

Doctor of sciences in physics, Professor
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PERSONAL DATA

Was born in Sharur district of Azerbaijan, 02 June 1974, married, has three children.

EDUCATION AND ACADEMIC DEGREES OBTAINED

1996 M.S. (with honor diploma), Faculty of Physics, Baku State University, Baku, Azerbaijan
2001 Candidate of physical and mathematical sciences. Title of thesis: Photoelectric and photoluminescence properties of Cd_{1-x}Zn_xS and CdS_{1-x}Se_x type chalcogenide thin films and structures on their basis
2006 Associate professor
2017 Features of electronic processes in films and Structures on the basis of A^{II}B^{II}C^{VI} semiconductors deposited by electrochemical method
2018 Professor

COMPLETE PROFESSIONAL BACKGROUND

2000-2006 Junior teacher, Department of Physical Electronics, Baku State University, Baku, Azerbaijan
2006 to 2017 Associate professor, Department of Physical Electronics, Baku State University, Baku, Azerbaijan
2018 Professor, Department of Physical Electronics, Baku State University, Baku, Azerbaijan

TEACHING DISCIPLINE

Solid state physics, Solid state electronics, Semiconductor physics, Semiconductor devices, Physics of Electronic device, Optoelectronics, Fundamentals of nanotechnology and nanoelectronics, Materials science, Radio physics, General physics, Micro- and nanoelectronics
Author of more than 100 scientific work and 2 books

PRESENT RESEARCH INTERESTS

Manufacture of thin films of A₂B₆ type semiconductors and effective structures with several application on their basis by the method of electrochemical deposition

SCIENTIFIC DIRECTION

Electronic processes in thin mikro- and nanostructured films and devices on their basis

INTERNATIONAL CONFERENCES, SYMPOSIUMS

1999 International Conference on Physical Problems in Material Science of Semiconductors, Chernovtsi, Ukraine
2000 – 2017 European Materials Research Society Spring Meeting, Strasbourg, France
2000, 2002, 2004, 2006 International Conference on Photoelectronics and Night Vision Devices, Moscow, Russia

2002, 2004, 2006 International Conference on actual Problems of Solid State Electronics and Microelectronics, Taganrog, Russia
2004, 2006 International Conference on Opto-, nanoelectronics, nanotechnology and microsystems, Ulyanovsk, Russia
2013 International Conference ICCE-21, Spain
2014, 2015 International Conf. on “Nuclear radiation nanosensors and nanosensory systems”, Tbilisi, Georgia,
2016, 2017 7th Szeged International Workshop on Advances in Nanoscience, Hungary

LIST OF SELECTED PUBLICATIONS

1. Solar converters on the basis of izotypic heterostructures manufactured by the method of electrochemical deposition, Problems of power, №1, p. 64-70, 2004.
2. Negative infrared photoconductivity in CdS_{1-x}Se_x films, Russian J. of Applied Physics, № 3, p. 94-97, 2004.
3. Electrical and photoelectric properties of electrodeposited n-Si/n-Cd_{1-x}Zn_xS heterojunctions, Inorganic Materials, v.41, №3, p.220-223, 2005.
4. Photosensitivity of heterojunctions manufactured by a method of electrochemical deposition, Thin Solid Films, v.480-481, p.388-391, 2005.
5. Photosensitivity of heterojunctions in visible and near IR region of spectrum, Proc. SPIE, v. 5834, p. 264-268, 2005.
6. Preparation of perfect films Cd_{1-x}Zn_xS_{1-y}Se_y by electrochemical deposition, Journal of Physics of NASA, v.25, № 2, p. 88-92, 2005.
7. Investigation of electrodeposited heterojunction solar cells, Thin Solid Films, v.511-512, p.140-142, 2006.
8. Electrical and Photoelectrical Properties of Electrochemically Fabricated SnO₂/Cd_{0.4}Zn_{0.6}S/CdTe Solar Cells, Physics of Semiconductor Devices, v. 40, No. 12, p.1476–1478, 2006.
9. Photosensitivity of heterojunctions in visible and near IR region of spectrum, Russian J. of Applied Physics, No5, p.79-82, 2006.
10. On the opportunity of increase of stability degree of parameters and characteristics of IR photoreceivers on the basis of Mo/CdS_{1-x}Se_x, Russian J. of Applied Physics, No5, p.82-86, 2006.
11. Electrical and photoelectrical properties of isotypic In₂O₃/Cd_{1-x}Zn_xS/CdS_{1-y}Se_y heterostructures, Journal of Optoelectronics and Advanced Materials, v.8, №4, p.1452 – 1455, 2006.
12. Heat treatment effects in In₂O₃/Cd_{0.4}Zn_{0.6}S_{0.9}Se_{0.1}/CdTe hetero-junction solar cells, Journal of Optoelectronics and Advanced Materials, v.1, №9, p.480 – 483, 2007.
13. Preparation and investigation of electrodeposited p-Si/Cd_{0.3}Zn_{0.7}S_{0.4}Se_{0.6} heterojunction, Proc. SPIE, v. 6636, p. 124-127, 2007.
14. Photosensitivity of SnO₂/Cd_{0.8}Zn_{0.2}S_{0.1}Se_{0.9}/p-CdTe/Cu heterojunctions in visible and near IR regions of spectrum, Proc. SPIE, v. 6636, p. 267-270, 2007.
15. Electrical properties of electrochemically deposited films of the solid solutions of CdS-ZnSe system, News of Baku University, №4, p.151 – 157, 2007.
16. Investigation of Electrodeposited Glass/SnO₂/CuInSe₂/Cd_{1-x}Zn_xS_{1-y}Se_y/ZnO Thin Solar Cells, Japanese Journal of Applied Physics, v. 46, № 11, p. 7359–7361, 2007.
17. Electrical and photoelectrical measurements in p-Si/Cd_{0.3}Zn_{0.7}S_{0.8}Se_{0.2} heterostructures with intermediate buffer layer of CdS, Journal of Physics of NASA, 2007, № 2, p.151-153.
18. Solar Energy: Prospects and Problems, News of Baku University, №3, p.118 – 124, 2008.

