

Hamid Reza Hamedi

Curriculum Vitae

Name: Hamid Reza

Surname: Hamedi

Date of birth: 11 August 1984

Place of Birth: Kashan, Iran

Nationality: Iran

Married, No children

Country of residence: Republic of Lithuania, EU. Permanent Residence Permit in Lithuania

Languages: English, Persian, Turkish, Lithuanian

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Education

2005-2009: University of Kashan, Iran. BSc in Physics, solid states.

2009-2011: Research Institute for Applied Physics and astronomy, University of Tabriz,
Iran. MSc in Physics, Photonic.

2013-2017: Institute of Theoretical Physics and Astronomy, Vilnius University (VU).
PhD studies.

Employment

- **2012-2013:** Part time researcher at Research Institute for Applied Physics and astronomy, University of Tabriz, Iran
- **2014-2017:** Junior Researcher at Institute of Theoretical Physics and Astronomy, Vilnius University, Lithuania
- **2017-present:** Researcher at Institute of Theoretical Physics and Astronomy, Vilnius University, Lithuania

Honors, Fellowships, Grants

- 2004: Among Top 1% of more than 500,000 participants in Iranian Nationwide University Entrance Exam.
- 2009: Among Top 3% of participants in Iranian Photonics Graduate Entrance Exam.
- 2016: Two months fellowship to work at a group of Prof. Lorenzo Marrucci at Università di Napoli Federico II, Italy.
- 2018–2022: Participates in the Global Grant research project “Quantum engineering in cold atomic gases” (No. 09.3.3-LMT-K-712-01-0051). Project leader Prof. Egidijus Anisimovas.
- 2019: Received Lithuanian Research Council (LRC) grant to visit a research group of prof. Emmanuel Paspalakis. Patras University, Greece (Project No. 09.3.3.-LMT-K-712-14-0044).
- 2019: Received COST action (CA16221 - Quantum Technologies with Ultra-Cold Atoms) fellowship for a research visit to the group of prof. Jordi Mompart, Universitat Autònoma de Barcelona, Spain.
- 2020: Received COST action (CA16221 - Quantum Technologies with Ultra-Cold Atoms) fellowship for a research visit to the group of Dr. Teodora V. Kirova, University of Latvia, Riga.
- 2020-2022: European Social Fund (Project No. 09.3.3-LMT-K- 712-19-0031) “Spatially inhomogeneous atom-light interaction” under grant agreement with the Research Council of Lithuania (LMTLT). Project leader: Hamid R. Hamedi
- 2020-2022: Research project “Optical control of ultracold atoms”- (S-MIP-20-36) supported by the Lithuanian Research Council (LRC). Project leader – Gediminas Juzeliūnas.
- 2022-2024: Research project “Coherent Optical Control of Atomic Systems”- (TLL) supported by the Lithuanian Research Council (LRC) for the scientific collaboration between Taiwan, Latvia and Lithuania. Principle investigators in Lithuania: Gediminas Juzeliūnas and Hamid Reza Hamedi

- 2022-2023: A Scottish Universities Physics Alliance (SUPA) fellowship award to collaborate with Prof. Sonja Franke-Arnold, University of Glasgow

Scientific Visits:

- Dec. 2014-Jan. 2015. A visit of University of Tabriz, Iran, group of Prof. Mostafa Sahrai.
- Dec. 2015-Jan. 2016. A visit of University of Tabriz, Iran, group of Prof. Mostafa Sahrai.
- Oct. 2016-Dec. 2016. A visit of Università di Napoli Federico II, Italy, group of prof. Lorenzo Marrucci, (SLAM group).
- Oct. 2018. A visit of University of Patras, Greece, group of Prof. Emmanuel Paspalakis.
- Nov. 2018. A visit of Technische Universität Darmstadt, group of Prof. Thomas Halfmann.
- Feb. 2019. A visit of University Autonomous Barcelona, Spain, group of Prof. Jordi Mompart.
- Feb. 2019. A visit of University of Patras, Greece, group of Prof. Emmanuel Paspalakis.
- June. 2019. A visit of University of Patras, Greece, group of Prof. Emmanuel Paspalakis.
- Sep. 2019. A visit of Institute of Physics, Zagreb, Croatia, group of dr. Ticijana Ban.
- Oct. 2019. A visit of University of Latvia, Riga, Latvia, group of dr. Teodora_Velcheva Kirova.
- Dec. 2019. A visit of University of Latvia, Riga, Latvia, group of dr. Teodora_Velcheva Kirova
- Feb. 2020. A visit of University of Latvia, Riga, Latvia, group of dr. Teodora_Velcheva Kirova
- Sep. 2020. A visit of University of Latvia, Riga, Latvia, group of dr. Teodora_Velcheva Kirova
- Oct. 2021. A visit of Koc University, Istanbul, Turkey, group of prof. Özgür E. Müstecaplıoğlu

