

# Hamid Reza Moshfegh

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1439955961 Tehran-Iran

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**Date of Birth:** 31-Jan-1967, Tehran, Iran

**Material status:** Married – One childe

## Educations

PhD : Physics 1994-1998 Amir-Kabir Technology University, Tehran-Iran

M.Sc in Physics 1991-1993 University of Tehran, Tehran-Iran

BSc. in physics 1986-1990 University of Kerman , Kerman-Iran

## Honors

MSc scholarship awarded by Iran ministry of Culture and Higher Educations

PhD scholarship awarded by Iran ministry of Culture and Higher Educations

## Professional experience

2017- Member of commetee of experts in University of Tehran

2014- Dean of research section, Collage of Science in research , University of Tehran,

2014-2017: Vice president of The Physics Society of Iran (PSI)

2016- Present Member of Editorial board of Journal of Research on Many-Body Systems

2016-present: Member of commetee of experts in Malek University

2015: Visiting professor at Coimbra University, Coimbra, Portugal

2012-present: Member of Educational planning committee (Physics Section) of Ministry of higher education of Iran

2011-2013: Member of central board of The Physics Society of Iran (PSI)

2013- Member of Editorial board of Journal of many body system and Iranian Journal of Physical chemistry

2013: Visiting professor at Nicolas Copernicus Astronomical Center, Warsaw, Poland

2012: Visiting professor at INFN , Catania, Italy

2011: Visiting professor at INFN , Catania, Italy

2010-Present: Full Professor, Department of Physics, University of Tehran.

2008-2011: Head of Department of Physics, University of Tehran

2005-2008: Deputy of research section, Department of Physics, University of Tehran

1999-2000: Deputy of Educational planning, Department of Physics, University of Tehran

2005-2010: Associate Professor, Department of Physics, University of Tehran

2000-2004: Non-resident researcher: Institute of Theoretical physics and Mathematics (IPM)

1998-2000: Resident researcher: Institute of Theoretical physics and Mathematics (IPM)

1998-2005: Assistant Professor, University of Tehran, Department of Physics

## **Teaching and advising activity**

-Member of Advisory board (Scientific and executive) of several National and some International Scientific Conferences

### **Undergraduate:**

Over than 18 student (complete)

### **Graduate:**

28 MSc. student (complete)  
3 MSc. student (current)  
5 PhD. Student (complete)  
4 PhD. Student (current)

### **Courses**

#### **Undegraduate:**

Mathematics  
Differential equations  
Elementary Physics I,II,III  
Modern Physics  
Thermodynamics  
Analytic Mechanics  
Mathematical Physics  
Electromagnetism  
Quantum mechanics  
Group theory  
Relativity  
Optics  
Statistical mechanics  
Computer programing

#### **Graduate:**

Quantum Mechanics  
Electrodynamics  
Statistical Mechanics  
QED  
High energy Physics  
Special topics in nuclear astrophysics  
Advanced Nuclear Physics  
Nuclear structure

# Publications

## Journals

- 35-The role of three-body forces in nuclear symmetry energy and symmetry free energy, S. Goudarzi , **H.R. Moshfegh** , P. Haensel, Nuclear Physics A 969(2018)206
- 34- The effective masses of nucleons in asymmetric nuclear matter in the LOCV framework. M. Mazidabadi Farahani, ,, **H.R. Moshfegh**, S.Goudarzi, Journal of Physics: 932 (2017)012041
- 33 - Emissivity and mean-free path of neutrinos in neutron star matter , A. Khodaie, A. Dehghan Niri,, **H.R. Moshfegh**, P. Haensel, Acta Physics Polonica B 48(2017) 661
- 32-Nuclear Correlations and neutrino emissivity from the Neutron branch of the Modified Urca process, A. Dehghan, **H.R.Moshfegh**, P. Haensel, Phys.Rev. C93, (2016) 045806
- 31-Proto-Neutron Star structure within an extended LOCV method at finite temperature: **H.R Moshfegh** and S. Goudarzi Phys. Rev. C 92(2015) 035804
- 30-Effect of Three body forces on Maximum mass of neutron stars in the LOCV formalism: **H.R Moshfegh** and S. Goudarzi Phys. Rev. C 91 (2015) 054320
- 29-Temperature dependence of Nuclear Symmetry energy : **H.R. Moshfegh** and S. Goudarzi Acta Physica Polonica 46 (2015) 419
- 28-Thermal Properties of nuclear matter in a variational framework with relativistic corrections  
S. Zaryouni, M. Hassani and **H.R. Moshfegh** Phys. Rev. C 89, 014332 (2014)
- 27- Role of Saturation properties of hot nuclear matter in the proximity formalism, O.N. Ghodsi, H.R. Moshfegh and R. Gharaei, Phys. Rev. C 88,034601 (2013)
- 26- Strange Baryonic matter in the Thomas-Fermi Theory, **H.R.Moshfegh** and M. Ghazanfari Mojarrad, Eur. Phys. J. A 49(2013) 1
- 25 - Correlations in Nuclear matter, M. Baldo and **H. R. Moshfegh**, Phys. Rev. C 86(2012) 024306
- 24 - Thermal Properties of Baryonic matter, **H.R. Moshfegh**, M. Ghazanfari, J. Phys. G. 38 (2011)085102
- 23 - A relativistic approach to the equation of state of asymmetric nuclear matter, S.Zaryouni and **H.R.Moshfegh**, , Eur.Phys.J. **A 45** (2010)69
- 22- LOCV calculation of nuclear matter with relativistic hamiltonian, **H.R.Moshfegh**, S.Zaryouni, Eur.Phys.J. **A 43** (2010)283

