

# "Curriculum Vita"

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Date of birth: **August 23, 1967**  
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## Education:

● **Ph.D Degree:** Physics (Amirkabir University of Technology, Tehran, Iran)

**Year:** Sep 1993 – Oct 1997

**Ph.D. thesis:** *The formulation of LOCV method for  $V_8$ ,  $V_{12}$ ,  $V_{14}$ ,  $V_{18}$ , and  $V_{28}$  nuclear potentials and using it in investigation of the nuclear matter properties*

● **M.Sc. Degree:** Physics (Amirkabir University of Technology, Tehran, Iran)

**Year:** Jan 1991 – Aug 1993

**M.Sc. thesis:** *The canonical operator formulation of the non-equilibrium thermodynamics*

● **B.Sc. Degree:** Physics (Shiraz University, Shiraz, Iran)

**Year:** Sep 1986 - Jan 1991

**B.Sc. Project:** *Calculation of the spontaneous fission half life of the super-heavy elements and comparison with the experiment*

## Professional Experience:

- **since Oct 2007** : Professor of Physics, Physics Department, Shiraz University, Shiraz, Iran
- **June 2002 – Oct 2007** : Associate Professor of Physics, Physics Department, Shiraz University, Shiraz, Iran
- **Feb 1998 – June 2002** : Assistant Professor of Physics, Physics Department, Shiraz University, Shiraz, Iran
- **Dec 2010 – Jan 2015** : Head of Physics Department, Shiraz University, Shiraz, Iran
- **Sep 2006 – June 2007** : Head of Fasa Institute for Advanced Studies, Fasa, Iran
- **Sep 2003 – Feb 2006** : Research Administrator of College of Sciences, Shiraz University, Shiraz, Iran
- **Sep 2002 – Sep 2004** : Head of Mullasadra Library, Shiraz University, Shiraz, Iran
- **since Aug 2014** : Member of Basic Sciences Committee of Office of Higher Education Developing, Iran Ministry of Sciences
- **since Aug 2011** : Member of Iran Center for Excellence in Astronomy and Astrophysics
- **since June 2011** : Member of Editorial Board of Iranian Journal of Nuclear Sciences and Engineering
- **since Jan 2004** : Research in Astrophysics, Research Institute for Astronomy and Astrophysics of Maragha (RIAAM), P.O. Box 55134-441, Maragha, Iran
- **May 2000 – Jan 2004** : Research in Physics, Institute for Studies in Theoretical Physics and Mathematics (IPM), Tehran, P.O. Box 19395-

5531, Iran

- **May 1995 – March 1998:** Research in Nuclear Physics, Center for Theoretical Physics and Mathematics, AEOI, Tehran, Iran

### **Research Interest:**

- Many-Body Systems
- Nuclear Matter Properties
- Nuclear Structure
- Neutron Stars Properties
- Strange Stars Properties
- White Dwarfs Properties
- Supernovae Collapse
- Quantum Fluids
- Many-Body calculations in Nano-Physics

### **Honor and Awards:**

- Distinguished Head of Shiraz University Departments (2012)
- Distinguished Researcher of Physics Department of Shiraz University (2003)
- IPM Scholarship (1995)

### **Publications:**

62. Calculation of quasi-one-dimensional interacting electron gas using the Hartree-Fock Method, **G. H. Bordbar and N. Taheri**, Physical Chemistry Research **4** (2016) 441.

