Curriculum vitae

SAHEB SOROUSHFAR

Associate Professor of Physics

Director of technology affairs and communication with society and industry, Director of the Observatory | Yasouj University

University:	Yasouj, Iran
Nationality:	Iranian
Day of the Birth:	August, 11, 1982
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Research Interests:

- Gravitation and Cosmology
- Astronomy and Astrophysics
- Solar Energy

Education/Qualifications:

- **PhD.** In Theoretical Physics (Gravitation), University of Guilan, Rasht, Iran, July 2016. Thesis Supervisor: Dr. R. Saffari.
- **M.Sc.** In Astronomical Physics, Shahid Chamran University of Ahvaz, Ahvaz, Iran, July 2009. Thesis Supervisor: Dr. H. Asareh.
- **B.Sc.** In Solid State Physics, University of Yasouj, Yasouj, Iran, January 2005**.**

Teaching Experience:

1. Yasouj University (2016-Now) (Basic Physics 1, 2, Thermodynamics, Heat physics, Heat transfer, Fluid mechanics, and so on).
2. Islamic Azad University, Behbahan (2016-2019) (Modern Quantum Mechanics, Classical Electrodynamics, Astrophysical concepts, Gravitation, Statistical Mechanics).
3. University of Guilan (2012-2016) (Basic Physics 1, 2).
4. Payam Noor University of Rasht (2012-2014) (Basic Physics 1, 2)
5. University of Yasouj (2009-2012) (Elementary Astronomy, Basic Physics 1, 2, Basic Physics Labs 1, 2).
6. Islamic Azad University of (Masjed Soleiman, Dehdasht and Behbahan) (2007-2011) (Basic Physics 1, 2, Basic Physics Labs 1, 2, Electromagnetism).
7. Payam Noor University of Dehdasht (2007-2012) (Elementary Astronomy, Statistical Mechanics, Electromagnetism, Quantum Physics 1, Modern Physics 1, Special Relativity, Thermodynamics, Solid state Physics, optics, Philosophy of Physics, Waves, Superconductivity, Mathematical Physics 2, Basic Physics 1, 2, Optics Lab, Basic Physics Labs 1,2).
8. Shahid Chamran University of Ahvaz (2007) (Basic Physics Labs 1, 2).

Publications (ISI):

1. H Sheikhahmadi, S Soroushfar, SN Sajadi, T Harko, Astrophysical and electromagnetic emissivity properties of black holes surrounded by a quintessence type exotic fluid in the Scalar-Vector-Tensor Modified Gravity, ***The European Physical Journal C*** 83 (9) (2023).

2. Saheb Soroushfar, Hoda Farahani, Sudhaker Upadhyay, Non-perturbative correction to thermodynamics of conformally dressed 3D black hole, ***Physics of the Dark Universe***, (2023).

3. J. Sadeghi, B. Pourhassan, R. Toorandaz, S. Soroushfar, Collision of Particles and Energy Extraction in Hyperscaling Violation Background, ***Nucl. Phys. B*** (2023).

4. Saheb Soroushfar, Geodesic motion in the spacetime of a (2+ 1) D black hole conformally coupled to a massless scalar, ***Journal of Holography Applications in Physics (JHAP)***, (2023).

5. K Malekmakan, R Saffari, S Soroushfar, B Pourhassan, Gravitation field perturbation quasinormal modes of a black hole in F(R) gravity, ***The European Physical Journal Plus*** (2022).

6. Sara Dastan, Reza Saffari, Saheb Soroushfar, Shadow of a rotating charged black hole in f(R) gravity, ***The European Physical Journal Plus*** (2022).

7. Behnam Pourhassan, Houcine Aounallah, Mir Faizal, Sudhaker Upadhyay, Saheb Soroushfar, Yermek O Aitenov, Salman Sajad Wani, Quantum Thermodynamics of a M2-M5 Brane System, ***Journaal of High Energy Physics (JHEP)*** (2022).