- 21 - LOCV calculations for Neutron star properties, **H.R.Moshfegh**, Acta Physica Polonica, **B 40**(2009) 661
- 20 - The thermodynamics properties of normal liquid helium 3, M.Modarres, **H.R. Moshfegh** , Physica **A388** (2009) 3297
- 19 - The LOCV nuclear matter calculation and the magnetic susceptibility of neutron matter , M.Modarres, T. Pourmirjafari and **H.R. Moshfegh** Nucl. Phys. **A819**(2009)27
- 18- The one body momentum distribution of nuclear matter at finite temperature  
M.Modarres, A.Rajabi and **H.R.Moshfegh**, Nucl.Phys.A 808 (2008) 60
- 17 - State dependent calculation of Three-body cluster energy for nuclear matter and the validity of LOCV formalism,  
M.Modarres, A.Rajabi and **H.R.Moshfegh** , Phys.Rev. **C67** (2007)064311.
- 16- Thermal properties of asymmetrical nuclear matter with the new charge-dependent Reid potential,  
**H.R.Moshfegh** and M. Modarres, *Nucl. Phys.* **A 792** (2007) 201.
- 15- Equation of state of hot Nuclear and neutron matter: A statistical approach,  
**H.R.Moshfegh**, *Int. J. Mod. Phys.* **E 15** (2006) 1127.
- 14- Equation of state of the homogeneous electron fluid : A variational approach,  
**H.R.Moshfegh**, M.Modarres, *Physica.* **B 378** (2006) 1095.
- 13- Relativistic correction to the nuclear and neutron matter energy in LOCV frame work ,  
S.Zaryouni and **H.R.Moshfegh** *Int. J.Mod.Phy.* **E 14** (2005) 297.
- 12- The properties of hot nuclear matter in LOCV formalism.  
**H.R.Moshfegh** and M.Modarres, *Nucl.Phys.A* **749** (2005) 130.
- 11- Effect of zero and finite temperature short range correlations on the coulomb sum rule and response function.  
M.Modarres, H. Moeini and **H.R.Moshfegh**, *Int. J. Mod. Phys.Lett.* **A 20** (2005) 1903.
- 10- LOCV calculation for asymmetric Nuclear with the new Reid93 potential,  
**H.R.Moshfegh** and M. Modarres, *Nucl. Phys.* **A 759** (2005) 79.
- 9- Nuclear matter energy with relativistic Hamiltonian in LOCV formalism,  
S.Zaryouni and **H.R.Moshfegh** *Nucl.Phys A* **734** (2004) 108.
- 8- Lowest order constrained variational method applied to liquid He3 ,  
M.Modarres **H.R.Moshfegh** and K.Fallahi ,*Euro. Phys.J.* **B 36** (2004) 485.
- 7- Lowest order constrained variational calculation for Nuclear and neutron matter with the new charge dependent Reid potential,  
M.Modarres ,**H.R.Moshfegh**, *Prog.theo.Phys.* **112** (2004) 21.

