Dr. Rostam Moradian

Full Professor
Department of Physics
School of Science
Razi University

Address: School of Science, Razi University, Kermanshah, Iran

Details

Name: Rostam Moradian
Date of birth: 2/06/1962

Citizenship: Iran

***Education experience*:**

Teaching in BSC 1991-1998:

I have taught most of physics courses for BSC, including condensed matter physics, classical mechanics, electromagnetic, statistical mechanics, quantum mechanics and superconductivity.

PhD graduated at Physics Department of Bristol University, England, 1998-2002.

Teaching in MSC 2002-2012:

I have taught, advance condensed matter physics, computational physics, advance quantum mechanics, statistical mechanics and superconductivity.

Teaching in PhD 2002-2015:

Advance condensed matter physics, many body physics, advance statistical physics, superconductivity.

Job descriptions:

I am an academic member of Razi university of Kermanshah in Iran. I have graduated 30 MSC students and 11 Ph.D. students. At the moment I am supervisor of seven PhD student and five MSC students.

Posts I have had or have at present:

* Head of Nano science and Nanotechnology research center of Razi University

* Member of Nano science Department, Institute of Theoretical Physics and Mathematics
(IPM), Tehran, Iran.

* I was the head of Physics Department, Razi University (2007-Sep. 2008, July.2012).

* Dean of Faculty of Science, Razi University (2015-2016)

PhD graduated students under my supervision:

1) Hamze Mousavi, thesis title "Impurity effects on superconductors and Anderson theorem" Razi University (2008).

2) Ali Fathalian, thesis title "Investigation of magnetic and nonmagnetic impurity effects on the electronic properties of carbon nanotubes" Razi University (2008).

3) Sam Azadi, thesis title "Investigation of the electronic properties of carbon and III-V nanotubes" Razi University (2009).

4) Nader Ghobadi, thesis title "Gas Nano sensing in armchair graphene Nano ribbons and investigation of physical properties of nanostructure semiconducting" Razi University (2010).

5) Raad Chegel, thesis title " Investigation of dielectric function of carbon nanotube and Structural and electronic properties of bundled nanotubes." Razi University (2010).

6) Yavar Mohamadi title "Investigation of gas sensing properties of zigzag Single-Walled carbon Nanotubes and armchair grapheme Nano ribbons" (2010).

7) Somaye Behzad, "Investigation of the effect of doping on the structural and electricalproperties of multi-walled and bundled nanotubes." Razi University (2011).

8) Shadokht sourabi sani "RaziUniversity (2011).

9) Bandar Astinchap, "Preparation and investigation of polymer Nano composites by using carbon nanotubes coated with nanoparticles and quantum dot for use target drug delivery and industry", Razi University (2012).

PhD student under my supervision:

1) Borhan Arghavaninia
2) Iraj Manouchehri
3) Masod Shahrokhi
4) Rouhollah Gholami
5) Maryam Nobakhti
6) Atefeh Ghaderi
7) Shahrzad Esfandiari

My interested research subjects:

I am working on different area of condensed matter physics including following subjects:

* Disordered alloys systems in the normal and superconductivity phases.

* Strongly correlated systems including superconductivity and magnetism.

* Carbone nanotubes.

* Boron nitride nanotubes.

* Electronic properties of nanoparticles.

* Dilute ferromagnetic semiconductors.

* Experimental Solis State Physics: Thin Films, Magnetic Nanoparticles,

Qualifications:

BSc: Physics, Urmia University, Iran (1983-1987)

MSc: Condensed matter physics, Tabriz University, Iran (1987-1991).

MSc thesis: Tunneling of Fermionic systems coupled to a dissipative system.

PhD: condensed matter physics**,** Bristol University, England (1998-2002).

PhD thesis: alloys in high temperature superconductivity and in normal phases.