- Mar. 2022. A visit of Koc University, Istanbul, Turkey, group of prof. Özgür E. Müstecaplıoğlu

Supervising of students

2012-2015: Mentoring Iranian students' research activities

2015-2017: Co-supervising a Master student (Ali Hamrah Gharamaleki), together with prof. Mostafa Sahrai, University of Tabriz, Iran

2017-2021: Co-supervising a PhD student (mahboobe mahdavi), together with prof. Mohammad Mahmoudi, University of Zanjan, Iran

2016-present: Co-supervising a PhD student (Meisam Memarzadeh), together with prof. Mostafa Sahrai, University of Tabriz, Iran

Memberships

- Member of Physics society of Iran.
- Member of Optics & Photonics society of Iran.
- Member of Lithuanian Physics Society

Talks at foreign institutions

A (Virtual) talk at the group of professor Marlan O. Scully, at Texas A&M University (September 2021)

A (Virtual) talk at Quantum Enabling System Technologies (QuEST) Team, Koç University, Istanbul, Turkey (July 2021)

A talk at Institute of Physics, Zagreb, Croatia (2019)

A talk at University of Latvia, Riga, Latvia (2019)

A talk at Research Institute for Applied Physics and Astronomy, University of Tabriz, Tabriz (2019)

A talk at University Autonomous Barcelona, Spain (2019)

A talk at Technische Universität Darmstadt, Germany (Nov. 2018)

A talk at Università di Napoli Federico II, Naples, Italy, (2016)

Expert Activities

Refereeing of the manuscript submitted to the journals indexed in Web of Science

Physical Review A, Journal of optical society of America B, Optics Letters, Optics Express, Applied optics, JETP Letters, Laser Physics Letters, Laser Physics.

Presentation at the Conferences:

1. Hamid Reza Hamed and Gediminas Juzeliunas, 47th conference of the European Group on Atomic Systems (EGAS) July 14-17, Riga, Latvia (2015)
2. Hamid Reza Hamed and Gediminas Juzeliunas, 12th European Conference on Atoms Molecules and Photons (ECAMP12) September 5-9, Frankfurt, Germany (2016)
3. Hamid Reza Hamed, Julius Ruseckas and Gediminas Juzeliunas, 24th Central European Workshop on Quantum Optics (CEWQO) June 26-30, Copenhagen, Denmark (2017)
4. Hamid Reza Hamed and G. Juzeliūnas, August 27-31, Palanga, Lithuania (2014)
5. Hamid Reza Hamed and G. Juzeliūnas, 17th International Conference-School ADVANCED MATERIALS AND TECHNOLOGIES, August 27-31, Palanga, Lithuania (2015)
6. Hamid Reza Hamed and G. Juzeliūnas, Open readings, 59th International Conference for Students of Physics and Natural Sciences, March 15-18, Vilnius, Lithuania (2016)
7. Hamid Reza Hamed and G. Juzeliūnas, 18th International Conference-School, ADVANCED MATERIALS AND TECHNOLOGIES, August 27-31, Palanga, Lithuania (2016)
8. Hamid Reza Hamed and G. Juzeliūnas, Open readings, 60th International Conference for Students of Physics and Natural Sciences, March 14- 17, Vilnius, Lithuania (2017)
9. H. R. Hamed, Julius Ruseckas and G. Juzeliūnas, 26th International Conference on Atomic Physics, ICAP 2018, July 22 – 27, Barcelona, Spain (2018)
10. H. R. Hamed, Julius Ruseckas and G. Juzeliūnas, Humboldt Kolleg, Controlling quantum matter: From ultracold atoms to solids, July 29 - August 2, Vilnius, Lithuania (2018)

