CURRICULUM VITAE

1. Personal data:

- Surname: Asgari
- Name: Reza
- Birth date and place: 14 April 1969, Tehran, Iran
- Sex: Male
- Nationality: Iranian
- Present address: School of Physics, Institute for Research in Fundamental Sciences, (IPM) 19395-5531 Tehran, Iran.
- Phone number: 0098-21-22280692
- Fax number:0098-21-22280415
- E-mail: asgari@ipm.ir
- homepage: http://www.ipm.ac.ir/personalinfo.jsp?PeopleCode=IP0300048 and http://www.ipm.ac.ir/personalinfo.jsp?PeopleCode=IP1600011

2. Educational background (Degree Date, Institution):

- High School: June 1986, Beheshti School, Tehran, Iran.
- Bachelor of Science: June 1991, Sharif University of Technology, Tehran, Iran.
- Master of Science: September 1994, Shahid Beheshti University, Tehran, Iran.
- Master Advisor: Dr. Farshad Ebrahimi (Title: Strong coupling theory in Superconductivity and calculation of strong coupling constant for Fe, Cu and Al.).
- Ph. D. in Physics: September 2000, Sharif University of Technology, Tehran, Iran.
- Ph. D. Adviser: Prof. Nasser Nafari (Title: Correlations in multi-subband one dimensional electron gas.).

3. Employment record:

- Head, School of Nano Science, IPM, 20/3/2016-1/8/2020
- Director, Condensed matter national laboratory, IPM, 24/9/2014-
- Head, School of Physics, IPM, 10/1/2009-23/9/2014
- Professor of Physics : Faculty member at School of Physics, Institute for Research in Fundamental Sciences, (IPM) Tehran, Iran. September 2013
- Associate Professor: Faculty member at School of Physics, Institute for Research in Fundamental Sciences, (IPM) Tehran, Iran. Oct. 2009-2013
- Assistant Professor: Faculty member at School of Physics, Institute for Research in Fundamental Sciences, (IPM) Tehran, Iran. Oct. 2004-2009
- Researcher Associate at NEST-INFM and classe di Scienze, Scuola Normale Superiore, Pisa, Italy . Oct 2003-Oct. 2004
- Postdoctoral Research at NEST-INFM and classe di Scienze, Scuola Normale Superiore, Pisa, Italy . Oct 2001-Oct. 2003
- Postdoctoral Research at Institute for Studies in Theoretical Physics and Mathematics, Tehran, Iran. Sep. 2000-Oct. 2001

4. Scientific activities:

- Co-Editor Solid State Communication, May, 2020
- Co-Editor EPL (Europhysics Letters), April, 2019
- Member of Europian Physical Society, April 2019
- Scientific member of Nanoscience and Nanotechnology committee, *Ministry of science and technology*, 2016-2017
- Scientific member of Higher Education office of the Nanoscience and Nanotechnology, *Ministry of science and technology*, 2018-
- International advisory board: International Scientific Spring, Islam-Abad, Pakistan, 13-14 March 2017, http://www.ncp.edu.pk/docs/iss-2017/poster-iss-2017.pdf
- Board member of *Physics Society of Iran* since (October 2014)-present.
- Editorial Board of *Iranian Journal of Physics Research* since (2011)-present.
- Chair, Condensed matter council of physics society of Iran since (2012)-(2015).
- Referee for most major research journals including the Nature Communications, Physical Review Letters, New Journal of Physics, Physical Review B, Europhysics Lett and Journal of Physics C: Condensed Matter Physics

- Scientific referee for Mustafa Prize 2015.
- International advisory board: 7th International Conference on Nanostructures Kish Island, Iran 27 Feb-1 March 2018
- nternational advisory board: 6th International Conference on Nanostructures Kish Island, Iran 7-10 March 2016
- International advisory board: 5th International Conference on Nanostructures Kish Island, Iran 6-9 March 2014
- Referee for more than 30 Ph.D. and 20 M.Sc. thesis inside Iran.
- scientific committee of School of physics, IPM July 2007-present
- scientific committee of School of Astronomy, IPM July 2009-present
- Member: scientific council of IPM, 10/1/2009-present
- Member: center of excellence in Nano structure at Sharif university, Tehran, since 10/1/2012
- Steering committee, "International conference on Nano structures" since 10/8/2012
- Scientific committee member of 38th International physics olympiad, July 2007

5. Funding:

- African Network for Advanced two-dimensional materials for the year 2018 from ICTP. The grant is 10000 Euro.
- Modeling the olfactory system from receiver to recognition 2018 by Iran Cognitive Science and Technologies Council. The grant is Euro.
- Chair, distinguished researcher selected by ministry of Science and technology in 2016. The grant is 17000 USD.
- Special research grant from Science and Technology, vice presidency of Iran. I am selected as a distinguished researcher in 2015. The grant is 17000 USD.
- Research grant for developing my group at IPM, 8000USD per year. It has been starting since 2009.
- Special grant for hiring two post-docs in 2017-2018 from Iran Science Elites Foundation.
- Special grant for hiring two post-docs in 2018-2019 from Iran Science Elites Foundation.
- Special grant for hiring two post-docs in 2019-20120 from Iran Science Elites Foundation.
- Research grant from the ministry of science, research and technology, Iran , 30MT (Iranian currency). It has been starting since 2020.

- Special grant for hiring two post-docs in 2020-20121 from Iran Science Elites Foundation.

6. Awards:

- Distinguished researcher in the "Basic Sciences" selected by the ministry of science, research and technology, Iran , 17 Dec 2019
- Selected among the top ten researchers in nanotechnology by the Iranian Vice-Presidency for Science and Technology, 12th Oct 2019
- Senior Associate member of ICTP (2018-2024)
- Chair, distinguished researcher selected by ministry of Science and technology, (2016)
- Distinguished researcher selected by Science and technology, vice presidency of Iran (2015)
- Distinguished researcher in the "Basic Sciences" selected by the ministry of science, research and technology, Iran (2013)
- Best researcher with most progress in nano-science selected by Iranian nanotechnology initiative council (2011)
- Special prize from Iranian nanotechnology initiative council for our published paper in **Science** (2010)
- Regular Associate member of ICTP (2011-2017)
- Prize for the best researcher in Tehran province 1386 (2007)
- Prize for the best graduate student in Physics, Shahid Beheshti University, (1994)

7. Main research fields:

- Quantum and Classical Liquids
- Highly Correlated Electron Systems
- Density Functional Theory and Dynamical Mean Field Theory
- Disordered systems
- Computational Physics

8. Current Research:

I have been working on two-dimensional material electron systems namely graphene, transition metal dichalcogenide and phosphorose systems. To be more precise, I am interested in many-body physics by carrying out the physical quantities of many body problem and specially the transport

properties of a few layer graphene and other advanced two-dimensional crystalline materials. Furthermore, cold dipolar atom gases have attracted a lot of attention due to the novel anisotropic and long-range character of dipole-dipole interactions. I am also working on one- and two-dimensional dipolar Fermi gas systems and interested in the phase diagrams in such systems.

9. Experience in teaching of the physics:

- Advanced Condensed matter physics I and II (2015-2016) using Philip Phillips's book (PhD students at IPM) http://physics.ipm.ac.ir/phd-courses/semester10.
- Advanced Many-body physics II (PhD students at IPM) http://physics.ipm.ac.ir/phd-courses/semester5/cp.pdf.
- Advanced Many-body physics I (PhD students at IPM) http://physics.ipm.ac.ir/phd-courses/semester2/cm/index.jsp.
- Advanced Condensed Matter physics I and II (PhD students at SUT).
- Advanced numerical methods in Physics (PhD students at IPM).
- Advanced condensed matter physics I and II (Ms students in Iran University of Science and Technology).
- Quantum Mechanics I and II (Bs students in Shahid Rajaye university).
- Electrodynamics I and II (Bs students in Shahid Beheshti University).
- General Physics I and II (Bs students in Iran University of Science and Technology).