Awards:

Faculty of science distinguish researcher of year 2002
Faculty of science distinguish researcher of year 2003
Faculty of science distinguish researcher of year 2004
Faculty of science distinguish researcher of year 2005
Faculty of science distinguish researcher of year 2006
Faculty of science distinguish researcher of year 2007
Faculty of science distinguish researcher of year 2008
6th rank in the 4th top ten Iranian nano technologist 2009

Memberships:

• Editor of International Nano Letters.
• Editor of "مجله پژوهش سیستمهای بس ذره ای دانشگاه شهید چمران اهواز".
• Member of Computational Physical Science Research Laboratory, Department of Nano-Science, Institute for Studies in Theoretical Physics and Mathematics (IPM).
• Member of Iranian Physical society.
• Member of institute of Nano science and nanotechnology of Razi University.
• Member of institute of Nano science and nanotechnology of Medical University of Kermanshah.

International ISI JournalPublications:

1. **R. Moradian**, J. F. Annett, B. L. Gy¨ orffy, Disordered s-, d-, and p-wave superconductors: Exact results in infinite dimensions, Phys. Rev. B , 62, 3508 (2000).
DOI:10.1103/PhysRevB.62.3508

2. **R. Moradian**, J. F. Annett, B. L. Gy¨ orffy and G. Litak, Superconducting alloys with weak and strong scattering: Anderson's theorem and a superconductor- insulator transition, Phys. Rev. B , 63, 024501 (2001).
DOI: 10.1103/PhysRevB.63.024501

3. **R. Moradian**, Investigation of disordered alloy systems in the normal and superconducting cases. University of Bristol (2001).
http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.391228#sthash.ydQJX6bH.dpuf

4. **R. Moradian**, B. L. Gy¨orffy and J. F. Annett, Impurity Bound States in Disordered d-Wave Superconductors, Phys. Rev. Lett. 89, 287002 (2002).
DOI:10.1103/PhysRevLett.89.287002

5. **R. Moradian**, J. F. Annett and B. Gyorffy, Electronic Spectra of Extended Zn Impurities in d-Wave Superconductors, Phys. Rev. B 70(2004)172505.
DOI:10.1103/PhysRevB.70.172505

6. **R. Moradian,** Real space Dynamical Super Cell Approximation for interacting disordered systems, Submitted on 17 May 2004 (v1), last revised 23 May 2004 (this version, v2)**, (**unpoblished).
http://arxiv.org/abs/cond-mat/0405357

7. **R. Moradian,** Disordered Carbon Nanotube Alloys in the Effective Medium Super Cell Approximation, Phys. Rev. B 70(2004)205425.
DOI:10.1103/PhysRevB.70.249902

8. **R. Moradian,** Effective Medium Super Cell Approximation for interacting disordered systems, an alternative real space derivation of generalized Dynamical Cluster approximation, Journal of Physics C: Condensed Matter 18, 507-520 (2006).
DOI:10.1088/0953-8984/18/2/012

9. **R. Moradian** and H. Mousavi, The validity of Anderson's theorem for s-wave superconductors, Supercond. Sci. Technol.19, 449-453 (2006).
DOI:10.1088/0953-2048/19/6/005

10. **R. Moradian** and A. Fathalian, Ferromagnetic semiconductor single wall carbon nanotube, Nanotechnology, 17, 1835(2006).
DOI:10.1088/0957-4484/17/8/005

11. **R. Moradian** and S. Azadi, Boron nitride single walled carbon nanotube alloy, Physica E 35, 157 (2006).
DOI:10.1016/j.physe.2006.07.020

12. **R. Moradian,** S. Azadi and H. Rafi-tabar, When double-walled carbon nanotubes can become metallic or semiconducting, J. Phys.: Condens. Matter19No17 (30 April 2007)176209.
DOI:10.1088/0953-8984/19/43/436209

13. **R. Moradian** and A. Fathalian, Magnetic impurity effects in zigzag carbon nanotubes, International Journal of Nanoscience, Vol. 6, No. 6, 453 (2007).
DOI:10.1142/S0219581X07005036

14. R. Moradian and Y. Mohammadi, Finite-concentration gas molecule adsorption on carbon nanotubes investigated by a tight-binding approach, Phys. Rev. B **76**, 155432 – Published 24 October 2007.
DOI:10.1103/PhysRevB.76.155432

15. R. Moradian and Y. Mohammadi, Tight binding model investigation of gas molecules adsorption on carbon nanotubes.Phys. Rev. B, 76, 155432 (2007).
DOI:10.1103/PhysRevB.76.155432

