

# Curriculum Vitae

## Personal Data

First name: **Kayoomars**  
Surname: **Karami**  
Date of birth: **September 1, 1975**  
Nationality: **Iranian**



## Academic Degrees

1993 - 1997	BSc	Physics	Bu-Ali Sina University, Iran
1997 - 1999	MSc	Astronomy	Shiraz University, Iran
1999 - 2004	PhD	Astronomy	IASBS, Zanjan, Iran

### MSc Thesis Title:

Velocity Curve Analysis of the Eclipsing Binary (RZ Cas)

**Supervisor:** Prof. Nematollah Riazi

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### PhD Thesis Title:

Coronal Heating by Damping of MHD Waves  
&

Third Order Effect of Rotation on Stellar Oscillations

**Supervisors:** Prof. Yousef Sobouti & Prof. Jørgen Christensen-Dalsgaard

**Advisor:** Prof. Sadollah Nasiri

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## Honors and Awards

First rank as a BSc graduate at Bu Ali Sina University in Iran, in 1997.

First rank as a MSc graduate student at Shiraz University in Iran, in 1999.

Distinguished Teacher of University of Kurdistan, in 2010.

Distinguished Teacher of Department of Physics, University of Kurdistan, in 2012.

Distinguished Teacher of Department of Physics, University of Kurdistan, in 2013.

Distinguished Teacher of Department of Physics, University of Kurdistan, in 2015.

Distinguished Researcher of University of Kurdistan, in 2010.

Distinguished Researcher of Faculty of Science, University of Kurdistan, in 2013.

Distinguished Researcher of Department of Physics, University of Kurdistan, in 2016.

Iran Science Elites Federation Award (A Group), in 2015.

Iran Science Elites Federation Award (B Group), in 2016.

## Sabbatical:

1. **Karami, K.**, Christensen-Dalsgaard, J., and Pijpers, F. P., Third order effect of rotation on normal modes of rotating stars. Research project during **Nine months sabbatical period** for completing of Ph. D thesis at Aarhus University, Aarhus, Denmark, 6/May/2002-19/Jan/2003.

## Papers Presented in the International Conferences:

1. Sobouti, Y., **Karami, K.**, and Nasiri, S., Flux tube oscillations and coronal heating, IAU **8<sup>th</sup> Asia-Pacific Regional Meeting, Tokyo, Japan**, in Ikeuchi S., Hearnshaw J., Hanawa T., eds, ASP Conf. Ser. Vol. 289, Astron. Soc. Pac., San Francisco, v. 289, p.409-412, 2003.

2. **Karami, K.**, Christensen-Dalsgaard, J., Pijpers, F. P., Goupil, M. J., and Dziembowski, W. A., The effect of rotation on stellar oscillations, oral presentation in the **25<sup>th</sup> General Assembly of IAU**, Sydney, Australia, proceeding book, p. 213, 2003.

3. **Karami, K.**, and Soltanzadeh, M.M., Third Order Effect of Rotation on Stellar Oscillations of Upper Main Sequence Stars, oral presentation in the **International Tusi Conference on Astrophysics**, RIAAM, proceeding book, p. 34, 2009.

4. **Karami, K.**, and Soltanzadeh, M.M., Application of an Artificial Neural Network for Velocity Curve Analysis of the Spectroscopic Binary Stars V373 Cas, V2388 Oph, V401 Cyg, V523 Cas, and HD 141929, poster presentation in the **International Tusi Conference on Astrophysics**, RIAAM, proceeding book, p. 53, 2009.

5. **Karami, K.**, and Bahari, K., The effect of twisted magnetic field on the resonant absorption of MHD waves in coronal loops, poster presentation in the **International Tusi Conference on Astrophysics**, RIAAM, proceeding book, p. 78, 2009.

6. **Karami, K.**, and Abdolmaleki, A., Polytropic and Chaplygin f(T)-gravity models, poster presentation in the **12th International Conference on Topics in Astroparticle and Underground Physics**, Munich, Germany, J. Phys.: Conf. Ser. **375**, 032009 (2012).