8. Behnam Pourhassan, Salman Sajad Wani, Saheb Soroushfar, Mir Faizal, Quantum Work and Information Geometry of a Quantum Myers-Perry Black Hole, ***Journal of High Energy Physics (JHEP)*** (2021).

9. Sudhaker Upadhyay, Saheb Soroushfar, Reza Saffari, Perturbed thermodynamic and thermodynamic geometry of a static black hole in *f*(*R*) gravity, ***Modern Physics Letters A*** (2021).

10. Saheb Soroushfar, Behnam Pourhassan, Thermodynamic geometry of a charged AdS black hole with corrected entropy, ***Journal of Research on Many-body Systems*** (2021).

11. Saheb Soroushfar, Reza Saffari, Amare Abebe, Haidar Sheikhahmadi, Thermodynamic geometry of static and rotating regular black holes in conformal massive gravity, ***The European Physical Journal Plus*** (2021).

12. Bahere Hoseini, Reza Saffari, Saheb Soroushfar, Geodesic motion in the spacetime of a SU(2)-colored (A)ds black holes in conformal gravity, ***The European Physical Journal Plus*** (2021).

13. Saheb Soroushfar, Maryam Afrouz, Analytical solution of the geodesic equations in the spaetime of a black hole surrounded by perfect fluid in Rastall theory, ***Indian Journal of Physics*** (2020).

14. Haidar Sheikhahmadi, Mir Faizal, Ali Aghamohammadi, Saheb Soroushfar, Sebastian Bahamonde, Inflation in string field theory, ***Nucl. Phys. B*** 961. 115252 (2020).

15. Sara Rezvanjou, Reza Saffari, Mozhgan Masoudi, Saheb Soroushfar, Particle Dynamics Around the Black String, ***Classical and Quantum Gravity,*** (2020).

16. Sobhan Kazempour, Saheb Soroushfar, Analytical solution of the geodesic equations in rotating space-time of black holes in three dimensions, ***Chinese Journal of Physics*** (2020).

17. Saheb Soroushfar, Sudhaker Upadhyay, Phase transition of a charged AdS black hole with a global monopole through geometrical thermodynamics, ***Physics Letters B*** (2020).

18. Saheb Soroushfar, Sudhaker Upadhyay, Accretion disks around a static black hole in f(R) gravity, ***The European Physical Journal Plus*** (2020).

19. Saheb Soroushfar, Reza Saffari, Sudhaker Upadhyay, Thermodynamic geometry of a black hole surrounde by perfect fluid in Rastall theory, ***General Relativity and Gravitation***, **51**:130 (2019).

20. Bahere Hoseini, Reza Saffari, Saheb Soroushfar, Study of the geodesic equations of a spherical symmetric spacetime in conformal Weyl gravity, ***Classical and Quantum Gravity,*** **34** (2017).

21. Saheb Soroushfar, Reza Saffari, Ehsan Sahami, Geodesic equations in the static and rotating dilaton black holes: Analytical solutions and applications, ***Phys. Rev. D*** **94**, 024010 (2016), arXiv:1601.03143 (2016).

22. Saheb Soroushfar, Reza Saffari, Sobhan Kazempour, Saskia Grunau and Jutta Kunz, Detailed study of geodesics in the Kerr-Newman-(A) dS spacetime and the rotating charged black hole spacetime in *f*(*R*) gravity, ***Physical Review D*** **94**, 024052 (2016), arXiv:1605.08976 (2016).

23. Bahareh Hoseini, Reza Saffari, Saheb Soroushfar, Jutta Kunz, Saskia Grunau, Analytic treatment of complete geodesics in a static cylindrically symmetric conformal spacetime, ***Physical Review D*** **94**, 044021 (2016), arXiv:1602.03898 (2016).

24. Saheb Soroushfar, Reza Saffari, Negin Kamvar, Thermodynamic geometry of black holes in *f(R)* gravity, ***European Physical Journal C*** **76**: 476 (2016), arXiv: 1605.00767 (2016).

25. Saheb Soroushfar, Reza Saffari, Afsaneh Jafari, Study of geodesic motion in a (2+1)-dimensional charged BTZ black hole, ***Physical Review D*** **93**, 104037 (2016), arXiv:1512.08449 (2015).