61. Saturation properties of nuclear matter in the presence of strong magnetic field,  
**Z. Rezaei and G.H. Bordbar**, European Physical Journal A **52** (2016) 132.
60. Magnetized liquid  $^3\text{He}$  at finite temperature: A variational calculation approach,  
**G. H. Bordbar and M. T. Mohammadi Sabet**, International Journal of Modern Physics **B 30** (2016) 1650129.
59. Calculation of Nuclear Matter in the Presence of Strong Magnetic Field Using LOCV Technique, **G.H. Bordbar and Z. Rezaei**, Romanian Journal of Physics **61** (2016) 413.
58. Influence of spin polarizability on liquid gas phase transition in the nuclear matter,  
**Z. Rezaei, M. Bigdeli, and G. H. Bordbar**, International Journal of Modern Physics **E 24** (2015) 1550075.
57. Dilatonic equation of hydrostatic equilibrium and neutron star structure,  
**S. H. Hendi, G. H. Bordbar, B. Eslam Panah and M. Najafi**, Astrophysics and Space Science **386** (2015) 30.
56. Asymmetry energy of nuclear matter: temperature and density dependence and validity of semi-empirical formula, **G. H. Bordbar, R. Feridonnjad and M. Taghizade**, Romanian Journal of Physics **60** (2015) 1010.
55. Ground state properties of liquid  $^3\text{He}$  in the presence of magnetic field,  
**G.H. Bordbar, M.T. Mohamadi Sabet and M. Dehghani**, Iranian Journal of Sciences and Technology A **39** (2015) 199.
54. A Variational Calculation of Magnetized Correlated Fermion System Using a Spin-Dependent Correlation: Application to Liquid  $^3\text{He}$ ,  
**G.H. Bordbar and M.T. Mohamadi Sabet**, International Journal of Modern Physics **B29** (2015) 1550046.
53. Calculation of thermodynamic properties of two-dimensional liquid helium-3,  
**G. H. Bordbar and F. Shaker**, Journal of Research on Many-body Systems **3** (2014) 1.
52. Calculation of thermodynamic properties of the quasi-one dimensional liquid  $^3\text{He}$  at finite temperature, **G. H. Bordbar and M. A. Rastkhadiv**, Physical Chemistry Research **2**(2014) 252.
51. Thermodynamic properties of polarized liquid  $^3\text{He}$  along different isentropic paths,  
**G. H. Bordbar and S. Hosseini**, Physical Chemistry Research **2**(2014) 217.
50. Thermodynamic properties of the ionized gas  $^3\text{He}$  at finite temperature,  
**G. H. Bordbar and N. Mashayekhizadeh**, Physical Chemistry Research **2** (2014) 90.

49. Hot Spin Polarized Strange Quark Stars in the Presence of Magnetic Field using a density dependent bag constant, **G. H. Bordbar and Z. Alizade**, *Astrophysics* **57** (2014) 130.
48. Lowest Order Constrained Variational Calculations For Two-Dimensional Liquid  $^3\text{He}$ , **G. H. Bordbar, F. Fatemi and M. T. Mohammadi Sabet**, *Journal of Theoretical and Computational Chemistry* **12** (2013) 1350061.
47. Structure of Spin Polarized Strange Quark Star in the Presence of Magnetic Field at Finite Temperature, **G. H. Bordbar, F. Kayanikhoo, H. Bahri**, *Iranian Journal of Sciences and Technology* **A37** (2013) 165.
46. The Thermodynamic Properties of Polarized Metallic Nanowire in The Presence of Magnetic Field, **G. H. Bordbar, L. Shahsavar and M. Sadeghipour**, *Physical Chemistry Research* **1** (2013) 34.
45. The effect of a density dependent bag constant on the structure of hot neutron star with a quark core, **T. Yazdizadeh and G. H. Bordbar**, *Astrophysics* **56**(2013) 121.
44. Magnetized Hot Neutron Matter: Lowest Order constrained Variational Calculations, **G.H. Bordbar and Zeinab Rezaei**, *Physics Letters* **B718** (2013) 1125.
43. The effects of strong magnetic fields on neutron star structure: lowest order constrained variational calculations, **G. H. Bordbar and Z. Rezaei**, *Research in Astronomy and Astrophysics* **13** (2013) 197.
42. Calculation of the Structure Properties of a Strange Quark Star in the Presence of Strong Magnetic Field Using a Density Dependent Bag Constant, **G. H. Bordbar, H. Bahri and F. Kayanikhoo**, *Research in Astronomy and Astrophysics* **12** (2012) 1280.
41. Isentropic calculations for normal liquid  $^3\text{He}$  using the lowest order constrained variational method, **G.H. Bordbar and S. Hosseini**, *Iranian Journal of Sciences and Technology* **A36** (2012) 225.
40. The effect of dynamical quark mass in the calculation of strange quark star structure, **G.H. Bordbar and B. Ziaei**, *Research in Astronomy and Astrophysics* **12** (2012) 540.
39. Calculation of the Structure Properties of Asymmetrical Nuclear Matter, **G.H. Bordbar and H. Nadgaran**, *Research in Astronomy and Astrophysics* **12** (2012) 345.
38. Variational calculations for normal liquid  $^3\text{He}$  at finite temperature using the spin-dependent correlation function, **G.H. Bordbar and M.J. Karimi**, *International Journal of Modern Physics* **B25** (2011) 4359.