10. Books/ Book chapters:

- *1) R. Asgari:* Electronic Transport in Bilayer Graphene, *Chapter 10: Graphene , pages 228-265. Woodhead Publishing, UK Elsever* (ISBN: 978-0-85709-508-4 (2014)
- *2) R. Asgari:* Introduction to electronic and optical properties of two-dimensional molybdenum disulfide systems, *Chapter 1: no-nonsense Physicists, An overview of Gabriele Giuliani's work (Edizioni Della Normale, Pisa, Italy)* (ISBN: 978-88-7642-535-6 (2015))

11. Publications:

- Based on the google scholar scientometrics (31 July 2020): the number of citations is about 4560 with h-index=35

• 2020

- *136) A. Ebrahimian and R. Asgari:* Topological phases in $\alpha-Li_3N$-type crystal structure of light-element compounds, submitted (2020)

- *135) M. Alidoosti, D. Nasr Esfahani and R. Asgari :* Charge density wave and superconducting phase in monolayer InSe, submitted (2020)

- *134) S. Izadi, Z. Torbatian, A. Qaiumzadeh and R. Asgari :* Strain and electric field control of spin-spin interactions in monolayer CrI_3, submitted (2020)

- *133) Azadeh Faridi and R. Asgari :* Many-body exchange-correlation effects in MoS2 monolayer: the key role of nonlocal screening of the crystal, submitted (2020)

- *132) Zahra Torbatian, Mohammad Alidoosti, Dino Novko, and R. Asgari :* Low-loss two-dimensional plasmon modes in antimonene, Phys. Rev. B **101**, 205412 (2020)

- *131) L. Majidi and R. Asgari :* New supercurrent pattern in quantum point contact with strained graphene nanoribbon, Phys. Rev. B (2020)

- *130) I. Seydi, S. H. Abedinpour, R. E. Zillich, R. Asgari and B. Tanatar :* Rotons and Bose condensation in Rydberg-dressed Bose Gases, Phys. Rev. A **101**, 013628 (2020)

- *129) Sh. Hiedari and R. Asgari :* Chiral Hall effect and intraband transitions in strained Weyl semimetals, Phys. Rev. B **101**, 165309 (2020)

- *128) M. Tavakol, A. Montazeri, H. Aboutalebi and R. Asgari:* Mechanical properties of graphene oxide: the impact of functional groups, Applied Surface Science , 146554 (2020) DOI : $10.1016/j.apsusc.2020.146554$
- *127) F. G. Ghamsari and R. Asgari:* Plasmon-phonon-polaritons in encapsulated phosphorene, Plasmonics **1**, 1 (2020), DOI : $10.1007/s11468-019-01059-9$

• 2019

- *126) Sh. Hiedari, A. Cortijo and R. Asgari :* Hall viscosity for optical phonons Phys. Rev. B **100**, 165427 (2019)

- *125) A. Ebrahimian, M. Dadsetani and R. Asgari :* Topological Dirac semimetal and superconductivity in two-dimensional transition-metal MOH (M=Zr, Hf), Phys. Rev. B **100**, 245120 (2019)

- *124) M.A. Sharif Sheikhaleslami, Z. Nourbakhsh, A. Beitollahi, M. Shokouhimehr and R. Asgari :* Development of Graphene Structure in Phenolic Resin Induced by Planarization of Benzene Rings, (2019)

- *123) M. Barzegar, M. Berahman and R. Asgari :* First-Principles Study of Molecules Adsorption on the Ni-Decorated Monolayer MoS2, J. Computational Electronics **18**, 826 (2019)

- *122) I. Seydi, S. H. Abedinpour, R. Asgari and B. Tanatar :* Exchange-correlation effects and the quasiparticle properties in a two dimensional dipolar Fermi liquid, Journal of Superconductivity and Novel Magnetism, 1-6 (2019) $doi.org/10.1007/s10948-019-05371-7$

- *121) Z. Shomali and R. Asgari:* Spin transfer torque and exchange coupling in Josephson junctions with ferromagnetic superconductor reservoirs, J. Physics: Condens. Matter **32**, 035806 (2019)

- *120) B. Zare Rameshti, A. Eskandari-asl and R. Asgari:* Phonon enhanced Kerr and Faraday rotations in two-dimensional electron systems , (2018)

- *119) D. Nasr Esfahani and R. Asgari:* Superconducting critical temperature of hole doped blue phosphorene , (2018)

• 2018

- *118) Z. Torbatian and R. Asgari:* Optical absorption properties of few-layer phosphorene Phys. Rev. B **98**, 205407 (2018)

- *117) Z. Nourbakhsh and R. Asgari:* Phosphorene as a nanoelectromechanical material Phys. Rev. B **98**, 125427 (2018)

- *116) X. Wei, Ch. Gao, R. Asgari, P. Wang and G. Xianlong:* Fulde-Ferrell-Larkin-Ovchinnikov pairing states of a polarized dipolar Fermi gas trapped in a one-dimensional optical lattice Phys. Rev. A **98**, 023631 (2018)

- *115) A. Faridi, R. Asgari and A. Langari:* Magnetotransport of a 2DEG with anisotropic Rashba interaction at the LaAlO3/SrTiO3 interface Phys. Rev. B **98**, 155442 (2018)

- *114) M. Yousefi, M. Faraji, R. Asgari and A. Z. Moshfegh:* Effect of boron and phosphorus codoping on the electronic and optical properties of graphitic carbon nitride monolayers: First-principle simulations Phys. Rev. B **97**, 195428 (2018)

- *113) I. Seydi, S. Abedinpour Harzand, R. Asgari and B. Tanatar:* Composite quasiparticles in strongly-correlated dipolar Fermi liquids Phys. Rev. A **98**, 063623(2018)

- *112) L. Majidi, M. Zare, and R. Asgari:* Quantum transport in new two-dimensional heterostructures: thin films of topological insulators, phosphorene , Physica C (Special issue: conference paper) **3**, 3 (2018)

- *111) Z. Nourbakhsh and R. Asgari:* Charge transport in doped zigzag phosphorene nanoribbons , Phys. Rev. B **97**, 235406 (2018)

- *110) Z. Torbatian and R. Asgari:* Plasmonic physics of 2D crystalline materials, , App. Science (invited paper) **8**, 238 (2018)

- *109) Z. Shomali and R. Asgari:* Effects of low-dimensional material channels on energy consumption of Nano-devices , Int commun in heat and mass transfer **94**, 77 (2018)

- *108) M. Zare, F. Parhizgar and R. Asgarii:* Strongly anisotropic RKKY interaction in monolayer black phosphorus , J. Mag. Magn. Mat. **456**, 307 (2018)

- *107) H. Mosadeq and R. Asgari:* Ground-state phases of dipole-dipole Fermion interactions on two-leg ladder systems. J. Phys. C **30**, 205601 (2018)

• 2017

- *106) M. Lundeberg, Y. Gao, R. Asgari, Ch. Tan, B. Duppen, M. Autore, P. Gonzalez, A. Woessner, K. Watanabe, T. Taniguchi, R. Hillenbrand, J. Hone, M. Polini and F. Koppens:* Tuning quantum non-local effects in graphene plasmonics, Science, **357**, 187 (2017)

- *105) F. Parhizgar, A. Qauimzadeh and R. Asgari:* Quantum capacitance of decoupled bilayer graphene , Phys. Rev. B **96**, 075447 (2017)

- *104) Z. Torbatian and R. Asgari:* Plasmon modes of bilayer molybdenum disulfide: A density functional study, J. Phys. C **29**, 465701 (2017)

- *103) M. Zare, L. Majidi and R. Asgari:* Giant magnetoresistance and anomalous transport in phosphorene-based multilayers with non-collinear magnetizations. Phys. Rev. B **95**, 115426 (2017)

- *102) A Faridi, and R. Asgari:* Plasmons at the LaAlO3/SrTiO3 interface and Graphene-$LaAlO_3/SrTiO_3$ double laye. Phys. Rev. B **95**, 165419 (2017)

- *101) M. Zare, B. Zare Rameshti, F. G. Ghamsari and R. Asgari:* Thermoelectric transport in monolayer phosphorene. Phys. Rev. B **95**, 045422 (2017)