16. R. Moradian and H. Mousavi, Investigation of non-magnetic impurity doping effect on the MgB_2 superconductor critical temperature, J. Phys.: Condens. Matter 20 No 9 (5 March 2008)095212.
DOI:10.1088/0953-8984/20/9/095212

17. Y. Shirvany, M. Hayati and **R. Moradian**, Numerical solution of the nonlinear Schrodinger equation by feedforward neural networks, Communications in Nonlinear Science and Numerical Simulation 13 (2008) 2132–2145.
DOI:10.1016/j.cnsns.2007.04.024

18. R. Moradian and S. Azadi, Magnetism in defected single-walled boron nitride nanotubes, EPL, 83 (2008) 1700.
DOI:10.1209/0295-5075/83/17007

19. R. Moradian, S. Behzad and S. Azadi, Ab initio density functional theory investigation of electronic properties of semiconducting single-walled carbon nanotube bundles, Physica E 40 (2008) 3055– 3059
DOI:10.1016/j.physe.2008.04.006

20. R. Moradian, S. Behzad and R. Chegel, Ab initio density functional theory investigation of structural and electronic properties of silicon carbide nanotube bundles, Physica B 403 (2008) 3623– 3626.
DOI: 10.1016/j.physb.2008.05.040

21. R. Moradian et alAb initio density functional theory investigation of crystalline bundles of polygonized single-walled silicon carbide nanotubes, 2008 J. Phys.: Condens. Matter **20** 465214.

DOI:10.1088/0953-8984/20/46/465214

22. R. Moradian, M. Najafi and M. Elahi, Role of surface Cooper pair interactions on critical temperature of ultra thin film superconductors, Physics Letters A 372 (2008) 5841–5847.

DOI: 10.1016/j.physleta.2008.07.037

23. R. Moradian and A. Fathalian, Investigation of superconductivity in the single wall carbon nanotubes, Journal of Physics and Chemistry of Solids 69 (2008) 2589– 2593.

DOI:10.1016/j.jpcs.2008.05.020

24. R. Moradian, Y. Mohammadi and N. Ghobad, Investigation of gas sensing property of armchair graphene nanoribbons, J. Phys.: Condens. Matter 20 425211(12pp) (2008).
DOI:10.1088/0953-8984/20/42/425211

25. R. Moradian, S. Azadi, S. Vasheghani Farahani Structure and electronic properties of native and defected gallium nitride nanotubes, Physics Letters A, Volume 372, Issue 46, 17 November 2008, Pages 6935-6939.

DOI: 10.1016/j.physleta.2008.09.044

26. Y. Shirvany, M. Hayati, **R. Moradian**, Multilayer perceptron neural networks with novel unsupervised training method for numerical solution of the partial differential equations, Applied Soft Computing, Volume 9, Issue 1, January 2009, Pages 20-29.

DOI:10.1016/j.asoc.2008.02.003

27. Y. Shirvany, M. Hayati and **R. Moradian,** Multilayer perceptron neural networks with novel unsupervised training method for numerical solution of the partial differential equations, Applied Soft Computing**,** Volume 9, Issue 1, January 2009, Pages 20–29**.**

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28. R. Moradian and A. Fathalian, Effects of inter wall hopping on the electronic properties of double-wall carbon nanotubes, Solid State Communications 149 (2009) 491_495.

DOI:10.1016/j.ssc.2008.12.028

29. R. Moradian, P. Zereshki, S. Haseli and M. Hayati, Investigation of electronic transport through graphene nanoribbon quantum dots, Physica E 41 (2009) 801–805.

DOI:10.1016/j.physe.2008.12.014

30. R. Moradian, S. Behzad and R. Chegel, Ab initio density functional theory investigation of Li-intercalated silicon carbide nanotube bundles, PHYSICS LETTERS A Volume: 373 Issue: 26 Pages: 2260-2266Published:2009.

DOI:10.1016/j.physleta.2009.04.040

31. R. Moradian, Extra condition is necessary to have a unique cluster wave vectors set in the periodic cluster approximations, Submitted on 6 May 2009 (v1), last revised 22 Jun 2009 (this version, v3), (unpublished).

http://arxiv.org/abs/0905.0766

32. R. Moradian, S. Behzad and R. Chegel, Ab initio density functional theory investigation of structural and electronic properties of double-walled silicon carbide nanotubes, PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES Volume: 42 Issue: 2 Pages:172-175Published:2009.