11. H.R.Hamedī, V. Kudriašov, J. Ruseckas, G. Juzeliūnas, 26th Central European Workshop on Quantum Optics, Paderborn University, Germany, June 3–7 (2019)
12. H.R.Hamedī, J. Ruseckas, E. Paspalakis, G. Juzeliūnas, 21th International Conference-School ADVANCED MATERIALS AND TECHNOLOGIES, August 19-23, Palanga, Lithuania (2019)
13. International Workshop on Quantum Computing and Quantum Optics 30-31 Oct. 2019 – Tabriz – Iran (Invited Speaker)
14. Virtual 52nd Conference of the European Group on Atomic Systems, 6-8 July 2021, Zagreb, Croatia
15. H.R.Hamedī, J. Ruseckas, E. Paspalakis, G. Juzeliūnas, 21th International Conference-School ADVANCED MATERIALS AND TECHNOLOGIES, August 19-23, Palanga, Lithuania (2020)
16. H.R.Hamedī, E. Paspalakis, J. Ruseckas, G. Juzeliūnas, 21th International Conference-School ADVANCED MATERIALS AND TECHNOLOGIES, August 23-27, Palanga, Lithuania (2021)
17. Hamid R. Hamedī, J. Ruseckas, E. Paspalakis, G. Juzeliūnas, 52-nd Conference of the European Group on Atomic Physics” 2021 m. liepos 6–8 d, Zagrebas, Kroatija (Virtual presentation).

Citation of publications

Total number of citations: 1059 (800 without self-citation)

Citation h-index: 19

[ISI WOS database, June 2022]

List of all scientific publications by Hamid Reza Hamed

1. Hamid R. Hamed, Vassilios Yannopapas, Gediminas Juzeliūnas, and Emmanuel Paspalakis, Coherent optical effects in a three-level quantum emitter near a periodic plasmonic nanostructure, *Phys. Rev. B* 106, 035419 (2022)
2. Ziauddin, Muqaddar Abbas, Ayesha Basharat, You-Lin Chaung, Zahida Ehsan & Hamid R. Hamed, Two-color transparency in a hybrid photothermal cavity system, *The European Physical Journal Plus* volume 137, 909 (2022)
3. Hamid R. Hamed, Giedrius Žlabys, Verónica Ahufinger, Thomas Halfmann, Jordi Mompart, and Gediminas Juzeliūnas, Spatially strongly confined atomic excitation via a two dimensional stimulated Raman adiabatic passage, *Optics Express* 30, 13915-13930 (2022)
4. Seyyed Hossein Asadpour, Hamid R. Hamed, Teodora Kirova, and Emmanuel Paspalakis, Two-dimensional electromagnetically induced phase grating via composite vortex light, *Phys. Rev. A* 105, 043709 (2022)
5. Seyyed Hossein Asadpour, Ziauddin, Muqaddar Abbas, and Hamid R. Hamed, Exchange of orbital angular momentum of light via noise-induced coherence, *Phys. Rev. A* 105, 033709 (2022)
6. Muqaddar Abbas, Seyyed Hossein Asadpour, Hamid R. Hamed, and Ziauddin, Optomechanically induced grating, *Optics Express* 29, 42306-42318 (2021)
7. Seyyed Hossein Asadpour, Teodora Kirova, Jing Qian, Hamid R. Hamed, Gediminas Juzeliūnas and Emmanuel Paspalakis, Azimuthal modulation of electromagnetically induced grating using structured light, *Scientific Reports* 11, 20721 (2021)
8. Mahboubeh Mahdavi, Zahra Amini Sabegh, Hamid R. Hamed, and Mohammad Mahmoudi, Orbital angular momentum transfer in molecular magnets, *Phys. Rev. B* 104, 094432 (2021)
9. Hamid R. Hamed, Viačeslav Kudriašov, Ning Jia, Jing Qian, and Gediminas Juzeliūnas, Ferris wheel patterning of Rydberg atoms using electromagnetically induced transparency with optical vortex fields, *Optics Letters* 46, 4204-4207 (2021)
10. Hamid R. Hamed, Vassilios Yannopapas, Emmanuel Paspalakis, Spatially Structured Optical Effects in a Four-Level Quantum System Near a Plasmonic Nanostructure, *Ann. Phys. (Berlin)* 2100117, 1-12 (2021)
11. Hamid R. Hamed, Emmanuel Paspalakis, Vassilios Yannopapas, Effective Control of the Optical Bistability of a Three-Level Quantum Emitter Near a Nanostructured Plasmonic Metasurface, *Photonics* 8(7), 285 (2021)