• 2016

- *100) B. Zare Rameshti and R. Asgari:* Thermoelectric effects in topological crystalline insulators. Phys. Rev. B **94**, 205401 (2016)

- *99) Z. Nourbakhsh and R. Asgari:* Excitons and optical spectra of phosphorene nano ribbons. Phys. Rev. B **64**, 035437 (2016)

- *98) A. Farid, A. Langari and R. Asgari:* Electron mobility of two-dimensional electron gases at the interface of $SrTiO_3$ and $LaAlO_3$. Phys. Rev. B **93**, 235306 (2016)

- *97) A. Mazloom, F. Parhizgar, S. Abedinpour and R. Asgari:* Relaxation times and charge conductivity of silicene. Phys. Rev. B, **64**, (2016)

- *96) L. Hedayatifar, E. Irani, M. Mazarei, S. Raasti, Y. Taghipour Azar, A. T. Rezakhani, A. Mashaghi, F. Shayeganfar, M. Anvari, T. Heydari, A. Rahimi Tabar, N. Nafari, M. A. Vesaghi, R. Asgari and M. Reza Rahimi Tabar:* Time-dependent density functional analysis of optical absorption and electronic spectra of chlorophylls *a* and *b*. RSC Adv. **6**, 109778 (2016)

- *95) G. Rubio, T. Stauber, G. Gomez-Santos, R. Asgari, and F. Guinea:* orbital magnetic susceptibility of grapheme and MoS_2. Phys. Rev. B **93**, 085133 (2016)

- *94) H. Rostami, R. Asgari and F. Guinea:* Edge modes in zigzag and armchair ribbons of monolayer MoS_2. J. Phys. C. **28**, 495001 (2016)

- *93) J.R. Tolsma, A. Principi, R. Asgari, M. Polini and A.H. MacDonald :* Quasiparticle Mass Enhancement and Fermi Surface Shape Modification in Oxide Two-Dimensional Electron Gases Phys. Rev. B **95**, 045120 (2016)

- *92) L. Majidi and R. Asgari :* Specular Andreev reflection in thin films of topological insulators. Phys. Rev. B **93**, 195404 (2016)

- *91) M. Zare, F. Parhizgar and R. Asgari :* RKKY interaction in the topological phase of zigzag silicene nanoribbon: Phys. Rev. B **94**, 045443 (2016)

- *90) H. Rostami, A. G. Moghaddam and R. Asgari :* Spin relaxation and Kondo effect in monolayer of transition metal dicalcogenides. J. Phys. C **28**, 505002 (2016)

• 2015

- *89) M. Mihnev, J. R. Tolsma, C. J. Divin, R. Asgari, M. Polini, C. Berger, W. de Heer, A. H. MacDonald, T. Norris :* Electronic cooling via interlayer Coulomb coupling in multilayer epitaxial graphene, Nature Communications, **6**, 8105 (2015)

- *88) H. Rostami, R. Roldan, E. Cappelluti, R. Asgari and F. Guinea:* Theory of strain in single layer transition metal dichalcogenids, Phys. Rev. B, **92**, 195404 (2015)

- *87) F. Parhizgar, A. G. Moghaddam and R. Asgari :* Optical responses and optical activity of ultrathin film topological insulator, Phys. Rev. B **92**, 045429 (2015)

- *86) H. Rostami and R. Asgari :* Charge compressibility and quantum magnetic phase transition in MoS2: Phys. Rev. B **91**, 235301 (2015)

- *85) H. Rostami and R. Asgari :* Valley Zeeman effect and Spin-valley polrization conductance in monolayer MoS_2 nanoribbon in a perpendicular magnetic field: Phys. Rev. B **91**, 075433 (2015)

- *84) M. Elahi, K. Khalij, S.M. Tabatabaei, M. Pourfath and R. Asgari :* Modulation of electronic and mechanical properties of phosphorene through strain, Phys. Rev. B **91**, 115412 (2015)

- *83) H. Mosadeq and R. Asgari :* Quantum phases of a one-dimensional dipolar Fermi gas, Phys. Rev. B **91**, 085126 (2015)

• 2014

- *82) R. Asgari, M.I. Katsnelson and M. Polini :* Quantum capacitance and Landau parameters of massless Dirac fermions in graphene Ann. Phys. **526**, 359 (2014)

- *81) L. Majidi, M. Zare and R. Asgari :* Valley- and spin-filter in monolayer MoS_2, Solid State Communi. **199**, 52 (2014)

- *80) F. Parhizgar, and R. Asgari :* Magnetoresistance of double layer hybrid system in tilted magnetic field, Phys. Rev. B **90**, 035438 (2014)

- *79) L. Majidi, and R. Asgari :* Valley and spin switch effect in molybdenum disulfide superconducting spin valve, Phys. Rev. B **90**, 165440 (2014)

- *78) L. Majidi, H. Rostami and R. Asgari :* Andreev reflection in monolayer MoS_2, Phys. Rev. B **89**, 045413 (2014)

- *77) S. Abedinpour, R. Asgari, B. Tanatar and M. Polini :* Correlations and stability in strongly interacting 2D dipolar Fermi Fluids , Anna. Phys. **340**, 25 (2014)

• 2013

- *76) Z. Khatibi, H. Rostami and R. Asgari :* Valley polarized transport in strained graphene based Corbino disc, Phys. Rev. B **88**, 195426 (2013)

- *75) A. Vaezi, N. Abedpour, R. Asgari, A. Cortijo and M. A. H.. Vozmediano :* Topological electric current from time-dependent elastic deformations in graphene, Phys. Rev. B **88**, 125406 (2013)

- *74) H. Rostami, and R. Asgari:* Electronic structure and layer-resolved transmission of strained bilayer graphene in the presence of vertical fields, Phys. Rev. B **88**, 035404 (2013)

- *73) H. Rostami, A. G. Moghaddam, and R. Asgari:* Effective lattice hamiltonian for monolayer MoS2 : Tailoring electronic structure with perpendicular electric and magnetic fields, Phys. Rev. B **88**, 085440 (2013)

- *72) F. Parhizgar, M. Shefati, R. Asgari, S. and S. Satpathy:* RKKY interactions in biased bilayer graphene, Phys. Rev. **87**, 165429(2013)

- *71) F. Parhizgar, H. Rostami and R. Asgari:* Indirect exchange interaction between magnetic adatoms in monolayer MoS2 , Phys. Rev. B **87**, 125401 (2013)

- *70) F. Parhizgar, R. Asgari, S. Abedinpour and M. Zareyan:* RKKY interactions in spin polarized graphene, Phys. Rev. B **87**, 125402 (2013)

• 2012

- *69) H. Rostami and R. Asgari* Electronic ground state properties of strained graphene , Phys. Rev. B **86**, 155435 (2012)

- *68) S. Abedinpour, R. Asgari and M. Polini :* Theory of correlations in strongly interacting fluids of two-dimensional dipolar bosons , Phys. Rev. A **86**, 043601 (2012)

- *67) A. Principi, M. Carrega, R. Asgari, V. Pellegrini and M. Polini :* Plasmons and coulomb drag in Dirac/Schroedinger hybrid electron systems , Phys. Rev. B (Editor's Suggestion) **86**, 085421 (2012)

- *66) A. Esmailpour, H. Meshkin and R. Asgari :* Conductance of graphene superlattices with correlated disorder in velocity profiles , Solid State Commun. **152**, 1896 (2012)

- *65) A. Quaimezadeh, Kh. Jahanbani and Reza Asgari :* Spin polarization dependence of quasiparticle properties in graphene , Phys. Rev. B **85**, 235428 (2012)

- *64) R. E.V. Profumo, Reza Asgari, M. Polini and A.H. MacDonald :* Double-layer graphene and topological insulator thin-film plasmons , Phys. Rev. B **85**, 085443 (2012)

- *63) A. Principi, M. Polini, Reza Asgari and A.H. MacDonald :* The tunneling density-of-states of interacting massless Dirac fermions , Solid State Communication **152**, 1456 (2012) (Graphene special issue)