37. Calculation of the Thermodynamic Properties of Metallic Nanowire: Many-Body Calculations, **G. H. Bordbar** and **L. Shahsavar**, Journal of Nanostructures in Chemistry **2** (2011) 193.
36. LOCV calculations for polarized liquid  $^3\text{He}$ : the effect of three-body cluster energy, **G. H. Bordbar**, **S. Mohsenipour** and **M. J. Karimi**, International Journal of Modern Physics **B25** (2011) 2355.
35. Computation of the structure of a magnetized strange quark star, **G.H. Bordbar** and **A. Peyvand**, Research in Astronomy and Astrophysics **11** (2011) 851.
34. Finite temperature calculations for the bulk properties of strange star using a many-body approach, **G.H. Bordbar**, **A. Poostforush** and **A. Zamani**, Astrophysics **54** (2011) 277.
33. Investigation of the field-induced ferromagnetic phase transition in spin polarized neutron matter: a lowest order constrained variational approach, **G. H. Bordbar**, **Z. Rezaei** and **Afshin Montakhab**, Physical Review **C83** (2011) 044310.
32. Maximum Mass of a Hot Neutron Star with a Quark Core, **T. Yazizadeh** and **G. H. Bordbar**, Research in Astronomy and Astrophysics **11** (2011) 471.
31. Finite temperature calculations for the spin polarized asymmetric nuclear matter with the LOCV method, **M. Bigdeli**, **G. H. Bordbar** and **A. Poostfroush**, Physical Review **C82** (2010) 034309.
30. Spin-spin correlation effect on the thermodynamic properties of the polarized liquid  $^3\text{He}$  at finite temperature, **G.H. Bordbar**, **M.J. Karimi** and **A. Poostforush**, European Physical Journal **B73** (2010) 85.
29. Calculation of Strange Star Structure, **G. H. Bordbar**, **M. Nourafshan** and **B. Khosropour**, Iranian Journal of Physics Research **9** (2009) 237.
28. Temperature dependence of magnetic susceptibility of nuclear matter: lowest order constrained variational calculations, **M. Bigdeli**, **G.H. Bordbar** and **Z. Rezaei**, Physical Review **C80** (2009) 034310.
27. LOCV Calculations for Polarized Liquid  $^3\text{He}$  with the Spin-Dependent Correlation, **G.H. Bordbar** and **M.J. Karimi**, International Journal of Modern Physics **B23** (2009) 2373.
26. Lowest Order Constrained Variational Calculation

- of Structure Properties of Protoneutron Star,  
**G.H. Bordbar, S.M. Zebarjad and R. Zahedinia,**  
International Journal of Theoretical Physics **48** (2009) 61.
25. Lowest Order Constrained Variational calculation for  
Polarized Liquid  $^3\text{He}$  at Finite Temperature,  
**G.H. Bordbar, M.J. Karimi and J. Vahedi,**  
International Journal of Modern Physics **B23** (2009) 113.
24. Calculation of the Effect of Neutrinos on the Protoneutron Star Structure,  
**G.H. Bordbar and B. Khosropour,**  
Iranian Journal of Physics Research **8** (2008) 129.
23. Lowest Order Constrained Variational Calculation of  
Polarized Neutron Matter at Finite Temperature, **G.H. Bordbar**  
**and M. Bigdeli,** Physical Review **C78** (2008) 054315.
22. Spin Polarized Asymmetric Nuclear Matter and Neutron  
Star Matter Within the Lowest Order Constrained Variational Method,  
**G.H. Bordbar and M. Bigdeli,** Physical Review **C77** (2008) 015805
21. Lowest Order Constrained Variational Calculation of the Polarized Nuclear Matter  
with the Modern AV18 Potential, **G.H. Bordbar and M. Bigdeli,**  
Physical Review **C76** (2007) 035803.
20. Polarized Neutron Matter: A Lowest Order Constrained Variational Approach,  
**G.H. Bordbar and M. Bigdeli,** Physical Review **C75** (2007) 045804.
19. Structure of Neutron Star with a Quark Core,  
**G.H. Bordbar, M. Bigdeli and T. Yazdizadeh,**  
International Journal of Modern Physics **A21** (2006) 5991.
18. Thermodynamics of Rotating Solutions in Gauss-Bonnet-Maxwell  
Gravity and the Counterterm Method,  
**M.H. Dehghani, G.H. Bordbar and M. Shamirzaie,**  
Physical Review **D74** (2006) 064023.
17. *Computation of Neutron Star Structure Using Modern Equation of State,*  
**G.H. Bordbar and M. Hayati,**  
International Journal of Modern Physics **A21** (2006) 1555.
16. Spin Polarized Liquid  $^3\text{He}$ ,  
**G.H. Bordbar, S.M. Zebarjad, M.R. Vahdani and M. Bigdeli,**  
International Journal of Modern Physics **B19** (2005) 3379.
15. Critical Behavior of Liquid  $^3\text{He}$ ,  
**G. H. Bordbar, S. M. Zebarjad and F. Shojaei,** International Journal of  
Theoretical Physics **43** (2004) 1863.
14. Isospin Symmetry Breaking Effects on the Properties of Asymmetrical Nuclear