12. Seyyed Hossein Asadpour, Emmanuel Paspalakis and Emmanuel Paspalakis, Exchange of optical vortices in symmetry-broken quantum systems, *Phys. Rev. A.* 103, 063705 (2021)
13. Seyyed Hossein Asadpour, Edris Faizabadi, Viaceslav Kudriašov, Emmanuel Paspalakis and Hamid. R. Hamed, Swapping of orbital angular momentum states of light in a quantum well waveguide, *The European Physical Journal Plus* 136, 457 (2021)
14. Hamid Reza Hamed, Vassilios Yannopapas, Algirdas Mekys and Emmanuel Paspalakis, Control of Kerr nonlinearity in a four-level quantum system near a plasmonic nanostructure, *Physica E: Low-dimensional Systems and Nanostructures*, 130, 114662 (2021)
15. Ning Jia, Jing Qian, Teodora Kirova, Gediminas Juzeliūnas, and Hamid Reza Hamed, Ultraprecise Rydberg atomic localization using optical vortices, *Optics Express* 28, 36936-36952 (2020)
16. Dionisis Stefanatos, Athanasios Smpontas, Hamid Reza Hamed, and Emmanuel Paspalakis, Ultimate conversion efficiency bound for the forward double- Λ atom-light coupling scheme, *Optics Letters* 45, 6090-6093 (2020)
17. Azar Vafafard, Mostafa Sahrai, Vahid Siahpoush, Hamid Reza Hamed, Seyyed Hossein Asadpour, Optically induced diffraction gratings based on periodic modulation of linear and nonlinear effects for atom-light coupling quantum systems near plasmonic nanostructures, *Scientific Reports* 10, 16684 (2020)
18. Teodora Kirova, Ning Jia, Seyyed Hossein Asadpour, Jing Qian, Gediminas Juzeliūnas, and Hamid Reza Hamed, Strongly confined atomic localization by Rydberg coherent population trapping, *Optics Letters* 45, 5440-5443 (2020).
19. Hamid Reza Hamed, Julius Ruseckas, Emmanuel Paspalakis, and Gediminas Juzeliūnas, Off-axis optical vortices using double-Raman singlet and doublet light-matter schemes, *Phys. Rev. A* 101, 063828 (2020).
20. Mahboubeh Mahdavi, Zahra Amini Sabegh, Mohammad Mohammadi, Mohammad Mahmoudi, and Hamid Reza Hamed, Manipulation and exchange of light with orbital angular momentum in quantum-dot molecules, *Phys. Rev. A* 101, 063811(2020)
21. Azar Vafafard, Mostafa Sahrai, Hamid Reza Hamed & Seyyed Hossein Asadpour, Tunneling induced two-dimensional phase grating in a quantum well nanostructure via third and fifth orders of susceptibility, *Scientific Reports* 10, 7389 (2020)
22. Hamid Reza Hamed, Emmanuel Paspalakis, Giedrius Žlabys, Gediminas Juzeliūnas, and Julius Ruseckas, Complete energy conversion between light beams carrying orbital angular momentum using coherent population trapping for a coherently driven double- Λ atom-light-coupling scheme, *Phys. Rev. A* 100, 023811 (2019)

23. Hamid Reza Hamed, Julius Ruseckas, Emmanuel Paspalakis, and Gediminas Juzeliūnas, Transfer of optical vortices in coherently prepared media, *Phys. Rev. A* 99, 033812 (2019)
24. H. R. Hamed, M. Jafari, and V. Kudriasov, Soliton slow light for closed loop quantum systems, *Phys. Scr.* 94, 025103 (2019)
25. Hamid Reza Hamed, Viaceslav Kudriasov, Julius Ruseckas, Gediminas Juzeliūnas, Azimuthal modulation of electromagnetically induced transparency using structured light, *Optics Express* 26, 28249-28262 (2018)
26. Hamid Reza Hamed, Julius Ruseckas, Gediminas Juzeliūnas, Exchange of optical vortices using an electromagnetically induced transparency based four wave mixing setup. *Phys. Rev. A* 98, 013840 (2018)
27. Seyyed Hossein Asadpour, Hamid Reza Hamed, and Mahmoud Jafari, Enhancement of Goos–Hänchen shift due to a Rydberg state, *Applied Optics* 57, 4013-4019 (2018)
28. H. R. Hamed, M. Sahrai, H. Khoshshima, Atom Localization Using a Rydberg State, *Physics of Wave Phenomena*, 26, 47–55 (2018)
29. H. R. Hamed, Mostafa Sahrai, Habib Khoshshima, and Gediminas Juzeliūnas, “Optical bistability forming due to a Rydberg state “. *J. Opt. Soc. Am. B* 34, 1923-1929 (2017)
30. H. R. Hamed, J Ruseckas and G Juzeliūnas, “Electromagnetically induced transparency and nonlinear pulse propagation in a combined tripod and Λ atom-light coupling scheme”. *J. Phys. B: At. Mol. Opt. Phys.* 50 185401 (2017)
31. H. R. Hamed, Mostafa Sahrai, “Temporal evolutional absorption behaviors of graphene under Landau quantization”. *Physica E: Low-dimensional Systems and Nanostructures*, 86, 10–16 (2017).
32. A. Raheli, H. R. Hamed, M. Sahrai, An enhanced refractive index with suppressed absorption in a graphene nanostructure under external magnetic field, *Physics of Wave Phenomena*, 25, 107–113 (2017)
33. H. R. Hamed and G. Juzeliūnas. “Phase-sensitive atom localization for closed-loop quantum systems”. *Phys. Rev. A* 94, 013842 (2016).
34. H. R. Hamed, Ali Hamrah Gharamaleki, and Mostafa Sahrai, “Colossal Kerr nonlinearity based on electromagnetically induced transparency in a five-level double-ladder atomic system.”. *Applied Optics*, 55, 5892-5899 (2016)