- *61) A. Faridi, M. Pashangpour and and R. Asgari :* Temperature dependence of the paramagnetic spin susceptibility of doped graphene , Phys. Rev. B **85**, 045410 (2012)

• 2011

- *60)A. L. Walter, A. Bostwick, K. Jeon, F. Speck, M. Ostler, T. Seyller, L. Moreschini, Y. Chang, M. Polini, R. Asgari, A. H. MacDonald, K. Horn and E. Rotenberg:* Effective Screening and the Plasmaron Bands in Graphene , Phys. Rev. B (Editor's Suggestion) **84**, 085410 (2011)

- *59) A. Vaezi, N. Abedpour and R. Asgari :* Charge quantum hall effect in time reversal invariant systems , submitted (2011)

- *58) J. Sarabadani, A. Naji, R. Asgari and R. Podgornik :* Many-Body effects in Van der Waals-Casimir interaction between graphene layers , Phys. Rev. B **84**, 155407 (2011)

- *57) N. Abedpour, R. Asgari and F. Guinea :* Strains and pseudo-magnetic fields in circular graphene rings , Phys. Rev. B **84**, 115437 (2011)

- *56) A. Principi, R. Asgari and M. Polin :* Acoustic plasmons and composite hole-acoustic plasmon satellite bands in graphene on a metal gates , Solid Sate Communication (Fast track) **151**, 1627 (2011)

- *55) N. Abedpour, R. asgari and M.R. Rahimi Tabar :* Irreversibility in response to forces acting on the graphene sheets Phys. Rev. Lett **106**, 209702 (2011), There is a comment on our paper that our reply letter shows that the comment is irrelevant.

- *54) H. Cheraghchi, A.H. Irani, S.M. Fazeli and R. Asgari :* Metallic phase of disordered graphene superlattices with long-range correlations , Phys. Rev. B **83**, 235430 (2011)

- *53) H. Hatami, N. Abedpour, A. qaiumzadeh and R. Asgari :* Conductance of a bilayer graphene in the presence of a magnetic field: effect of disorder , Phys. Rev. B **83** 125433 (2011)

• 2010

- *52) Aaron Bostwick, Florian Speck, Thomas Seyller, Karsten Horn, Marco Polini, Reza Asgari, Allan H. MacDonald, Eli Rotenberg :* Observation of composite particles in quasi-freestanding graphene, Science **325**,999 (2010)

- *51) G. Borghi, M. Polini, R. Asgari and A.H. MacDonald :* Compressibility of the electron gas in bilayer graphene ,Phys. Rev. B **82**, 155403 (2010)

- *50) Rosario E.V. Profumo, Marco Polini, Reza Asgari, Rosario Fazio, and A.H. MacDonald :* Electron-electron interactions in decoupled graphene layers , Phys. Rev. B **82** , 085443 (2010)

- *49) N. Abedpour, R. asgari and M.R. Rahimi Tabar :* Irreversibility in response to forces acting on the graphene sheets , Phys. Rev. Lett **104**, 196804 (2010).

- *48) A. Raoux, M . Polini, R. Asgari, A.R. Hamilton, R. Fazio and A.H. MacDonald:* Velocity-modulation control of electron-wave propagation in graphene , Phys. Rev. B **81**,073407 (2010)

- *47) kh. Jahanbani and R. Asgari:* Effect of Holstein phonons on the optical conductivity of gapped graphene, Eur. Phys. J. B **73**, 247 (2010)

- *46) M. Esmailpour, A. Esmailpour, R. Asgari, M. Elahi and M.R. Rahimi Tabar :* Effect of a gap opening on the conductance of graphene superlattices, Solid State Commun.**150**, 655 (2010)

- *45) A. Qaiumzadeh, F. Joibari and R. Asgari :* Effect of Gap Opening on the Quasiparticle Properties of Doped Graphene Sheets , Eur. Phys. J. B **74**, 479 (2010)

• 2009

- *44) G. Borghi, M. Polini, R. Asgari and A.H. MacDonald :* Dynamical response functions and collective modes of bilayer graphene , Phys. Rev. B (R) **80**, 241402 (2009)

- *43) A. Qauimzadeh and R. Asgari:* Sublattice symmetry breaking effect on the electronic properties of a doped graphene , New J. Phys. **11**, 095023 (2009) , Invited paper

- *42) M. Neek-Amal and R. Asgari:* Nano-Indentation of circular graphene flakes, Submitted to Phys. Rev. B(2009)

- *41) R. Asgari, T. Gokmen, B. Tanatar, M. Padmanadhan, and M. Shayegan :* Effective mass suppression in a ferromagnetic two-dimensional electron liquid , Phys. Rev. B **79**, 235324(2009)

- *40) A. Qaiumzadeh and R. Asgari :* Stoner ferromagnetic phase of a ground state doped graphene in the presence of in-plane magnetic field , Phys. Rev. B **80**, 035429 (2009)

- *39) G. Borghi, M. Polini, R. Asgari and A.H. MacDonald :* Fermi velocity enhancement in monolayer and bilayer graphene , Solid State Commuin. **149**, 1117 (2009)

- *38) M. Ramezanali, M.M. Vazifeh, R. Asgari, M. Polini and A. H. MacDonald:* Finite temperature screening and specific heat of doped graphene sheets, J. Phys. A **42**, 214015 (2009)

- *37) M. Neek-Amal, R. Asgari and M. R . Rahimi Tabar:* Formation of atomic nanoclusters on graphene sheets, Nanotechnology **20**, 135602 (2009)

- *36) A. Esmailpour, N. Abedpour, R. Asgari and M. R . Rahimi Tabar:* Conductance of disordered graphene superlattice, Phy. Rev.**79**, 165412

(2009), has been selected for the April 20, 2009 issue of Virtual Journal of Nanoscale Science and Technology

- *35) A. Qauimzadeh and Reza Asgari :* Ground-state properties of gapped graphene using the random phase approximation, Phys. Rev. B **79** ,075414(2009). It has been selected for the February 23, 2009 issue of Virtual Journal of Nanoscale Science and Technology

• 2008

- *34) Marco Polini, Andrea Tomadin, Reza Asgari, A.H. MacDonald :* Density-Functional theory of graphene sheets , Phys. Rev. B **78** , 115426 (2008)

- *33) A. Qauimzadeh, N. Arabchi and R. Asgari :* Quasiparticle properties of graphene in the presence of disorder, Solid State Commun. **142**, 172 (2008)

- *32) G. Xianlong and R. Asgari :* Spin Density-Functional Theory for Imbalanced Interacting Fermi Gases in Highly Elongated Harmonic Traps, Phys. Rev. A.**77**, 033604 (2008).

- *31) R. Asgari, M. M. Vazifeh, M. R. Ramazenali, E. Davoudi and B. Tanatar :* Disorder Effects on the Ground-State Properties of Graphene ,Physical Review B **77** ,081411 (2008), It has been republished in Virtual Journal of Nanoscale Science and Technology , April 7, 2008 Volume 17, Issue 14

- *30) Marco Polini, Reza Asgari, G. Bodgri, Yafis Barlas, T. Pereg-Barnea, and A.H. MacDonald :* Plasmons and the spectral function of graphene , Physical Review B **77**,081411 (R)(2008) , It has been republished in Virtual Journal of Nanoscale Science and Technology , March 17, 2008 Volume 17, Issue 11.

- *29) R. Asgari :* Many-Body Effects in Low Dimensional Electron Liquids, Iran Journal of Physics Research **8** 86-111(2008).

- *28) R. Asgari, B. Tanatar and B. Davoudi :* Comparative study of screened inter-layer interactions in the Coulomb drag effect in bilayer electron systems, Phys. Rev. B **77**, 115301 (2008).

- *27) R. Asgari and B. Tanatar :* Quasiparticle properties in a quasi-two-dimensional electron liquid, PRAMANA J. Phys. **70** 285-293

(2008) . This is a special issue collecting papers were be presented in MESODIS-06, Kanpur, India

• 2007

- *26) N. Abed-Pour, M. Neek-Amal, R. Asgari, F. Shahbazi, N. Nafari and M.R.Rahimi Tabar :* Roughness of Undoped Graphene and Its Short-Range Induced Gauge Field , Phys. Rev. B **76**, 195407 (2007), has been selected for the November 19, 2007 issue of Virtual Journal of Nanoscale Science and Technology(2007).