Matter and beta-Stable Matter, **G. H. Bordbar**, International Journal of Theoretical Physics **43** (2004) 399.

13. Breaking of Charge Independence of Nucleon-Nucleon Interaction and Bulk Properties of Nuclear Matter, **G. H. Bordbar**, International Journal of Modern Physics **A18** (2003) 3629.

12. Phenomenological Nucleon-Nucleon Potentials and the Equation of State of Neutron Star Matter, **G. H. Bordbar** and **N. Riazi**, Astrophysics and Space Sciences **282** (2002) 563.

11. Equation of State of Hot Neutrino Opaque Interior Matter of Neutron Star, **G. H. Bordbar**, International Journal of Theoretical Physics **41** (2002) 1135.

10. LOCV Calculation of Thermodynamics Properties of Liquid  ${}^3\text{He}$ , **G. H. Bordbar** and **M. Hashemi**, International Journal of Theoretical Physics, Group Theory, and Nonlinear Optics **8** (2002) 251.

9. Calculation of the Saturation Properties of Symmetrical Nuclear Matter with Inclusion of Delta-Isobar, **G. H. Bordbar**, Iranian Journal of Physics Research **3** (2002) 1.

8. Equation of State of Protoneutron Star Matter, **G. H. Bordbar**, International Journal of Theoretical Physics **41** (2002) 309.

7. LOCV Calculation for Liquid-Gas Phase Transition in Asymmetrical Nuclear Matter, **G. H. Bordbar**, International Journal of Theoretical Physics, Group Theory, and Nonlinear Optics **7** (2001) 43.

6. Equation of State of Newborn Neutron Star Matter with Untrapped Neutrinos, **G. H. Bordbar** and **N. Riazi**, International Journal of Theoretical Physics **40** (2001) 1671.

5. Hot Neutron Star Matter Equation of State, **G. H. Bordbar** and **N. Riazi**, International Journal of Theoretical Physics, Group Theory, and Nonlinear Optics **7** (2001) 73.

4. Isothermal and Isentropic Calculations for Hot Asymmetrical Nuclear Matter Equation of State, **G. H. Bordbar**, International Journal of Theoretical Physics, Group Theory, and Nonlinear Optics **7** (2001) 1.

3. Incompressibility of Hot Asymmetrical Nuclear Matter: Lowest Order Constrained Variational Approach, **M. Modarres** and **G. H. Bordbar**, Physical Review **C58** (1998) 2781.

2. Lowest Order Constrained Variational Calculation for Asymmetrical Nuclear Matter with the New Argonne Potential, **G. H. Bordbar** and



**M. Modarres**, Physical Review **C57** (1998) 714.

1. LOCV Calculation of Nuclear Matter with Phenomenological two-nucleon Interaction Operators, **G. H. Bordbar** and **M. Modarres**, Journal of Physics G: Nuclear and Particle Physics **23** (1997) 1631.