26. Saheb Soroushfar, Reza Saffari, Jutta Kunz, Claus Lämmerzahl, Analytical solutions of the geodesic equation in the spacetime of a black hole in *f(R)* gravity, ***Physical Review D*** **92**, 044010 (2015), arXiv:1504.07854 (2015).

27. Sara Dastan, Reza Saffari, Saheb Soroushfar, Shadow of a rotating Ker-Sen dilaton-axion black hole, **arxiv**: 1610.09477 (2016).

28. Saheb Soroushfar, Reza Saffari, Saskia Grunau , Geodesic motion in the spacetime of a static charged black hole in *f(R)* gravity, **arxiv**:1605.08975 (2016).

29. Sobhan Kazempour, Reza Saffari, Saheb Soroushfar, Analytical solutions of the geodesic equation in the (rotating) black string-(anti-) de sitter spacetime, **arxiv**:1606.06106 (2016).

30. Negin Kamvar, Reza Saffari, Saheb Soroushfar, Thermodynamics of rotating black holes in conformal gravity, **arxiv**: 1511.03480 (2015).

Conferences:

1. Saheb Soroushfar, Geodesic motion in the spacetime of a (2 + 1) D black hole conformally coupled to a massless scalar, 2th international conference of holography and its applications, Damghan, Iran, (2023).

2. Saheb Soroushfar, Black holes, how they are formed and detected, Conference of Astronomy and Astrophysics, Yasouj, Iran, (2022).

3. Saheb Soroushfar, A thermodynamic geometry approach for a black hole in modified gravity, 1th international conference of holography and its applications, Damghan, Iran, (2022).

4. Saheb Soroushfar, Sudhaker Upadhyay, Accretion disks around a static black hole in f(R) gravity, Tehran, Iran (30 Dec 2021).

5. Saheb Soroushfar, Thermodynamic geometry of black holes, The Second International Conference “Massive Gravity Theory and Physics of Black Hole”, Tabriz, Iran (14-15 Dec 2021).

6. Malekmakan, Keramat, Saffari Reza, Soroushfar, Saheb, Gravitational field Perturbation Quasi-normal modes of a black hole in f(R) gravity, Annual Physics Conference of Iran, Isfahan University of Technology, Isfahan, Iran, (23-26 Aug 2021).

7. Malekmakan, Keramat, Saffari Reza, Soroushfar, Saheb, Quasi-normal modes of a charged BTZ black hole, 14th National Conference of Astronomy and Astrophysics of Iran, Semnan, Iran (11 March 2021).

8. Malekmakan, Keramat, Saffari Reza, Soroushfar, Saheb, Quasi-normal modes of a black hole in modified gravity, National Conference in Gravitation and Cosmology, Shahid Beheshti University, Tehran, Iran, (27 Jan 2021).

9. Saheb Soroushfar, Sudhaker Upadhyay, Phase transition of a charged AdS black hole with a global monopole through geometrical thermodynamics, The Physics Society of Iran Annual Meeting, Tehran, Iran (7 Jan 2021).

10. Saheb Soroushfar, Mehrab Ramezani, Null geodesic in the space time of a charged AdS black hole with a global monopole, 5th Iranian Conference on Mathematical Physics, Qom, Iran (28-30 Dec 2020).

11. Saheb Soroushfar, Heidar Sheikhahmadi, Thin accretion discs around static charged black hole in presence of Quintessence field, 13th National Congress of Astronomy and Astrophysics of Iran and Celebration of Dr. Ahmad Kiastpour (2020).

12. Saheb Soroushfar, Mehrab Ramezani, Analytical solution of the geodesic equations in the space-time of a black hole surrounded by fluid, Iranian Conference on Mathematical Physics, Qom, Iran (ICMP), (2020).

13. Mehrab Ramezani, Saheb Soroushfar, Circular Orbits around a black hole in modified gravity, Iranian Conference on Mathematical Physics (ICMP), Qom, Iran (2020).