- *25) S. Abedipour, R. Asgari, M. Polini, and M. P. Tosi :* Analytic theory of pair distribution functions in symmetric electron-electron and electron-hole bilayes, Solid State Commun. **144**, 65 (2007).

- *24) Marco Polini, Reza Asgari, Yafis Barlas, T. Pereg-Barnea, and A.H. MacDonald :* Graphene: A Pseudochiral Fermi Liquid , Special issue in Solid State Communication devoted to graphene physics, bf 143, 58 (2007).

- *23) Yafis Barlas, T. Pereg-Barnea, Marco Polini, Reza Asgari and A.H. MacDonald :* Chirality and Correlations in Graphene, Physical Review Lett. **98** 236601(2007). It has been selected for the June 18, 2007 issue of Virtual Journal of Nanoscale Science and Technology

- *22) R. Asgari, A. Esmailian and B. Tanatar :* Effective electron-electron interactions and magnetic phase transition in a two-dimensional electron liquid, Solid State Communi. **141** 595 (2007).

- *21) M. Neek-Amal, G. Tayebirad, M. Molayem and R. Asgari:* Ground state properties of a confined simple atom by C_{60} fullerene, J. Phys. B **40** 1509 (2007).

- *20) R. Asgari :* Ground-state properties of the one dimensional electron liquid, Solid State Commun. **141** 563 (2007).

• 2006

- *19) R. Asgari and B. Tanatar :* Correlations in charged fermion-boson mixture in dimensionalities D=2 and D=3, Phys. Letts. A **359** 143(2006).

- *18) R. Asgari and B. Tanatar :* Many-body effective mass and spin susceptibility in a quasi-two-dimensional electron liquid, Phys. Rev.

B **74**, 075301 (2006). Selected for the August, 2006 vol. 14 issue 7 of Virtual Journal of Nanoscale Science and Technology .

- *17) R. Asgari , A. L. Subasi, A. A. Sabouri-Dodaran and B. Tanatar:* Static local-field factors in a two-dimensional electron liquid, Phys. Rev. B **74**, 155319 (2006).

- *16) G. Xianlong, M. Polini, R. Asgari and M.P. Tosi:* Density-functional theory of strongly correlated Fermi gases in elongated harmonic traps, Phys. Rev. A **73**, 033609 (2006).

• 2005

- *15) M. Gattobigio, P. Capuzzi, M. Polini, R. Asgari and M.P. Tosi:* Ground-state densities and pair correlation functions in parabolic quantum dots,Phys. Rev. B**71**, 045306 (2005). Selected for the July, 2005 Vol. 12 issue 3 of Virtual Journal of Nanoscale Science and Technology

- *14) R. Asgari, M. Cardenas, M. Polini, B. Davoudi, M. P. Tosi:* Self-consistent Overhauser model for the pair distribution function of an electron gas at finite temperature, Solid State Communications.**133** 337 (2005).

- *13) R. Asgari, B. Davoudi, M. Polini, G. Giuliany M. P. Tosi and G. Vignale:* Quasiparticle self-energy and many-body effective mass enhancement in a two-dimensional electron liquid, Phys. Rev. B **71** 045323 (2005).

• 2000-2004

- *12) R. Asgari, B. Davoudi and M. P. Tosi:* Analytic theory of correlation energy and spin polarization in the $2D$ electron gas, Solid State Communications **131**, 301 (2004).

- *11) R. Asgari, B. Davoudi and B. Tanatar:* Effective mass enhancement in two-dimensional electron systems: the role of interaction and disorder effects, Solid State Communications **130**, 13 (2004).

- *10) R. Asgari, M. Polini, B. Davoudi and M. P. Tosi:* Correlation energy of a two-dimensional electron gas from static and dynamic exchange-correlation kernels, Phys. Rev B **68**, 235116 (2003).

- *9) B. Davoudi, R. Asgari, M. Polini and M. P. Tosi:* Analytical theory of the ground-state properties of a three-dimensional electron gas with arbitrary spin polarization, Phys. Rev. B **68**, 155112 (2003).

- *8) R. Asgari, M. Polini, V. Carneval and M. P. Tosi:* Vibrational excitations in the paired phases of a two-dimensional electron crystal in a perpendicular magnetic field, Physica B **336**, 387 (2003).

- *7) B. Davoudi, R. Asgari, M. Polini and M. P. Tosi:* Self-consistent scattering theory of the pair distribution function in charged Bose fluids, Phys. Rev. B **67**, 172503 (2003).

- *6) R. Asgari, M. Polini, B. Davoudi and M. P. Tosi:* Pair densities at contact in a quantum electron gas, Solid State Communications **125**, 129 (2003).

- *5) F. Capurro, R. Asgari, M. Polini, B. Davoudi and M. P. Tosi:* Pair densities in two-dimensional jellium at strong coupling from scattering theory with Kukkonen-Overhauser effective interaction, Z. Naturforschung. **57** a, 237 (2002).

- *4) B. Davoudi, M. Polini, R. Asgari and M. P. Tosi:* Self-consistent Overhauser model for the pair distribution function of an electron gas in dimensionalities D=3 and D=2, Phys. Rev. B **66**, 075110 (2002).

- *3) R. Asgari, and B. Tanatar:* Effects of disorder on the ground-state energy of a two-dimensional electron gas, Phys. Rev. B **65**, 085311 (2002).

- *2) R. Asgari, B. Davoudi and B. Tanatar:* Hard-core Yukawa model for two-dimensional charge stabilized colloids, Phys. Rev. E **64**, 0411406 (2001).

- *1) N. Nafari and R. Asgari:* Correlation in Multi sub-band quasi One dimensional electron gas, Rhys. Rev. B **62**, 16001 (2000). Selected for the December 25, 2000 Vol. 2, issue 26 of Virtual Journal of Nanoscale Science and Technology

12. Post-doctoral supervision:

- M. Neek-Amal, Post-doc (Mechanical properties of graphene) (2008-2009): Present address: Rajaee University, Tehran

- N. Abedpour, Post-doc (Pseudo-magnetic filed in graphene sheets) (2010-2011) Present Address: Bonne University, Germany

- L. Majidi, Post-doc (Andreev reflections in a monolayer MoS_2 and thin film topological insulators) (2013-2015) (2015-2017) (2019-present)

- Z. Nourbacksh, Post-doc (Optical properties in phosphorene) (2014-2018)
- F. Parhizgar, Post-doc (Many body properties in decoupled systems) (2015-2018)
- B. Zare Rameshti, Post-doc (Transport properties) (2016-2019)
- D. Nasr Esfahani, Post-doc (Superconductivity) (2016-2018)
- Z. Torbatian, Post-doc (Plasmon modes in nanostructures) (2016-2017) (2019-present)
- Z. Shomali, Post-doc (Phonons distributions in 2D) (2017-2020)
- A. Faridi, Post-doc (Many-body physics in MoS_2) (2018-present)
- S. Izadi, Post-doc (Magnetic properties of CrI_3) (2018-present)
- A. Ebrahimian, Post-doc (Topological 2D materials) (2019-present)

13. Students supervision:

- M. Esmaelzadeh, PhD (TCI). Started from 2017-unfinished (terminated)
- M. Alidosti, PhD (Graphene oxide). Started from 2017
- Sh. Hydari, PhD (Weyl Semimetal). Started from 2017
- F. Mahmoudi, PhD (Nano photonics). Started from 2017
- F. Ghamsari, PhD (Charge collective modes in phosphorene). Started from 2015-defense 31 Dec 2019
- M. Barzegar, PhD (SUT: MoS_2) and gas sensing, Co-supervisor. Started from 2016-defense 16 Dec 2019
- M. Yousefi, PhD (SUT: g-C_3N_4 monolayer and water splitting) , Co-supervisor. Started from 2016-defense about Sep (2020)
- A. Farid, PhD (Oxide interfaces systems). 2014-2018, Post-doc at IPM
- M. Zare, PhD (Transport properties of phosphorene). 2014-2018, Present address: Yasuge University