## **Submissions:**

6. Magnetized neutron stars structure with realistic equation of state in gravity's rainbow, **G. H. Bordbar, S. H. Hendi, Z. Rezaei and B. Eslampanah** (2016) submitted for publication.
5. Neutron stars in Einstein- $\Lambda$  gravity: the cosmological constant effects, **G. H. Bordbar, S. H. Hendi and B. Eslampanah** (2016) submitted for publication.
4. Modified TOV in gravity's rainbow: properties of neutron stars and dynamical stability Conditions, **S. H. Hendi, G. H. Bordbar, B. Eslampanah and S. Panahiyan** (2016) submitted for publication.
3. Ground state properties of liquid  $^3\text{He}$  injected in a carbon nanotube: A variational approach, **G. H. Bordbar and M. A. Rastkhadiv** (2016) submitted for publication.
2. Variational calculations for the relativistic interacting fermion system at finite temperature: Application to liquid  $^3\text{He}$ , **G. H. Bordbar, S. Mizani and M. T. Mohammadi Sabet** (2016) submitted for publication.
1. Equation of hydrostatic equilibrium for stars in arbitrary dimensions of Einstein and Gauss-Bonnet gravities, **G. H. Bordbar, S. H. Hendi and B. Eslampanah** (2015) submitted for publication.

## **Conferences Presentations:**

66. Synthesis of barium hexaferrite nanoparticles doped with magnesium, copper and zirconium and study their structural and magnetic properties, **H. Nikmanesh, M. Moradi, G. H. Bordbar, R. Shams Alam and M. Rostami**, Annual Physics Conference of Iran, Mashad, August 2015.

65. Synthesis of barium hexaferrite/multi-walled carbon nanotubes nanocomposite using barium ferrite doped with magnesium, copper and zirconium, and study their structural and magnetic properties,  
**H. Nikmanesh, M. Moradi, G. H. Bordbar and R. Shams Alam,**  
Annual Physics Conference of Iran, Mashad, August 2015.
64. First order correction of Gauss-Bonnet gravity in equation of hydrostatic equilibrium of stars, **G. H. Bordbar, S. H. Hendi and B. Eslampanah,** Annual Physics Conference of Iran, Mashad, August 2015.
63. CALCULATION OF NUCLEAR MATTER IN THE PRESENCE OF STRONG MAGNETIC FIELD USING LOCV TECHNIQUE, **G. H. Bordbar and Z. Rezaei,** 15th International Balkan Workshop on Applied Physics, Romania, Constanta, July 2015.
62. Calculation of Thermodynamic Properties of Liquid  $^3\text{He}$  Injected in a Nanotube at Finite Temperature, **G. H. Bordbar and M. A. Rastkhadi,** 2nd national conference and workshop on nanosciences and nanotechnology, Tehran, May 2015.
61. Equation of hydrostatic equilibrium for stars in arbitrary dimensions of Einstein and Gauss-Bonnet gravities, National Meeting on Gravitation and Cosmology, **G. H. Bordbar, S. H. Hendi and B. Eslampanah,** Tehran, January 2015.
60. Calculation of thermodynamic properties of relativistic liquid  $^3\text{He}$  at finite temperature, **G. H. Bordbar, S. Mizani, M. T. Mohammadi Sabet,** 12th Condensed Matter Conference, Isfahan, January 2015.
59. Hydrothermal Method, **M. Moradi, G. H. Bordbar, F. Kholghi and S. Behaein,** 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), December 2014.
58. Effects Electrolyte Temperature and Anodization Potential on the formation of  $\text{TiO}_2$  Nanotube Arrays, **M. Moradi, G. H. Bordbar, Z. Omidvar and S. Behaein,** 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), December 2014.
57. ASYMMETRY ENERGY OF NUCLEAR MATTER: TEMPERATURE AND DENSITY DEPENDENCE, AND VALIDITY OF SEMI-EMPIRICAL FORMULA, **G. H. Bordbar, R. Feridonjad and M. T. Taghizade Kherameh,** 14th International Balkan Workshop on Applied Physics, Romania, Constanta, July 2014.
56. The temperature and density dependence for the symmetry energy of asymmetrical nuclear matter, **G. H. Bordbar and R. Fereidonzhad,** 20<sup>th</sup> Iran Nuclear Conference, Rasht, March 2014.
55. Investigation of thermodynamic properties of the ionized gas Helium-III, **G. H. Bordbar and N. Mashayekhizadeh,** 6th National Conference on Physics of Payame Noor University, Isfahan, February 2014.