14. Saheb Soroushfar, Navid Haghparast, Design of solar desalination with thermal energy storage using phase-change material, Conference on Advanced Technologies in Energy and Materials, Tehran, Iran (2019).

15. Saheb Soroushfar, Hamid Nikpour, Locating the central receiving power plant in Khuzestan province and checking the power generated at that location, Conference on Advanced Technologies in Energy and Materials, Tehran, Iran (2019).

16. Saheb Soroushfar, Bahare Hoseini, Hosein Ganjipour, Study of the geodesic in the vicinity of cylindrical symmetric spacetime, Iranian Conference on Mathematical Physics (ICMP), Qom, Iran (2017).

17. Akram Alizadeh, Ali Taghipour, Babak Malekinia, Saheb Soroushfar, the effect of Impact waves In the laser ignition of homogeneous fuel of Mix D-T and p-11B With solid state density Using the new accelerated plasma block method by pet watts–picosecond Laser, Second National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad (KBSD), Yasouj University, Iran, (2017).

18. Akram Alizadeh, Babak Malekinia, Saheb Soroushfar, Study of fusion emission conditions in homogeneous D-T and P-11B fuels with solid state density for High-Efficiency Producing by Laser

Fusion, Second National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad (KBSD), Yasouj University, Iran, (2017).

19. Hassan Akbarpour, Saheb Soroushfar, HCCI, a new step for the development of internal combustion engines, Second National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad (KBSD), Yasouj University, Iran, (2017).

20. Hassan Akbarpour, Saheb Soroushfar, Yaser Soroushfar, Hydrogen engine, a step towards development, Second National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad (KBSD), Yasouj University, Iran, (2017).

21. Hassan Akbarpour, Saheb Soroushfar, Eisa Didehdar, Indicators of Development, Challenges and Potentials in the Development of the City of Choram, Second National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad (KBSD), Yasouj University, Iran, (2017).

22. Sara Dastan, Reza Saffari, Saheb Soroushfar, Study the Shadow of Rotating Dilaton Black Hole in The Presence of Plasma, National Conference in Gravitation and Cosmology, IASBS, Zanjan, Iran, (08/02/2017).

23. Negin Kamvar, Reza Saffari, Saheb Soroushfar, Study of Thermodynamic quantities of static charged black hole in *f(R)* gravity, 23th Spring Conference in physics, IPM, Tehran, Iran, (19/05/2016).

24. Sara Dastan, Reza Saffari, Saheb Soroushfar, Study of rotating dilaton black hole's shadow, 23th Spring Conference in physics, IPM, Tehran, Iran, (19/05/2016).

25. Sara Dastan, Reza Saffari, Saheb Soroushfar, Study of black hole's shadow in *f(R)* gravity, 19th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (13/05/2016).

26. Mahnam Ahmadnezhad, Reza Saffari, Saheb Soroushfar, Analytical solution of the equations of motion of linear DNA as a geometric curve, National Conference in physics and Applications, University of Malayer, Hamadan, Iran, (28/01/2016).

27. Negin Kamvar, Reza Saffari, Saheb Soroushfar, Study of the thermodynamic features of rotating BTZ black hole in the barns – Dick model, National Conference in Gravitation and Cosmology, Shahid Beheshti University, Tehran, Iran, (14/01/2016).

28. Sobhan Kazempour, Reza Saffari, Saheb Soroushfar, Study of geodesic in the spacetime of three-dimensional rotating BTZ black holes, National Conference in Gravitation and Cosmology, Shahid Beheshti University, Tehran, Iran, (14/01/2016).

29. Bahare Hoseini, Reza Saffari, Saheb Soroushfar, Geodesic structure of a rotating black hole AdS spacetime in the generalized gravity, National Conference in Gravitation and Cosmology, Shahid Beheshti University, Tehran, Iran, (14/01/2016).

