.Aramyan, H.Sh.Petrosyan ,** Confinement Stark effect and electroabsorption in semiconductor cylindrical layer, **Physica E: Low – dimensional systems and nanostructures, v.21, No3 - 4, pp.111-116, 2004.**

32. **V.A.Arutyunyan, K.S.Aramyan, H.Sh.Petrosyan,** Quantum confinement Stark effect and electroabsorption in semiconductor spherical layers, **Semiconductors, v.38, No.4, pp. 335 - 339, 2004 (Russian version: Fizika i Tekhnika Poluprovodnikov, v.39, No.7, pp.349 - 353, 2004).**

33**. V.A.Harutyunyan, K.S.Aramyan, H.Sh.Petrosyan,** Innerband optical transitions in a semiconductor nanospherical layer, **Journal of Contemporary Physics, v.39, No.3, pp. 25-31, (2004).**

34. **V.A.Arutyunyan**, Quantum-confined Stark effect and intraband transitions in a semiconductor spherical layer, **Physics of the Solid State, v.45, No.7, pp. 1342 - 1346, 2003 (Russian version:Fizika Tverdogo Tela, v.45, No.7, pp.1280 - 1283, 2003).**

35. **V.A.Harutyunyan, H.G.Sultanyan,** Quantum-size stark effect in a semiconductor cylindrical layer, **Journal of contemporary physics, v.38, No.1, pp. 29-34, (2003).**

36**. V.A.Harutyunyan, H.G.Sultanyan,** Quantum-size stark effect in a semiconductor spherical layer, **Journal of contemporary physics, v.37, No.4, pp. 35-40 (2003).**

37. **V.A.Arutyunyan**, Effect of a radial electric field on absorption in a quantized spherical layer, **Semiconductors, v.36, No.4, pp. 379 - 381, 2002 (Russian version: Fizika i Tekhnika**

Poluprovodnikov, v.36, No.4, pp.401 - 403, 2002).

38. **V.A.Haroutyunian, S.LHaroutyunian,E.M.Kazarian**, Electric field influence on excitone absorption in size-quantized films, **Thin Solid Films, v.323, pp.209 - 211, 1998.**

39. **V.A.Haroutyunian, S.L.Haroutyunian, E.M.Kazarian**, Possibility of Bose-condensation of excitons in size-quantized semiconductor disc,
Thin Solid Films, v.170, pp. 321 - 326, 1989.

40. **V.A.Haroutunian, E.M.Kazarian**, Feasibility of the Bose-condensation of excitons in semiconductor sphere, **Physica Status Solidy (B) K115 , v.136, pp. k105-k108, 1986.**

41. **V.A.Haroutyunian, E.M.Kazarian**, An investigation of the possibility of Bose-condensation of excitons in semiconducting films, **Thin Solid Films, v.115, pp. 245 - 251, 1984.**

Books:

1. V.A.Harutyunyan, "Effect of Static Electric Fields on The Electronic and Optical Properties of Layered Semiconductor Nanostructures. *PART I: Effect of Static Electric Fields on The Electronic Properties of Layered Semiconductor Nanostructures*", **Bentham Science, July 2015, 243 p.**

PARTICIPATION IN INTERNATIONAL CONFERENCES

1. Electrooptical properties of spheri cal symmetric nanocrystalline layer in the presence of radial electric field, **Bulleten of APS v.48, N1, part I, p.504, Austin TX, USA, March -2003.**

2. The influence of uniform electrical field on the optical properties of size-quantized cylindrical semiconductor layer, **Symposium «Nano and Giga challenges in Microelectronics»,p.114, Cracow, Poland, 2004**

3. Optical transitions in spherical nanocrystalline layer in the presence of homogeneous

electrical field, **Bulleten of APS March Meeting 2005, Abstract**

NK1.0009, Los-Angeles CA, USA 2005

4. Electronic states in nanoradial cylindrical layer with quantum well of finite depth, **Reviews and**

Short Notes to Nanomeeting-2005, p.216-218, Minsk, 2005

5. Optical properties of CdS/HgS/Cd nanospherical direct band semiconductor layer,

Proceedings of the International Conference «Electronic and Photonic Materials, Devices and