## Papers Presented in the Domestic Conferences:

1. **Karami, K.**, Nasiri, S., and Sobouti, Y., Coronal heating by the resonance absorption of Alfvén waves, oral presentation in the **5<sup>th</sup> Research Meeting on Astronomy**, IASBS, abstract book, p. 16, 2001.
2. **Karami, K.**, Nasiri, S., and Sobouti, Y., Alfvén wave propagation in coronal loops, oral presentation in **Annual Physics Conference of Iran**, Teacher Training University of Sabzevar, Sabzevar, Iran, proceeding, P.80, 2001.
3. **Karami, K.**, Nasiri, S., and Sobouti, Y., Coronal heating by the resistive dissipation of Alfvén waves, oral presentation in the **6<sup>th</sup> Research Meeting on Astronomy**, IASBS, abstract book, p. 26, 2002.
4. Nasiri, S., **Karami, K.**, and Sobouti, Y., Coronal heating by resistive and viscous dissipations of MHD waves, oral presentation in **Annual Physics Conference of Iran**, University of Zanjan, Zanjan, Iran, proceeding, p.122, 2002.
5. **Karami, K.**, and Christensen-Dalsgaard, J., Third order effect of rotation on normal modes of rotating stars, oral presentation in the **7<sup>th</sup> Research Meeting on Astronomy**, Ferdowsi University of Mashhad, Mashhad, Iran, abstract book, p. 6, 2003.
6. Nasiri, S., **Karami, K.**, and Sobouti, Y., Coronal heating by resistive and viscous dissipations of MHD waves, oral presentation in **Advanced Research Workshop on Astronomy and Astrophysics**, Ferdowsi University of Mashhad, Mashhad, Iran, lecture notes, p. 22, 2003.
7. **Karami, K.**, Christensen-Dalsgaard, J., Pijpers, F. P., Dziembowski, W. A., and Goupil, M. J., Third order effect of rotation on normal modes of rotating stars, oral presentation in **Workshop on analytical studies of stellar oscillations**, University of Tabriz, Tabriz, Iran, abstract book, p. 7, 2003.
8. **Karami, K.**, and Christensen-Dalsgaard, J., Third order effect of rotation on normal modes of a 12 solar mass star, oral presentation in the **8<sup>th</sup> Research Meeting on Astronomy**, Ferdowsi University of Mashhad, Mashhad, Iran, abstract book, p. 62, 2004.
9. Safari, H., Nasiri, S., **Karami, K.**, and Sobouti, Y., Resonance absorption in a dissipative flux tube, oral presentation in the **9<sup>th</sup> Research Meeting on Astronomy**, IASBS, abstract book, p. 9, 2005.
10. Teimoorinia, H., and **Karami, K.**, Radial velocity-acceleration curve analysis of the spectroscopic binary systems by the nonlinear regression, oral presentation in the **9<sup>th</sup> Research Meeting on Astronomy**, IASBS, abstract book, p. 41, 2005.
11. **Karami, K.**, Adiabatic Pulsation Code, oral presentation in the **10<sup>th</sup> Research Meeting on Astronomy**, IASBS, abstract book, p. 205, 2006.
12. **Karami, K.**, and Mohebi, R., Radial Velocity curve analysis of the spectroscopic binary stars AI Phe, GM Dra, HD 93917 and V502 Oph by the nonlinear regression, poster presentation in the **11<sup>th</sup> Research Meeting on Astronomy**, University of Imam Khomani Ghazvin, proceeding book, p. 28-31, 2007.
13. **Karami, K.**, and Asvar, A., The Effects of Density Stratification on Oscillations and Damping of Standing MHD Quasi Linear Modes in Solar Coronal Loops, oral presentation in the **11<sup>th</sup> Research Meeting on Astronomy**, University of Imam Khomani Ghazvin, proceeding book, p. 60-63, 2007.
14. **Karami, K.**, Study of Seeing Theory in Site Selection of Sanandaj Observatory, poster presentation in the **11<sup>th</sup> Research Meeting on Astronomy**, University of Imam Khomani Ghazvin, proceeding book, p. 128-131, 2007.
15. **Karami, K.**, Study of Meteorological and Seismological Parameters in Site Selection of Sanandaj Observatory, poster presentation in the **11<sup>th</sup> Research Meeting on Astronomy**, University of Imam Khomani Ghazvin, proceeding book, p. 132-135, 2007.