19. The switching phenomenon in films $Cd_{1-x}Zn_xS_{1-y}Se_y$, Journal of Physics of NASA, № 3, p.107-109. 2008.
20. Preparation and mechanism of current passage in heterojunctions, Azerbaijan Journal of Physics, Baku, vol.XVI, 2010, № 2, p.51-54
21. Nanostructural and morphological properties of films $SrTiO_3$, Nano- and microsystem techniques, №4, pp.36-38, 2010
22. Improvement of photoelectric parameters of the electrodeposited solar cells by thermal annealing in argon atmosphere, Technical and Physical problems of power engineering, Tabriz, Iran, 2010, p.519-521
23. Two-photon absorption of neodymium laser radiation in films of ZnS_xSe_{1-x} , Baku University News, № 3, s.154-158, 2011
24. Electrical and photoelectrical properties of films $Cd_{1-x}Zn_xS_{1-y}Te_y$ deposited by the method of electrochemical deposition, Azerbaijan Journal of Physics, 2012, v.XVIII, N 3, p.23-29
25. Effect of heat treatment in different atmospheres on the optical properties of $Cd_{1-x}Zn_xS_{1-y}Te_y$ films, Journal of Qafqaz University, № 34, p.71-78, 2012
26. Photoelectrical properties of p-GaAs/ $Cd_{1-x}Zn_xS_{1-y}Se_y$ heterojunctions, International Journal of Engineering and Technology, v.13, N6, p.64-67, 2013
27. Investigation of p-GaAs/n- $Cd_{1-x}Zn_xS_{1-y}Te_y/ZnO$ heterojunctions with nano-transparent ZnO electrodes, Proc. of ICCE-21, Spain, p.30-31, 2013
28. Electronic properties of $TiO_2/Cd_{1-x}Zn_xS_{1-y}Se_y/Si$ nano-structured solar cells, Proc. of ICCE-21, Spain, 2013, p.509-510.
29. Photoelectrical properties of p-GaAs/ $Cd_{1-x}Zn_xS_{1-y}Se_y$ heterojunctions, International Journal of Engineering and Technology, v.13, N6, p.64-67, 2013
30. Preparation and investigation of p-GaAs/n- $Cd_{1-x}Zn_xS_{1-y}Te_y$ heterojunctions deposited by electrochemical deposition, Journal of Solar Energy Engineering, v.136, No 4, p. 044503-1-4, 2014
31. Investigation of p-GaAs/n- $Cd_{1-x}Zn_xS_{1-y}Te_y/Cd_{1-x}Zn_xO$ heterojunctions deposited by electrochemical deposition, Journal of Optoelectronics and Advanced Materials Vol. 17, No. 1-2, 2015, p. 67 – 73
32. Electrical and photoelectrical properties of heterojunctions p-Si/ $Cd_{1-x}Zn_xO$, Journal of Qafqaz University Physics, Baku, № 2, v.4, 2016, p.234-239
33. Electrical and photoelectrical properties of heterojunctions porous- Si/CdS, 7th Szeged International Workshop on Advances in Nanoscience 2016 (SIWAN7), October, 2016 at Szeged, Hungary, p.53-55
34. Photo- and gas- sensitivity of heterojunctions c-Si/porous-Si/CdS, Journal of low dimensional Systems, 2017, v.1, p.24-29
35. New Magnetic Polymer Nanocomposites on the Basis of isotactic Polypropylene and Magnetite Nanoparticles for Adsorption of Ultra High Frequency Electromagnetic Waves, Journal Polymer-Plastics Technology and Engineering, v.134, p.235-246, 2017
36. Nano-structured solar cell based on c-Si/porous-Si/CdS/ $Zn_xCd_{1-x}O$ heterostructures, Proceedings of International conference Modern trends in Physics, 2017, p.16-19
37. Photovoltaic performance of p-Si/ $Cd_{1-x}Zn_xO$ heterojunctions, Photonics Letters Of Poland, v. 10 (1), 26-28 (2018)
38. Effect Of Composition And Heat Treatment Regimes On The Electrical Parameters Of $Cd_{1-x}Zn_xO$ films, Journal of low dimensional Systems, 2018, v.2, p.28-32

BOOKS

1. A.Sh.Abdinov, H.M.Mamedov, Solid State Electronics, Baku, Tahsil, 2005
2. H.M.Mamedov, M.A.Jafarov, M.A.Ramazanov, Radiophysics, Baku, Muallim, 2018