Systems», p.D7-D9, Calcutta, India, 2006

6. Optical Transitions in Cylindrical Nanolayer in the Presence of Radial Electric field, **Proceedings**

of the XXVI International Conference «Solid State Physics and Material Science»,

p.72- 73,Alexandria,Egypt, 2006

7. Intersubband optical Transitions in Cylindrical Nanolayer in the Presence of Radial Electric

field, **Proceedings of Ninth International Conference On Intersubband Transitions in**

Quantum Wells, p.22-23, Cumbria, Ambleside, UK, 2007

8. Optical transitions in semiconductor nanotube under strong electrostatic field, **Proceedings of Ninth International Conference on the Science and Application of Nanotubes NT-08, p.378 Montpelier, France 2008.**

9. Semiconductor nanocylindrical heterolayer in a radial electrostatic field: the electronic spectrum and optical properties, **Proceedings of 2-nd International Conferen-ce of Surface and Interfaces, p.97, Puri, India, 2009**

10. Semiconductor nanospherical heterolayer in a radial electrostatic field:electronic spectrum and optical properties, **Modern problems in Optics &Photonics. Book of Abstracts of In-ternational Advanced Reseach Workshop, p.63-64, Yerevan, 2009**

11. Semiconductor quantum ring in strong lateral electrostatic field, **International Conference on Theoretical Physics 2011, Moscow, Russia, 20-23 of june, Book of Abstracts, p.22,**

12. Nanospherical heterolayer in strong electrostatic field, **2nd International Conference on 'Advanced Nanomaterials and Nanotechnology (ICANN-2011), 8-10 Dec. 2011, Guwahati, India, Book of Abstracts, p.75.**

13. **V.A.Harutyunyan, V.A.Gasparyan,** Analytical Consideration of Quantum-Confined Stark-Effect and Intersubband Optical Transitions in Semiconductor Quantum Well, **Proceedings of 2-nd International Conference of Theoretical Physics and Its Applications, p.p. 49-58, Moscow, 2013.** 14. **V.A.Harutyunyan, E.M.Kazaryan, H.A.Sarkisyan,** Single-particle states and interband electrooptical transitions in InSb nanotube in the presence of electrostatic field of uniformely charged ring, **Proceedings of the 5th international conference on nanostructures (ICNS-5), Volume 2, EPP, PP.823-825, 6-9 March, Kish Island, Iran, 2014.**

15. **V.A.Harutyunyan**, Nanospherical Heterolayer in Radial Electrostatic Field, **Third International Conference on Advanced Complex Inorganic Nanomaterials, July 13-17, 2015, Namur, Belgium.**

16. **V.A.Harutyunyan, E.M.Kazaryan,** Influence of strong homogeneous electrostatic field on statistical properties of semiconductor nanofilm, **Abstract Booklet of the Seventh International Conference of Nanostructures(ICNS-7), Feb27-Mar 01, 2018 Tehran, Iran, v.Low 02, pp.1283-1285**

17. **V.A.Harutyunyan, D.B.Hayrapetyan, E.M.Kazaryan**, Excitonic States and Optical Transitions in CdS/HgS/CdS Nanocylindrical Core/Shell/Shell Heterostructure, **Abstract Book, p.188, 8th International Conference on Nanostructures (ICNS8), 18-20 November 2020, Tehran, Iran.**

18. **V.A.Harutyunyan,** Influence of strong uniform electrostatic field on optical transitions in CdS/HgS/CdS core/shell/shell cylindrical nanoststructure, **International Conference NT21, Rice University, USA, June 6-11, 2021,Book of Abstracts, p.184, Abstract No E-195**.

19. **V.A.Harutyunyan,** Statistical Distribution of Charge Carriers in β-HgS Quantized Layer in Lateral Electrostatic Field, **Proceedings of the 7th World Congress on Recent Advances in Nanotechnology (RAN'22)**

Lisbon, Portugal Virtual Conference – April 07 – 09, 2022 Paper No. ICNNFC 151, DOI: 10.11159/icnnfc22.151, p.p ICNNFC 151-1-8

20. **V.A.Harutyunyan,** Charge Carriers' States and Optical Transitions in *CdS/HgS/CdS* Core/Shell/Shell Cylindrical Nanostructure in the Presence of Strong Uniform Electrostatic field, **Optics and Its Applications, Proceedings of the 9th International Symposium OPTICS-2022,pp.91-100, Springer, 2022**