35. H R Hamed, M. R. Mehmannaavaz, "Phase control of three-dimensional atom localization in a four-level atomic system in Lambda configuration ". *J. Opt. Soc. Am. B*, 33, 41-45 (2016).
36. H. R. Hamed, "Storage and retrieval of light pulse propagating in quadruple quantum dot molecules ". *J. Opt. Soc. Am. B* 33. 151-157 (2016).
37. Ali Raheli, H R Hamed and M Sahrai. "The optical properties of a weak probe field in a graphene ensemble under Raman excitation". *Laser Phys. Lett.* 13, 065202 (2016)
38. Ali Raheli, H R Hamed, M Sahrai and R. A. Sabet. "Coherent control of some optical properties in a system of molecular magnets". *Laser Phys. Lett.* 13, 015203 (2016)
39. H. R. Hamed, "Pulse propagation and optically controllable switch in coupled semiconductor-double-quantum-dot nanostructures ". *J. Appl. Phys.* 119, 183104 (2016)
40. H. R. Hamed and S. H. Asadpour. *J. Appl. Phys.* "Realization of optical bistability and multistability in Landau-quantized graphene". 117, 183101 (2015).
41. Ali Golestani, H.R. Hamed, Ahad Darkhosh, "Size effects in quantum well nanostructures on propagation of light pulse". *Physica B* 456, 129–133 (2015).
42. Ali Raheli, H. R. Hamed and M Sahrai, "2D spatial distribution of probe absorption in a triple semiconductor quantum well nanostructure". *Laser Phys. Lett.* 12, 105201 (2015).
43. Ali Raheli, H. R. Hamed and M Sahrai, "Atom localization in 2D for five-level atomic schemes in X-configuration". *Laser Phys.* 25, 095202 (2015).
44. S. H. Asadpour, H. R. Hamed and H. Rahimpour Soleimani. "Slow light propagation and bistable switching in a graphene under an external magnetic field". *Laser Phys. Lett.* 12, 045202 (2015).
45. A. Raheli, H. Afshari, H. R. Hamed, "Coherent control of optical bistability and multistability in a triple semiconductor quantum well nanostructure". *JETP Letters*, 102, 496–502 (2015)
46. Ali Raheli, M. Sahrai, H. R. Hamed. "Atom position measurement in a four-level Lambda-shaped scheme with twofold lower-levels". *Opt. Quant Electronics* 47, 3221-3236 (2015).
47. S. H. Asadpour, H. R. Hamed, H. Rahimpour Soleimani. "Role of incoherent pumping field on absorption–dispersion properties of probe pulse in a graphene nanostructure