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DOI: 10.1016/j.solidstatesciences.2011.03.008

44. R. Moradian, N. Ghobadi, M. Roushani and M. Shamsipur, Synthesis, Characterization and Size Dependent Energy Band Gap of Binary CdSe Quantum Dot and Its Nanoparticle Film, J. Iran. Chem. Soc., Vol. 8, Supp. 1 February2011, pp.S104-S109.

DOI: 10.1007/BF03254286

45. R. Moradian and S. Nazeri, Electrical Conductivity of Hydrogenated Armchair Nanoribbon as a Gas Sensor by Using of Non-Equilibrium Green's Function Method, **{ HYPERLINK "http://link.springer.com/journal/40089" }**2:3 , 2012.

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DOI:10.1089/dna.2011.1303

47. V. Vatanpour, S. S. Madaeni, **R. Moradian**, S. Zinadini and B. Astinchap,Novel antifouling nanofiltration polyethersulfone membrane fabricated from embedding TiO_2 coated multiwalled carbon nanotubes, Separation and Purification Technology, Volume 90, 27 April 2012, Pages 69-82.

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48. P. Daraei, S. S. Madaeni, N. Ghaemi, E. Salehi, M. A. Khadivi, **R. Moradian** and B. Astinchap, Novel polyethersulfone nanocomposite membrane prepared by PANI/Fe_3O_4 nanoparticles with enhanced performance for Cu(II) removal from water, Journal of Membrane Science 2012, Volumes 415–416, 1 October 2012, Pages 250-259.

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49. B. Astinchap, **R. Moradian**, A. Ardu, C. Cannas, G. Varvaro and A. Capobianchi, Bifunctional FePt@MWCNTs/Ru Nano architectures: synthesis and characterization, Chemistry of Material (ACS) 24 (2012) 3393-3400.

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52. F. Ahmadi, N. Jamali**, R. Moradian** and B. Astinchap, Binding Studies of Pyriproxyfen to DNA by Multispectroscopic Atomic Force Microscopy and Molecular Modeling Methods, DNA and Cell Biology. February 2012, 31(2): 259-268.

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53. R. Moradian, M. Shahrokhi, S. S. Charganeh and S. Moradian, Structural, magnetic, electronic and optical properties of iron cluster (Fe6) decorated boron nitride sheet, Physica E: Low-dimensional Systems and Nanostructures, Volume 46, September 2012, Pages 182–188.

DOI:10.1016/j.physe.2012.08.012

54. S. Behzad, **R. Moradian** and R. Chegel, Structural and Electronic Properties of Silicon Carbide Nanotubes , Journal of Computational and Theoretical Nano science 11/2012; 9(11):1860.

DOI:10.1016/j.memsci.2012.05.007

55. R. Moradian and M. Shahrokhi, First principles study of the structural, electronic and optical properties of $Zn_{1-x}Y_x$(Y=Cd,Mg)O$Zn_{1-x}Y_x$(Y=Cd,Mg)O nanotube, Physica E: Low-dimensional Systems and Nanostructures, Volume 44, Issues 7–8, April–May 2012, Pages 1760–1765

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DOI:10.1166/jctn.2012.2597

57. R. Moradian, M. Shahrokhi and S. Moradian, First principle study of the structural, electronic and magnetic properties of Fe, Co, Ni atomic Nano chains

encapsulated in single walled and double walled beryllium oxygen nanotubes, Physica E 47 (2013) 40–45.

DOI:10.1016/j.physe.2012.08.004

58. P. Daraeia, S. S. Madaenia, N. Ghaemib, M. A. Khadivic, B. Astinchap and **R. Moradian**, Fouling resistant mixed matrix polyethersulfone membranes blended with magnetic nanoparticles: Study of magnetic field induced casting, Separation and Purification Technology, Volume 109, 9 May 2013, Pages 111–121.

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hexagonal and cubic phases, The European Physical Journal Applied Physics / Volume 61 / Issue 01 / 2013, 10103 .

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