54. Calculation of the thermodynamic and magnetic properties of metallic nano-wire at zero temperature using the Hartree-Fock method, **G. H. Bordbar and N. Taheri**, 6th National Conference on Physics of Payame Noor University, Isfahan, February 2014.
53. Investigation of thermodynamic properties of two dimensional liquid He-III at finite temperature using the variational method, **G. H. Bordbar, F. Shaker and M. T. Mohammadi Sabet**, 6th National Conference on Physics of Payame Noor University, Isfahan, February 2014.
52. Investigation of the ferromagnetic phase transition for liquid Helium-3 at zero temperature using LOCV method, **G. H. Bordbar, M. T. Mohammadi Sabet and M. Dehghani**, The 19th Condensed Matter Conference, Zanjan, May 2013.
51. Investigation of the effect of temperature and magnetic field on the structure of strange quark star, **G. H. Bordbar and F. Kayanikhoo**, 17th Meeting on Research Astronomy, Zanjan, May 2013.
49. Investigation of the properties of magnetized neutron matter at finite temperature, **G. H. Bordbar and Z. Rezaei**, 17th Meeting on Research Astronomy, Zanjan, May 2013.
50. Calculation of the structure properties of hot polarized quark star in the presence of strong magnetic field using the density dependent bag constant, **G. H. Bordbar and Z. Alizade**, 17th Meeting on Research Astronomy, Zanjan, May 2013.
48. Investigation of the effect of magnetic field on the energy and structure of quark star at finite Temperature, **G. H. Bordbar and F. Kayanikho**, Iranian Physics Conference, Yazd, Sep. 2012.
47. Calculation of the Structure of Strange Quark Star at Finite Temperature in the Presence of a Strong Magnetic Field, **G. H. Bordbar and F. Kayanikhoo**, 5th National Astronomy and Astrophysics Conference, Damghan, Dec. 2011.
46. Calculation of the Structure Properties of Magnetized Strange Quark Star At Zero Temperature Using a Density Dependent Bag Constant, **G. H. Bordbar and H. Bahri**, 5th National Astronomy and Astrophysics Conference, Damghan, Dec. 2011.
45. Calculation of Neutron Star Structure in the Presence of Strong Magnetic Field, **G. H. Bordbar and Z. Rezaei**, 5th National Astronomy and Astrophysics Conference, Damghan, Dec. 2011.
44. Computation of the energy of polarized quark matter at zero temperature in the presence of magnetic field using the density dependent bag constant, **G. H. Bordbar, H. Bahri and F. Kayanikhoo**, 5th National Payamenour

University Conference, Tabriz, Oct. 2011.

43. Magnetic properties of the polarized metallic nano-wire using the second quantization method, **G. H. Bordbar, M. Sadeghipour and L. Shahsavar**, 5th National Payamenour University Conference, Tabriz, Oct. 2011.

42. Calculation of the structure function of asymmetric nuclear matter using AV18 nuclear potential, **G. H. Bordbar and H. Nadgaran**, 5th National Payamenour University Conference, Tabriz, Oct. 2011.

41. Thermodynamic properties of normal liquid  $^3\text{He}$  along Isentropic paths using LOCV method, **G.H. Bordbar and S. Hosseini**, 17th Annual IASBS Meeting on Condensed Matter Physics, Zanjan, May 2011.

40. Calculation of the structure of quark star using two models NJL and MIT, **G. H. Bordbar and B. Ziaee**, 15th Meeting on Research Astronomy, Zanjan, May 2011.

39. Investigation of the structure of white dwarf by considering the inter-particles interaction, **G. H. Bordbar and S. Emadi**, 15th Meeting on Research Astronomy, Zanjan, May 2011.

38. Investigation of the field induced ferromagnetic phase transition in the polarized neutron matter, **G. H. Bordbar and Z. Rezaei**, 15th Meeting on Research Astronomy, Zanjan, May 2011.

37. Calculation of Structural Properties of Metallic Nanowire: Many- Body calculation, **G. H. Bordbar, L. Shahsavar**, 2nd Conference on Application of Nanotechnology in Sciences, Mashad, May 2011.

36. Calculation of the structure function of asymmetrical nuclear matter using AV18 and AV14 nuclear potentials, **G. H. Bordbar and H. Nadgaran**, 17th Iran Nuclear Conference, Isfahan, February 2011.