- under external magnetic field” *Physica E: Low-dimensional Systems and Nanostructures* 71, 123–129 (2015).
48. H. R. Hamed, M. R. Mehmannaavaz. “Switching feature of EIT-based slow light giant phase-sensitive Kerr nonlinearity in a semiconductor quantum well” *Physica E: Low-dimensional Systems and Nanostructures* 66, 309–316 (2015).
 49. H. R. Hamed and G. Juzeliūnas. “Phase-sensitive Kerr nonlinearity for closed-loop quantum systems”. *Phys. Rev. A* 91, 053823, (2015).
 50. H. R. Hamed, “Perfect Precision Detecting Probability Of An Atom Via Sgc Mechanism”. *Int. J. Theor. Phys.* 54, 2012-2021 (2015)
 51. H. R. Hamed, Ali Khaledi-Nasab, Ali Raheli, M. Sahrai, “Coherent control of optical bistability and multistability via double dark resonances (DDR)s”. *Opt. Commun* 312, 117–122 (2014).
 52. S. Feili , H. R. Hamed, “Large Kerr nonlinearity in a crystal of molecular magnets system”. *Opt. Commun* 315, 116–121 (2014).
 53. H. R. Hamed, “Optical bistability and multistability via magnetic field intensities in a solid “. *Appl. Opt.* 53, 5391-5397 (2014).
 54. H. R. Hamed, Arash Radmehr, and M. Sahrai, “Manipulation of Goos-Hänchen shifts in the atomic configuration of mercury via interacting dark-state resonances”. *Phys. Rev. A* 90, 053836 (2014).
 55. H. R. Hamed, “Ultra-slow propagation of light located in ultra-narrow transparency windows through four quantum dot molecules”. *Laser Phys. Lett.* 11, 085201 (2014).
 56. H. R. Hamed. “Inter-dot tunneling control of optical bistability in triple quantum dot molecules”. *Physica B* 449, 5–9 (2014).
 57. H. R. Hamed. “Optical bistability through the cavity effect in a four-level open atomic medium”. *JETP Letters*, 100, 299-305 (2014).
 58. H. R. Hamed, S. H. Asadpour, M. Sahrai, “Giant Kerr nonlinearity in a four-level atomic medium”. *Optik*, 124,366- 370 (2013).
 59. S. H. Asadpour, H. R. Hamed, “Giant Kerr nonlinearity in an n-doped semiconductor quantum well”. *Opt. Quant Electronics.* 45, 11-20 (2013).
 60. H. R. Hamed, S. H. Asadpour, M. Sahrai, B. Arzhang, D. Taherkhani, “Optical bistability and multi-stability in a four-level atomic scheme”. *Opt. Quant Electronics.* 45, 295–306 (2013).

61. H. R. Hamed, M. Sahrai, S. H. Asadpour, "Effect of Quantum Interference from Incoherent Pumping Field and Spontaneous Emission on Controlling the Optical Bistability and Multi-Stability". *Commun Theor Phys*, 59, 199-204 (2013).
62. B. Arzhang, M. Sahrai, D. Taherkhani, H. R. Hamed, "Coherent control of quantum entropy via quantum interference in a four-level N-type atomic system". *Optik* 124, 3861– 3865 (2013).
63. H. R. Hamed, Ali Khaledi_Nasab, and Ali Raheli, "Kerr nonlinearity and EIT in a double Lambda type atomic system". *Optics and Spectroscopy*, 115, 544–55 (2013).
64. H.R. Hamed, Gediminas Juzeliūnas, A.Raheli, M.Sahrai. "High refractive index and lasing without inversion in an open four-level atomic system". *Opt. Commun* 311, 261–265 (2013).
65. M. Sahrai, H.R. Hamed, M. Memarzadeh, "Kerr nonlinearity and optical multi-stability in a four-level Y-type atomic system". *J Mod Opt*, 59, 980-987 (2012).
66. S. H. Asadpour, M. Sahrai, A. Soltani, H. R. Hamed, "Enhanced Kerr nonlinearity via quantum interference from spontaneous emission". *Phys. Lett. A*, 376, 147–152 (2012).
67. S. H. Asadpour, H. R. Hamed, M. Sahrai, "Phase control of Kerr nonlinearity due to quantum interference in a four-level N-type atomic system". *J. Lumin*, 132, 2188–2193 (2012).
68. M. Sahrai, R. Nasehi, M. Memarzadeh, H. Hamed, J. B. Poursamad, "Controlling the probe-absorption and -dispersion via quantum interference from incoherent pumping field in a four-level lambda-type system". *European Physical Journal D*, 65, 571-579 (2011).
69. S. H. Asadpour, H. R. Hamed, A. Eslami-Majd, M. Sahrai, "Enhanced Kerr nonlinearity in a tunnel-coupled double quantum wells". *Physica E Low-dimensional Systems and Nanostructures*, 44, 464-469 (2011).