- 6- LOCV calculation for the uniform electron fluid at finite temperature,  
M.Modarres **H.R.Moshfegh** ,A.Sepahvand *Euro. Phys.J. B* **31**(2003)159.
- 5- Delta (1232) Isobar probability in frozen and hot Neutron, Nuclear and beta- stable matter,  
M.Modarres and **H.R. Moshfegh**, *Prog.theo.Phys.* **107**(2002) 139 .
- 4- Lowest order constrained variational and local density approximation approach to the hot alpha particle,  
M.Modarres, **H.R.Moshfegh**,, H.Mariji, *Can.J.Phys.* **80**(2002) 911-923.
- 3- Validity of LOCV method and incompressibility for asymmetric nuclear matter.  
**H.R.Moshfegh** and M.Modarres. *Cond.Matter.Theo.* **13**(1998)264.
- 2- Lowest order constrained variational calculation for Beta-stable matter at finite temperature,  
M.Modarres and **H.R.Moshfegh**, *Phys-Rev C* **62**(2000)44308.
- 1- The Effect of three-body cluster energy on LOCV calculation for hot nuclear and neutron matter ,  
**H.R.Moshfegh** and M.Modarres, *J.Phys. G* **24** (1998)821

### **Proceeding, conferences**

- 1)The International Conference “**Nuclear Structure and related topics**” **Dubna**  
1997 (full paper)
- 2)11<sup>th</sup> International Conference on **Recent Progress In many-Body Theories**  
**UMIST**  
**Manchester** 9-13 July 2001 (Poster)
- 3)8<sup>th</sup> International Conference on **NUCLEON-NUCLEON COLLISION,MOSCOW**  
**RUSSIA** 16-24 June 2003 (Poster)
- 4)8<sup>th</sup> International Conference on **NUCLEON-NUCLEON COLLISION,MOSCOW**  
**RUSSIA** 16-24 June 2003 (full paper)
- 5) 4<sup>th</sup> Conference on Nuclear and Particle Physics, Fayoum,Egypt 11-15 October 2003
- 6) 4<sup>th</sup> Conference on Nuclear and Particle Physics, Fayoum,Egypt 11-15 October 2003
- 7) 27<sup>th</sup> edition of Condensed Matter Theory Workshop , St.Louis, USA. 27 Sept.-2 Oct. 2004
- 8) 28<sup>th</sup> International Workshop on Condensed Matter Theory , Toulouse, France. 15-20 Sept. 2003
- 9) XI Reginal Conference on Mathematical Physics Tehran,Iran.3-6May 2004

- 10) Phase Transition In Strongly Interacting Matter Prague, Czech Rep. 23-29 August 2004.
- 5) 5<sup>th</sup> Conference on Nuclear and Particle Physics, Cairo,Egypt 7-21 NOV. 2005
- 6) 5<sup>th</sup> Conference on Nuclear and Particle Physics, Cairo,Egypt 7-21 NOV. 2005
- 7) Strongly correlated electron systems SCES'05, Wien , Austria, Aug. 2005
- 8) Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2006
- 9) International symposium on Exotic matter EOCT07, Catania, Italy, June 2007
- 10) Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2008
- 11) Frontiers in Nuclear structure, astrophysics and Reactions, Rhodos, Greece, August 2010
- 12) Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2010
- 13) 7<sup>th</sup> Conference on Nuclear and Particle Physics, Hagherad,Egypt 21-24 NOV. 2011
- 14) Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2014
- 15) Neutron Stars, after 50 years, Saint Petersburg , Russia, 2017

**Iranian Annual Physics Conference**  
**Every year from 1998-2016**

**Books**

**Elementary Physics** (in Persian) (Nei Press Co. Tehran-Iran)

Translation of **an Introduction to Elementary Particle** by **D.Griffith** to Persian  
 (Center of Universities Press Tehran-Iran)

Translation of Modern **Quantum Mechanics** by **J.J. Sakurai** to Persian (  
 Univ. of Tehran Press Tehran-Iran)

Translation of **Quantum Mechanics, An Introduction** by **W. Greiner** to Persian  
 (The Universities Books Press Tehran-Iran)

Translation of **Quantum Mechanics**, by **D.Griffith** to Persian  
 (The Universities Books Press Tehran-Iran)

**Other Skills:**

Programming: Fortran,  
 Good Network Knowledge  
 Mathematica Software  
 Mat lab Software  
 Some Scientific Software  
 Numerical Methods  
 Raman Spectroscopy