- H. Rostami, PhD (Strained graphene). Started from 2010-Graduated on the 1st of January 2015-2017 Post Doc at SNS, Pisa, Italy and (2017-2018) Nordita

- F. Parhizgar, PhD (Bilayer graphene). Started from 2010-Graduated on 18th January 2015-Post Doc at IPM, Iran. (2018) Nordita

- A. Quiamzadeh, PhD (Gapped graphene). Graduated 4 Sep. 2010, Post-doc at Trondheim, Norway Jan 2011-2013, Nijmegan, the Netherlands 2013-2016, Norway 2016-

- Kh. Jahanbani, PhD (Spin dependence of transport properties in graphene) Graduated: 12 April 2012

- H. Hatami , researcher (2009-2010)(Conductance of bilayer graphene). PhD student at Victoria University of Wellington, New Zealand

- M. M. Vazifeh , Ms (Electronic specific heat of a doped graphene). Graduated 1/8/2008 PhD student at BC, Canada (2009)

- M. R. Ramezanali , Ms (Impurity effect in the transport properties of doped graphene). Graduated 1/10/2008; PhD student at Rutgers University, USA (2009)

- E. Davoudi , Ms (Disorder effect in the ground state properties of a graphene sheet). Graduated 31/1/2009, PhD student at Azad University.

- F. Joibari , researcher (2007-2008)(Quasiparticle properties of graphene). PhD student at Delf University of Technology, Netherlands

14. Proceeding Papers:

- *R. Asgari:* Quasiparticle properties of massless Dirac-like electron of 2D graphene , Proceeding of 13th IASBS Condensed Matter Meeting, page 217-220, May 28-29 (2007), IASBS(Zanjan, Iran).

- *R. Asgari:* Spin-density-functional theory for a parabolic quantum dot in a magnetic field , Proceeding of 12th IASBS Condensed Matter Meeting, page E1-E4, May 25-26 (2006), IASBS(Zanjan, Iran).

- *R. Asgari, B. Davoudi, M. Polini, M. P. Tosi, G. Giuliany and G. Vignale:* Many-Body Effective Mass Enhancement in a Two-Dimensional Electron Liquid, Proceeding of International Workshop in Condensed Matter Theories (CMT 28), Editors: J. W. Clark, R.

M. Panoff and H. Li, vol. 20, Page 23-34, (2006)) Nova Science Publishers .

- *R. Asgari, B. Davoudi, M. Polini and M. P. Tosi:* Effective mass and spin susceptibility in 2DEG , Proceeding of 11th IASBS Condensed Matter Meeting, page 235-238, May 25-26 (2005), IASBS(Zanjan, Iran).

- *A. Esmalian and R. Asgari:* Effective electron-electron interaction and magnetic phase transition in two dimensional electron liquid , Proceeding of 8th Condensed Matter Meeting, Physics society of Iran, page 235-238, Bahman (1385), (Mashhad, Iran).

- *N. Abedinpour, M. Neek-amal, R. Asgari, F. Shahbazi, N. Nafari and M. R. Rahimi tabar:* Roughness of graphene and its short-range induced magnetic field , Electronic Proceeding of 14th spring conference, page 1-3, May 16-18 (2007), IPM(Tehran, Iran).

15. Publications pending:

- *R. Asgari, B. Davoudi and B. Tanatar:* Hard Core Yukawa model for binary two dimensional colloids system, Unpublished.

- *R. Asgari, B. Davoudi, M. Polini and M. P. Tosi:* Self-consistent theory of pair distribution functions and effective interactions in quantum Coulomb liquids, submitted to Phys. Rev. Lett. (2002). Cond-mat/0206456 (Unpublished)

- *R. Asgari:* Many body properties of unpolarized quasi one dimensional electron gas. Submitted in J. Phys. C (1999).Unpublished

16. Organizing Conferences/Schools:

- *Organizers : R. Asgari, S. Arbabi:* 12th Spring Theoretical Physics Conference IPM, 11-12 May 2005, Participants: 100, Speakers: 32

- *Organizers: R. Asgari:* 13th Spring Theoretical Physics Conference IPM, May 3-5, 2006, Participants: 157, speakers: 57

- *Organizer: R. Asgari:* 14th Spring Theoretical Physics Conference IPM, May 16-18, 2007, Participants: 240, speakers: 44

- *Organizers: R. Asgari and H. seid Allaei:* International Workshop on High performance computing IPM, February 16-21, 2008, Participants: 72, Invited Lecturer: Dr. Cozzini from CNR/INFM Democritos and SISSA/eLab, Trieste, Italy

- *Organizers: R. Asgari and M. Alishahiha:* 15th Spring Theoretical Physics Conference IPM, May 16-18, 2008, Participants: 140, speakers: 32
- *Organizer: R. Asgari :* Advanced school on Recent progress of Condensed Matter Physics and Strongly Correlated systems. IPM, July 5-9, 2008, Participants: 60, Lectures: 6
- *Organizers: R. Asgari and H. seid Allaei:* the 2th International Workshop on High performance computing IPM, 21 January - 1 February 2008, Tehran, IRAN, Invited Lecturers: Dr. Cozzini from CNR/INFM Democritos and SISSA/eLab, Trieste, Italy, Dr Luca Hilary from SISSA, Trieste, Italy
- *Organizers: R. Asgari et al.,:* National Condensed Matter conference 3-5 February 2008, Ahvaz, Iran (100 presented talks)
- *Organizers: R. Asgari and Ali Naji:* Workshop on Selected Topics in Casimir Effect: from Nanoscience to High Energy Physics, 25 July 2010, IPM
- *Organizers: S. Cozzini, R. Asgari, S. Rouhani and A. Balaz :* International workshop: Advance Reginal Workshop in High Performance and Grid Computing, 25 Oct-9 Nov. 2010 (Collaboration with ICTP and IPM)
- *Organizers: R. Asgari et al.,:* Scientific member of National physics conference,(IPS) 10-14 Sep 2010, Hamedan
- *Organizers: R. Asgari et al.,:* National Condensed Matter conference 3-5 February 2011, Shiraz
- *Organizers: R. Asgari and Ali Naji:* School on selected topics in Strongly Correlated Systems 21-22 June, (2011) , IPM
- *Organizers: R. Asgari and Abdollah Langari:* Advanced School on recent progress in Condensed Matter Physics 27-28 June, (2012) , IPM
- *Organizers: R. Asgari and Abdollah Langari:* Advanced School on recent progress in Condensed Matter Physics 25-26 September, (2013) , IPM
- *Organizer: R. Asgari* International workshop: Advanced mini-workshop on Recent progress on graphene 6 March, (2014), Kish Island, http://nanosharif.ir/page.asp?id=416
- *Steering and scientific committee: R. Asgari et al.* 5th International Conference on Nanostructures 6-9 March 2014 Kish Island, Iran, http://nanosharif.ir/page.asp?id=301

- *Organizers: R. Asgari and Saeed Abedinpour:* Advanced School on recent progress in two-dimensional systems 9th of October, (2014) , IPM
- *Organizers: R. Asgari , A Langar and F. Shahbazi:* Advanced School on recent progress in condensed matter physics 22-23 January, (2015) , IPM
- *Organizers: R. Asgari , A G Moghaddam and A Jafari:* International school on Spintronics and Nanomagnetism, Nov 4-6, (2015) , IPM
- *Organizers: R. Asgari and A. Langari:* International school on Many-Body Localization, Sep 17-18, (2016) , IPM
- *Organizers: R. Asgari and S. Alipour:* New advances on quantum information science and technology, January 4-5, (2017) , IPM
- *Organizers: R. Asgari and O. Fizi:* International workshop on New trends in molecular electronics and mechanics, June 28-29, (2017) , IPM
- *Organizers: R. Asgari and M. Azizi*: International workshop on Transport properties of low-dimensional electronic materials, September 19-20 (2017)

17. Organizing National Exams:

- *R. Asgari and H. Arfaei:* Admission PhD students at IPM : 19 February 2010, Participants: 229 people, total selected: 18 Responsibility: designing and marking questions. Chair, executing the exam. anjou

18. Participate in International and National Conferences and Workshops:

- *El Mara University of Tunis-ICTP meeting, December 20-25 (2018)*, **Invited Lecture**: 3-hour lectures on "Plasmonic physics on two-dimensional crystalline materials"
- *Many-body theory of quantum electron liquids, November 22 (2017) Pisa, Italy, https://www.sns.it/sites/default/files/allegati/24-10-2017/locandina-22-novembre-2017-giuliani.pdf*, **Invited Talk**: quantum nonlocal effects in graphene plasmonics.
- *New Advances in Condensed Matter Physics: Quantum transport, topological effects and energy conversion in low-dimensional systems , September 20-28 (2017) Khiva, Uzbekstan, http://nacmp2017.las.uz/*, **Invited Lectuere**: Plasmons in 2D crystalline materials: From calssical picture to quantum non-local effects.