35. The effect of density dependent bag constant on the properties of hot quark matter, **T. Yazdizadeh and G. H. Bordbar**, The First Annual Particle Physics Conference, Yazd, January 2011.

34. Equation of state of strange quark matter in string-flip like model, **M. Bigdeli, G. H. Bordbar, M. Hassani and F. Daei**, The First Annual Particle Physics Conference, Yazd, January 2011.

33. Investigation of the hot quark matter using the square confinement potential, **M. Bigdeli, G. H. Bordbar, F. Daei and M. Hassani**, The First Annual Particle Physics Conference, Yazd, January 2011.

32. Calculation of thermodynamic properties of Polarized Liquid Helium-3 at finite temperature using the Spin-Dependent Correlation Function, **M. J. Karimi and**

**G. H. Bordbar**, The 16th Condensed Matter Conference, Zanjan, May 2010.

31. Cooling of the neutron star and direct URCA process, **M. Bigdeli, G. H. Bordbar and F. Rabet**, 14th Meeting on Research Astronomy, Zanjan, May 2010.

30. Structure of hot neutron star with the quark core, **T. Yazdizadeh and G. H. Bordbar**, 2nd Astronomy & Astrophysics Conference, Ahwaz, December 2009.

29. Variational calculations for liquid  $^3\text{He}$  at finite temperature with the spin-dependent correlation, **G. H. Bordbar and M.J. Karimi**, 12th Iranian Physical Chemistry Seminar, University of Kurdistan, July 2009.

28. Calculation of the Energy of Polarized Liquid Helium-3 with the Spin-Dependent Correlation Function, **G. H. Bordbar and M.J. Karimi**, The 15th Condensed Matter Conference, Zanjan, May 2009.

27. Calculation of the energy of polarized liquid Helium-3 by considering the three-body energy, **G. H. Bordbar and S. Mohsenipour**, The 15th Condensed Matter Conference, Zanjan, May 2009.

26. Structure of Quark Stars at Finite Temperature, **G.H. Bordbar and A. Zamani**, International Tusi Conference on Astrophysics, Maragha, May 2009.

25. Temperature Dependence of the Polarized Nucleonic Matter Equation of State, **M. Bigdeli and G. H. Bordbar**, International Tusi Conference on Astrophysics, Maragha, May 2009.

24. Estimation of the Quark Star Mass, **M. Nourafshan and G.H. Bordbar**, National Meeting on Astronomy, Astrophysics and Cosmology, Shiraz, April 2009.

23. Investigation of the Effect of Neutrino on the Properties of Protoneutron Star, **B. Khosropour and G.H. Bordbar**, National Meeting on Astronomy, Astrophysics and Cosmology, Shiraz, April 2009.

22. Structure Neutron Star with Quark Core, **T. Yazdizadeh and G.H. Bordbar**, National Meeting on Astronomy, Astrophysics and Cosmology, Shiraz, April 2009.

21. Equation of State of Polarized Neutron Matter at Finite Temperature, **M. Bigdeli and G. H. Bordbar**, National Meeting on Astronomy, Astrophysics and Cosmology, Shiraz, April 2009.

20. Magnetic Susceptibility of the Neutron Star Matter, **M. Bigdeli and G. H. Bordbar**, The 13th Meeting of Research Astronomy, Zanjan, January 2009.

19. Thermodynamic Properties of Polarized Liquid Helium III at Finite Temperature, **G. H. Bordbar and M.J. Karimi**, The 8th Condensed Matter Conference, Mashad, February 2007.

18. Variational Calculations for Polarized Liquid  $^3\text{He}$ , **G. H. Bordbar**, The 7th

Physical Chemistry Seminar, Isfahan, March 2005.

17. Second-Order Phase Transition in Liquid  $^3\text{He}$ , **G. H. Bordbar**, The 7th Physical Chemistry Seminar, Isfahan, March 2005.

16. Many-Body Calculations for Liquid  $^3\text{He}$  at Finite Temperature, **G. H. Bordbar**, The 7th Physical Chemistry Seminar, Isfahan, March 2005.

15. Effect of charge dependence of nuclear force on the properties of nuclear matter, **G. H. Bordbar**, Nuclear Physics Conference, Busher, February 2005.