30. Saheb Soroushfar, Reza Saffari, Ehsan sahami, Analytical solution of geodesic equation in the spacetime of an electrically charged GMGHS black hole, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

31. Afsaneh Jafari, Reza Saffari, Saheb Soroushfar, Study of geodesic motion of test particles in the spacetime of wormholes cosmic string in the vacuum, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

32. Mojtaba Haghshenas, Reza Saffari, Saheb Soroushfar, Solution of Geodesic in the spacetime of Reissner Nordström black hole in higher dimensions, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

33. Ehsan Sahami, Reza Saffari, Saheb Soroushfar, Geodesic equation of Magnetically charged GMGHS black hole combined with cosmic string: Analytical solution and Application, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

34. Elham Abdi, Reza Saffari, Saheb Soroushfar, Analytic solutions of geodesic equation of the static spherically symmetric black hole in conformal gravity in three dimensions, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

35. Sobhan Kazempour, Reza Saffari, Saheb Soroushfar, Geodesic reviews of rotating spherically symmetric black hole in conformal gravity, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

36. Bahare Hoseini, Reza Saffari, Abbas Darvishpour, Saheb Soroushfar, spherically symmetric black holes in the gauge field theory coupled with conformal gravity, 22th Spring Conference in physics, IPM, Tehran, Iran, (21/05/2015).

37. Afsaneh Jafari, Reza Saffari, Saheb Soroushfar, Analytical solution of geodesic equation in the Space Time of Ellis Wormhole, 18th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (15/05/2015).

38. Mojtaba Haghshenas, Reza Saffari, Saheb Soroushfar, Geodesic solution of Schwarzschild black string in higher dimensions, 18th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (15/05/2015).

39. Saheb Soroushfar, Reza Saffari, bahareh Hoseini, Motion of Test Particle in the Space Time of Black Hole in Conformal Weyl Gravity, 18th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (15/05/2015).

40. Sobhan Kazempour, Reza Saffari, Saheb Soroushfar, study of geodesic equation of Ker- de Sitter black hole combined with cosmic string, 18th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (15/05/2015).

41. Abbas Darvishpour, Reza Saffari, Saheb Soroushfar, Geodesic solution of black string with cosmological constant, 18th Meeting of astronomy research in Iran, IASBS, Zanjan, Iran, (15/05/2015).

42. Saheb Soroushfar, Reza Saffari, Analytical solution of geodesic equation in the spacetime of a cylindrical shell of straight cosmic string, 8th Conference in Astronomy and Astrophysics, Amirkabir University of Technology, Tehran, Iran, (05/02/2015).

43. Saheb Soroushfar, Reza Saffari, Geodesic equation of a black hole in modified gravity: Analytical solutions and Applications, National Conference in Gravitation and Cosmology, Sharif University of Technology, Tehran, Iran, (22/01/2015).

44. Soroushfar Saheb, Estimates of solar radiation in Kohgiluyeh and Boyerahmad using Angstrom method, optimal strategies of energy sources Conference, Azad University of Dehdash, Dehdasht, Iran, (12 / Dec/2010).

45. Soroushfar Saheb, Asareh Habibolah, Ghari Amir, Estimates of solar radiation in Kohgiluyeh and Boyerahmad, Second National Conference on Astronomy and Astrophysics, Shahid Chamran University of Ahvaz, Iran, (05 / 01/2010).

46. Soroushfar Saheb, Asareh Habibolah, Ghari Amir, A Simple Model for Estimating Global Solar Radiation in Ahwaz, Iran, Annual Iranian Physics Conference, Isfahan, Iran, (15-18 /Aug / 2009).

47. Ghari Amir, Asareh Habibolah, Soroushfar Saheb, Type Ia supernovae as distance indicators, Annual Iranian Physics Conference, Isfahan, Iran, (15-18 /Aug / 2009).

48. Ghari Amir, Asareh Habibolah, Soroushfar Saheb, Measure the distance from Ⅱ-p Supernovae using the standard candle method, National Conference on Astronomy, Astrophysics and Cosmology, Shiraz University, Shiraz, Iran, (22-23/ April/ (2009).