- *Annual conference of Physics Society of Iran, Augest 28-31,(2017) Yazd, Iran*, **Invited Talk**: Graphene plamonincs: quantum nonlocal effects.
- *Recent progress in the physics of thermal transport, July 8-10,(2017) Izmir, Turky http://ictp-ecar.org/events/rptt-2/*, **Invited Talk**: 40K superconductivity in hole-doped blue phosphorene.
- *3rd NANOAPP 2017 conference, June 14018,(2017) Bled, Slovenia, http://nanoapp.ios.si/*, **Invited Talk**: Quantum non-local effects in graphene.
- *24th IPM spring conference, May 20-21,(2017) Zanjan, Iran*, **Invited Talk**: Superconductivity of hole doped blue phosphorene.
- *22th IASBS Condensed Matter Meeting, May 19-20,(2017) Zanjan, Iran*, **Invited Talk**: Non-local effects in graphene plasmonics.
- *Spin and electron correlations, University of North South Wales, Sydney, Australia, November 2-6 (2015) http://newt.phys.unsw.edu.au/Godfrey/2015/index.html*, **Invited Talk**: Monolayer MoS_2: Slater-Koster tight-binding Hamiltonian versus two-band low-energy model
- *Physics of interfaces and layered structures, Stockholm, Sweden , August 24-6 September (2015) http://agenda.albanova.se/conferenceDisplay.py?confId=4461*, **Invited Talk**: Electronic cooling in multilayer epitaxial graphene
- *Interaction effects on graphene and related materials, San Sebastian, Spain , 13-17 July (2015)* , **Invited Talk**: Plasmon-phonon polaritons in encapsulated phosphorene sheets
- *2nd meeting on Research in Physics, Shahid Beheshti University, Tehran Iran , 4th February (2015)* , **Invited Talk**: Condensed matter physics: past, present and future
- *17th National Condensed Matter conference, Isfahan, Iran , 28-29 January (2015)* , **Invited Talk**: Valley Zeeman effect in MoS_2
- *17th Iranian physical chemistry conference, Iran , 23-24 October ,(2014)* , **Invited Talk**: Two-dimensional systems beyond graphene.
- *IPM-INIC international mini-workshop on "Graphene and its applications", IPM, Iran , 12th of October ,(2014)* , **Invited Talk**: Physics of graphene.
- *2nd International Advanced school on two dimensional materials, Tabriz, Iran , May 25-26 ,(2014)* , **Invited Talk**: Electronic and optical properties of MoS_2.
- *21th Spring conference, IPM, Iran , May 21-22 ,(2014)* , **Invited Talk**: New two-dimensional materials beyond graphene.
- *5t International conference on Nanostructures, Kish, Iran , March 6-9 ,(2014)* , **Invited Talk**: Intrinsic optical conductivity of modified Dirac Fermion systems.

- *Advanced mini-workshop on Recent Progress on Graphene, Kish Island Iran , March 6 ,(2014)* , **Talk**: Quantum capacitance of graphene systems.
- *Advanced school on condensed matter physics: IASBS Condensed Matter Meeting, May 29,(2013) Zanjan, Iran*, **Invited Talk**: New two-dimensional systems.
- *19th IASBS Condensed Matter Meeting, May 29-31,(2013) Zanjan, Iran*, **Invited Talk**: Electronic ground state properties of of monolayer MoS2.
- *Advanced school on plasmonic and optoelectronic May 26-27,(2013) Tabriz, Iran*, **Invited Talk**: Plasmonic in graphene.
- *20th spring conference at IPM May 23-24,(2013) Tehran, Iran*, **Invited Talk**: Ferromagnetic ground-state of a monolayer Molybdenum disulfide (MoS2) system.
- *Advanced School on recent progress in Condensed Matter Physics 27-28 June, (2012) , IPM*, **Lecture**: Transport properties in bilayer graphene.
- *18th IASBS Condensed Matter Meeting, May 24-25,(2012) Zanjan, Iran*, **Invited Talk**: Density of states in a doped graphene flake.
- *4th international conference on nanostructure 12-14 March, (2012) , Kish, Iran*, **Invited Talk**: Electron-plasmon composite particle in a doped graphene sheet.
- *Workshop on Condensed Matter Physics 23 October, (2011) , Isfahan University of Technology, Iran*, **Invited Talk**: Plasmarons in doped graphene sheets .
- *Workshop on graphene and Topological insulators 19-20 October, (2011) , IPM*, **Invited Talk**: (1) Strain and Pseudomagnetic filed on graphene nano-structures. (2) Introductory lecture on Topological Insulators (Two Talks).
- *Workshop and School on Topological Aspects of Condensed Matter Physics, 27 June-17 July (2011), ICTP, Italy*
- *School on selected topics in Strongly Correlated Systems 21-22 June, (2011) , IPM*, **Lectures**: Correlation effects in Fermion Systems I, II and III (Three sessions).
- *Graphene week, Obergurgle Austria, 24-29 April (2011)* , **Talk**: Effective pseudo-magnetic field in graphene ring and nanobubble graphene structures.
- *Workshop on Graphene and Topological Insulators, School of physics, IPM 29-30 Sep 2010 y, September 14-17 (2010)*, **Invited speaker**: Introductory remarks on graphene physics and topological insulators.
- *27th international physics congress, Turkey Physical Society, September 14-17 (2010)*, **Invited speaker**: Spectral Function of Quasi-Freestanding Doped Graphenes.

- *The annual physics conference of Iran, Hamedan 11-14 Sep. (2010)*, **Invited speaker**: Why graphene has attracted a tremendous physicists' attention.
- *Progress in spintronic and graphene research , Beijin,China May 31-June 4,(2010)*, **Invited speaker**: Ripples and wrinkles in suspended graphene sheets.
- *16th IASBS Condensed Matter Meeting, May 27-28,(2010)*, **Invited speaker**: Composite particles in graphene sheets.
- *3th international conference on Nanostructures : , 10-12 March. (2010) Kish-Iran*, **Invited Speaker**: Spectral Properties in Quasi-Freestanding Graphene.
- *Magnetism, Superconductivity and Phase transitions in Novel and Complex Materials : , 11-14 Nov. (2009) Kolkata-India*, **Invited Speaker**: Quasiparticle electronic properties of doped graphene.
- *Graphene , Benasque, Spain , July 26 Aug.8 (2009)*, **Invited Speaker**: Stoner Ferromagnetic Phase of a Graphene in the Presence of an In-Plane Magnetic Field.
- *Graphene week, ICTP, Trieste Italy, Aug. 25-29 (2008)*, **Poster**: Density-Functional Theory of Graphene Sheets.
- *Advanced School of Recent Progress in Condensed Matter Physics and Strongly Correlated System , 5th -9th July 2008*, **Invited Lecturer**: Electronic properties of Graphene .
- *14th IASBS Condensed Matter Meeting, May 22-23,(2008)*, **Invited speaker**: Many-body correlation effects in graphene.
- *Monte Calro Simulations: Oct 17-18 (2007), Tehran* Invited Lecturer: Introduction on the Diffusion and Green's function Quantum Monte Calo simulations.
- *International workshop Many-body theory in inhomogeneous superfluidity*, 9-29 July (2007) Pisa-Italy.
- *the first Summer school on strongly correlated electron system, June 23-26,(2007)*, **Invited Lecturer**: Lecture I: Correlations in quantum electron systems. Lecture II: Luttinger liquid system Lecture III: Cold fermion system, Feshbach resonance and BCS-BEC crossover. Lecture IV: Superfluidity and ground state of an imbalance Fermi mixture, pairing without superfluidity.