14. Calculation of the ground state properties of polarized liquid Helium III, **G. H. Bordbar**, The 7th Condensed Matter Conference, Tehran, January 2005.

13. Many-Body Calculations for the Neutron Star Structure, **G. H. Bordbar**, Advanced Astrophysics Workshop, Mashhad, January 2004.

12. Charge independence breaking effects on the properties of neutron star matter, **G. H. Bordbar**, The 8th Research Meeting on Astronomy, Mashhad, January 2004.

11. Protoneutron Star Matter Properties, **G. H. Bordbar**, Advanced Astrophysics Workshop, Mashhad, January 2003.

10. Neutron Star Matter Calculations with the Phenomenological Nucleon-Nucleon Potentials, **G. H. Bordbar**, The 7th Research Meeting on Astronomy, Mashhad, January 2003.

9. Cluster expansion of the energy expectation value for a quantum many-fermion system with the short range correlation, **G. H. Bordbar**, Quantum-Chemistry Workshop, Shiraz, August 2002.

8. Critical Phenomena in Hot Asymmetrical Nuclear Matter, **G. H. Bordbar**, The 4th Physical Chemistry Seminar, Kish Island, March 2001.

7. Thermodynamic Properties of Newborn Neutron Star Matter, **G. H. Bordbar**, The 5th Research Meeting on Astronomy, Zanjan, February 2001.

6. LOCV calculation for the interior part of the neutron star, **G. H. Bordbar and N. Riazi**, The sixth Condensed Matter Conference, Zanjan, May 2000.

5. Isentropic Equation of State of Asymmetrical Nuclear Matter, **G. H. Bordbar**, The second Physical-Chemistry Conference, Shiraz, April 2000.

4. Thermodynamics Properties of hot Asymmetrical Nuclear Matter, **G. H. Bordbar**, The first Physical-Chemistry Conference, Shiraz, May 1999.

3. Nuclear Matter Equation of State: Lowest Order Constrained Variational approach,

**G. H. Bordbar, H. R. Moshfegh and M. Modarres**, Nuclear Structure Conference, Dubna, USSR, 1997.

2. Lowest Order Constrained Variational Calculation for Nuclear Matter,  
**G. H. Bordbar and M. Modarres**, Condensed Matter Theories, Vol. 12, 1997.

1. LOCV calculation of nuclear matter,  
**G. H. Bordbar and M. Modarres**, Iran Physics Conference, Rasht, Sep 1997.

## **Supervising Graduate thesis:**

### **•Ph.D thesis:**

5. Investigation of the magnetic properties of liquid  $^3\text{He}$  using LOCV method,  
**M. T. Mohammadi Sabet**, Dec 2014.
4. Isentropic calculations for liquid  $^3\text{He}$  using LOCV method, **S. Hosseini**, Sep 2014.
3. Calculation of the properties of polarized neutron matter in the presence of a strong magnetic field and using it in investigation of neutron star structure,  
**Z. Rezaei**, Jan 2013.
2. Investigation of the effect of density dependent correlation function on the properties of polarized liquid Helium-III, **M.J. Karimi**, Sep 2009
1. The properties of polarized neutron star matter at zero temperature,  
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### **•M.Sc thesis:**

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42. Fabrication of metal oxide nanotubes and feasibility of fabrication of metal nanotubes by different method and investigating physical properties and their applications, **Z. Omidvar**, March 2015.

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8. Calculation of thermodynamic properties of polarized liquid helium III at finite temperature, **J. Vahedi**, Sep 2006.

7. Investigation of phase transition in the black holes of Gauss-Bonnet-Gravity,  
**M. Shamirzaie**, Sep 2006.
6. Equation of state of quark matter,  
**T. Yazdizadeh**, July 2006.
5. Mass evolution of neutron star,  
**R. Zahedinia**, Aug 2005.
4. Nucleon-nucleon potentials and estimation of neutron star mass,  
**M. Hayati**, Sep 2004.
3. Thermodynamic properties of polarized liquid helium-3,  
**M. K. Vahdani**, Sep 2003.
2. Calculation of critical point exponents for liquid  ${}^3\text{He}$  ,  
**F. Shojaei**, Sep 2003.
1. Calculation of liquid He III equation of state at finite temperature,  
**M. Hashemi**, May 2001.