49. Soroushfar Saheb, Asareh Habibolah, Ghari Amir, Estimation of the total solar radiation using MS method for Khuzestan, Iran. 13th Meeting of Astronomy Research in Iran, IASBS, Zanjan, Iran, (27-28/ Jan/ (2009).

50. Ghari Amir, Asareh Habibolah, Soroushfar Saheb, Quantization of gravitational systems like our solar system, 13th Meeting of Astronomy Research in Iran, IASBS, Zanjan, Iran, (27-28/ Jan/ (2009).

Journal Referee:

- **Classical and Quantum Gravity (CQG)**
- **General Relativity and Gravitation (GRG)**
- **Mathematical Reviews/MathSciNet (American Mathematical Society)**
- **Physica Scripta**
- **Modern Physics Letters A (MPLA)**
- **Europhysics Letters (EPL)**
- **Indian Journal of Physics**
- **Chinese Physics C**
- **Fortschritte der Physik - Progress of Physics**
- **International Journal of Modern Physics D**
- **International Journal of Modern Physics A**
- **JHAP (Journal of Holography Application in Physics)**
- **The Third International Conference on Physics, Mathematics, and Statistics,** May 20-22, 2020 in Kunming, **China.**

Supervisor:

Postdoc: Dr. Sareh Eslamzadeh, Yasouj University, Jan 2024-2025.

PhD. Thesis by Keramat MalekMakan, University of Guilan, Iran (2023).

M.Sc. Thesis by Sarvnaz Sadeghhasani, University of Guilan, Iran (2020).

M.Sc. Thesis by Arash Sadeghiadl, University of Guilan, Iran (2020).

M.Sc. Thesis by Navid Haghparast, Islamic Azad University, Behbahan, Iran (2019).

M.Sc. Thesis by Hamid Nikpour, Islamic Azad University, Behbahan, Iran (2019).

Advisor of some M.Sc. Thesis:

"Study of space time Geodesic of Rotating Black holes" by Sobhan Kazempour. Feb. 2016.

"Study of space time Geodesic of Charged Black holes" by Ehsan Sahami. Mar. 2016.

"Study of Black hole spacetime combined with cosmic string in higher dimension with spherical symmetry" by Mojtaba Haghshenas. Mar.2016.

"Study of axially symmetric spacetime Geodesic" by Afsaneh Jafari Kiasarayi. Mar.2016.

"Study of Geodesic motion in the spacetime of Rindler Black hole" by Elham Abdi. Mar.2016.

"Study of Schwarzschild (anti) de sitter Black hole combined by cosmic string" by Abbas Darvishpour, (2017).

"Study of Thermodynamic properties of Black holes" by Negin Kamvar, (2017).

Other Major Activities:

- Advisor of Astronomy Student Scientific Society and Student Cultural Center, faculty of Technology and Mining, Yasouj University, Iran (2018-Now).
- Executive Secretary of the astronomy Conference, Yasouj University, Faculty of Technology and Mining, Choram, Iran (May 2018).
- Executive Secretary of the National Conference on Sustainable Development of Kohgiluyeh and Boyer-Ahmad Province, Yasouj University, Iran (27 December 2016).
- Participation at International School for Young Astronomers (**ISYA**), Held in School of Astronomy, Institute for Research in Fundamental Science (**IPM**), Tehran, 21 August - 8 September (2016).
- Admission for Ph.D. from Porto University of Portugal, Russia, Brazil and the University of Guilan (2011-2012).
- Executive Director of Research Week in the Payame Noor University of Dehdasht, Iran, (Dec, 2008).

Computer Skills:

- Mathematica.
- Maple.
- Python.
- $L^{A}T_{E}X$.
- Astronomical packages for data reductions and data analyses.

Membership:

- American Mathematical Society (AMS).
- Physics Society of Iran (PSI).
- Astronomical Society of Iran (ASI).
- Young Researchers Club of Iran (YRCI).
- Scholars and Students Association of Kohgiluyeh and Boyer Ahmad Province, Iran.
- Educational Council of Yasouj University.
- Research Council of Yasouj University.