- *13th IASBS Condensed Matter Meeting, May 26-27,(2007)*, **Invited Speaker**: Electronic properties of graphene.
- *8th National Condensed Matter conference, Iranian Physical Soceity. Feb. 14-15 (2007) Mashhad, Iran*, **Invited Speaker**: Strongly Correlated quantum particles at low dimensional systems.

- *International workshop on the physics of Mesoscopic and Disordered Materials, 4-9 December (2006), I. I. T, Kanpur, India*, **Poster**: Quasiparticle properties in a quasi-two-dimensional electron liquid.
- *Spin and Charge Effects at the Nanoscale, 1-9 June (2006), Pisa, Italy*, **Poster**: Coulomb drag effect in a bilayer system: The role of dynamic and static interaction potentials.
- *12th IASBS Condensed Matter Meeting, May 25-26,(2006)*, **Invited speaker**: Spin-density-functional theory for a parabolic quantum dot in a magnetic field .
- *Conference on Strongly Interacting Systems at the Nanoscale, 8 - 12 August 2005-Abdus Salam ICTP-Trieste*, **Poster**: Ground-state densities and pair correlation functions in parabolic quantum dots.
- *Summer school and mini-conference on Dynamical Mean-Field Theory for Correlated Electrons, 25 July-3 August 2005-Abdus Salam ICTP-Trieste*
- *11th IASBS Condensed Matter Meeting, May 26-27,(2005)*, **Invited speaker**: Effective mass and spin susceptibility in a two-dimensional electron liquid.
- *March Meeting 2004*, Montreal, Quebec, Canada, 03/22-26/2003. **Talk**: Accurate calculation of the pair distribution function in two-dimensional quantum Coulomb liquids. R. Asgari, B. Davoudi and M. P. Tosi and two other talks given by M. Polini and F. Capurro in collaborate with me
- *International school of physics" Enrico Fermi"*, Varena, Italy, 29 July-8 Auguste 2003.
- *Proceeding on 26th International conference on the physics of semiconductors.* July 29-August 2 (2002) Edinburg. **Poster**: Compressibility anomaly in disordered two-dimensional electron gas. B. Tanatar and R. Asgari
- *Quantum Phases at the Nanoscale*, Erice, Italy, 07/15-20/2002. **Talk**: Self-consistent theory of pair distribution functions and effective interactions in quantum Coulomb liquids. R. Asgari, B. Davoudi, M. Polini and M.P. Tosi.
- *11th International Conference on Recent Progress in Many-Body Theories*, Manchester, United Kingdom, 07/09-13/2001. **Poster**: Correlation in Multi sub-band quasi One dimensional electron gas. N. Nafari and R. Asgari

19. Invited talks at universities in Iran:

- *Sistan and Balouchestan University, Zahedan, Iran*, 17 January (2019). Colloquium talk: Why Condensed Matter Science?

- *Institute for advanced basic science, Zanjan, Iran*, 19 January (2016). Colloquium talk: Quantum phases in Condensed matter physics
- *Sharif university of Technology, Tehran, Iran*, 21th May (2015). Colloquium talk: Condensed matter physics and advanced two dimensional crystals
- *Shahid beheshti university, Tehran, Iran*, 22th February (2015). Colloquium talk: Condensed matter physics, past, present and future
- *Institute for advanced basic science, Zanjan, Iran*, 11th April. (2012). Colloquium talk: graphene physics and composite particles in a doped graphene
- *Iran University of Science and technology*, 20th Dec. (2010). TITLE: Plasmaron quasi-particle in a doped graphene
- *Physics department, Sharif University of Technology* , 11th April (2010). TITLE: Observation of plasmaron particlesï¿œ and the exact spectrum of the charge excitations in doped Graphene
- *Physics department, Shahid Beheshti University* , 27th April 2010 , TITLE: Some aspects of Graphene properties
- *Physics department, Sharif University of Technology*, April 12, 2009, TITLE: Physics of Graphene
- *Physics department, Sharif University of Technology* , April 24, 2008, TITLE: Many-body effects in Graphene falkes

20. Visiting:

- *UNSW*, Sydney, March 9 (2020), Talk given on "Low-loss two-dimensional plasmon modes in antimonene"
- *UNSW*, Sydney, 22 Sep-6 December (2019). Talk given on "Quantum electron liquid in two-dimensional system"
- *Btiment F Pico-Lab* , Toulouse France, 8-11 April (2018). Colloquium talk given on " Weyl semimetals: New phases of crystals"
- *CEMES CNRS*, Toulouse France, 8-11 April (2018). Talk given on "Quantum nolocal effects in graphene plasmonics"
- *ICTP, Trieste Italy*, 15 March-8 April (2018).
- *SNS, Pisa Italy*, 20-27 November (2017).

- *ICTP, Trieste Italy*, October 22-30 (2016).

- *Madrid University, Madrid, Spin*, October 15-22 (2016). Talk given at ICMM " Many-body and transport properties of 2DES in oxide interfaces"

- *Zhejiang University, Jinhua, China*, March 13-April 5 (2016). Colloquium given on " Physics of two-dimensional systems".

- *Madrid University, Madrid, Spin*, November 9-13 (2014). Talk given on " Valley Zeeman effect in MoS2"

- *SNS, Pisa, Italy*, October 26-November 9 (2014). Collaboration with colleagues and given a talk. Talk given on "Electronic properties of monolayer MoS2."

- *Victoria University of Wellington, New Zealand*, February 1-22 (2014). Technical talk: "Optical properties of MoS2", Colloquium talk: "Electronic properties of MoS2."

- *IMR, Tohoku University, Japan*, December 18-27 (2013). Collaboration with Prof. G Bauer and given a talk. Talk given on "Optical properties in modified Dirac model systems"

- *SNS, Pisa, Italy*, April 3-6 (2013). Collaboration with colleagues and given a talk. Talk given on "Electronic band structure of monolayer MoS2 : Effective lattice Hamiltonian"

- *Madrid University, Madrid, Spin*, March 18-22 (2013). Talk given on " Effective lattice Hamiltonian for a monolayer MoS2 "

- *ICTP, Trieste*, March 2 until April 6 (2013). As an associate member

- *SNS, Pisa, Italy*, March 22-31 (2012). Collaboration with colleagues and given a talk.

- *Madrid University, Madrid, Spin*, March 14-22 (2012). Talk given on " Composite particles in graphene flakes"

- *ICTP, Trieste*, April 10-24 (2011). As an associate member

- *Zhejiang Normal University, Jinhua, China*, June 4-7 (2010). Invited talk: Spectral function of quasi-freestanding doped graphene

- *Schuola Normale Superiore, Pisa, Italy*, March 30-April 8 (2009). Invited as a jury member in the PhD defense. Candidate was Ms S. Safaei. // Seminar presentation: Simulation of graphene sheets under high pressure. (April 7 (2009))

- *ICTP, Trieste, Italy*, March 17-April 18 (2008). Visitor
- *Bilekent University, Ankara, Tureky*, Dec 17-25 (2008). Invited
- *Bilekent University, Ankara, Tureky*, Dec 24-30 (2007). Invited
- *Bilekent University, Ankara, Tureky*, Dec 24-31 (2006). Invited
- *Bilekent University, Ankara, Tureky*, Dec 19-30 (2005).Invited
- *MacGill University, Canada*, March 4-9 (2003).Visitor
- *ICTP, Trieste, Italy*, July 14-29 (2003).Visitor

21. Computer knowledge:

A. Programming:

- C++
- Fortran
- Maple
- Mathematica

B. Computer graphics:

- Gnuplot
- Tecplot

C. Word processor:

- Latex
- Word