16. **Karami, K.**, and Mohebi, R., Velocity Curve Analysis of the Spectroscopic Binary Stars AB And, NSV 223, HS Herculis and V2082 Cyg by the Non-linear Regression, poster presentation in the **12<sup>th</sup> Research Meeting on Astronomy**, University of Kurdistan, proceeding book, p. 144-147, 2008.
17. **Karami, K.**, Adjabshirizadeh, A., and Esmailzadeh Aghdam, M., Normal p- and g-Modes of a Solar Model, poster presentation in the **12<sup>th</sup> Research Meeting on Astronomy**, University of Kurdistan, proceeding book, p. 168-172, 2008.
18. **Karami, K.**, and Asvar, A., The effects of density stratification on standing fast body oscillations in coronal loops and dissipation, poster presentation in the **12<sup>th</sup> Research Meeting on Astronomy**, University of Kurdistan, proceeding book, p. 104-107, 2008.
19. **Karami, K.**, Nasiri, S., and Amiri, S., The effect of density stratification on the resonant absorption of MHD waves in coronal loops, oral presentation in the **13<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 113-116, 2009.
20. **Karami, K.**, and Ebrahimi, Z., Damping of Standing Shear Alfvén waves by the Phase Mixing, poster presentation in the **13<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 243-246, 2009.
21. **Karami, K.**, Ghaderi, K., Mohebi, R., Sadeghi, R., and Soltanzadeh, M.M., Velocity Curve Analysis of the Spectroscopic Binary Stars AB And, NSV 223, HS Her and V2082 Cyg by the Artificial Neural Networks, poster presentation in the **13<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 247-250, 2009.
22. **Karami, K.**, and Barin, M., The effects of twisted magnetic field on coronal loops oscillations and dissipation, oral presentation in the **National Meeting on Astronomy, Astrophysics and Cosmology**, University of Shiraz, 2009.
23. **Karami, K.**, Ghaderi, K., Mohebi, R., Sadeghi, R., and Soltanzadeh, M.M., Velocity Curve Analysis of the Spectroscopic Binary Stars V918 Her, AI Phe, GM Dra and CC Cas by the Artificial Neural Networks, poster presentation in the **National Meeting on Astronomy, Astrophysics and Cosmology**, University of Shiraz, proceeding book, p. 42-46, 2009.
24. **Karami, K.**, and Asvar, A., The effects of longitudinal density stratification on oscillations and damping of MHD waves in coronal loops, poster presentation in the **National Meeting on Astronomy, Astrophysics and Cosmology**, University of Shiraz, proceeding book, p. 151-155, 2009.
25. **Karami, K.**, and Bahari, K., The effect of resonant absorption in twisted magnetized loops, oral presentation in the **2<sup>nd</sup> Astronomy and Astrophysics Conference**, Shahid Chamran University of Ahvaz, proceeding book, p. 41-45, 2009.
26. **Karami, K.**, Khaledian, M.S., Felegary, F., and Azarmi, Z., Correspondence between new agegraphic dark energy model and scalar field models in non-flat universe, poster presentation in the **2<sup>nd</sup> Astronomy & Astrophysics Conference**, Shahid Chamran University of Ahvaz, proceeding book, p. 172-175, 2009.
27. **Karami, K.**, Bahari, K., and Nasiri, S., The effect of twisted magnetic annulus on the period ratio  $P_1/P_2$  of kink MHD waves, oral presentation in the **14<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 94-97, 2010.
28. **Karami, K.**, Ghaffari, S., and Soltanzadeh, M.M., The generalized second law in irreversible thermodynamics for the interacting dark energy in a non-flat FRW universe enclosed by the apparent horizon, oral presentation in the **14<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 98-100, 2010.
29. **Karami, K.**, Sheykhi, A., Jamil, M., and Felegary, F., and Soltanzadeh, M.M., Thermodynamics of interacting entropy-corrected new agegraphic dark energy, poster presentation in the **14<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 101-103, 2010.

30. Adabi, F., **Karami, K.**, Azarmi, Z., and Felegaray, F., The Study of Interacting Viscous Entropy-Corrected Holographic Dark Energy with Varying Gravitational Constant in Modified FRW Cosmology, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 1-4, 2011.
31. **Karami, K.**, and Khaledian, M.S.,  $f(R)$ -gravity models corresponding to the polytropic and Chaplygin dark energy models, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 89-92, 2011.
32. **Karami, K.**, Sheykhi, A., Sahraei, N., and Ghaffari, S., Thermodynamics of apparent horizon in modified FRW universe with corrected entropy-area relation and power-law corrected entropy, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 93-96, 2011.
33. **Karami, K.**, and Abdolmaleki, A., Original and entropy-corrected versions of the holographic and new agegraphic  $f(T)$ -gravity models, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 97-100, 2011.
34. **Karami, K.**, and Ghaffari, S., The generalized second law of gravitational thermodynamics in FRW cosmology, oral presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 101-104, 2011.
35. **Karami, K.**, and Felegaray, F., Interacting tachyon dark energy in a non-fat FRW universe with modified entropy-area relation, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 105-108, 2011.
36. **Karami, K.**, Theoretical aspects of coronal loops seismology, oral presentation in the **15<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 30-31, 2011.
37. **Karami, K.**, and Khaledian, M.S., Reconstructing  $f(R)$  modified gravity from ordinary and entropy-corrected versions of the holographic and new agegraphic dark energy models, oral presentation in the **15<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 109-112, 2011.
38. **Karami, K.**, and Abdolmaleki, A., Reconstructing  $f(T)$ -gravity from the polytropic and different Chaplygin gas dark energy models, poster presentation in the **15<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 154-157, 2011.
39. **Karami, K.**, Thermodynamical Description of Accelerating Universe, oral presentation in the **16<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 185, 2012.
40. **Karami, K.**, Abdolmaleki, A., Sahraei, N., and Ghaffari, S., Generalized Second Law of Thermodynamics in Power-Law Entropy-Corrected Gravity, poster presentation in the **16<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 186-189, 2012.
41. **Karami, K.**, Khaledian, M.S., and Abdollahi, N., Generalized second law of thermodynamics in  $f(R)$ -gravity, poster presentation in the **16<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 190-193, 2012.
42. **Karami, K.**, Amiri, S., and Bahari, K., The study of resonantly damped oscillations of stratified elliptically shaped magnetic flux tubes, poster presentation in the **16<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 194-197, 2012.
43. **Karami, K.**, Safari, Z., and Asadzadeh, S., Cosmological constraints on polytropic gas model, poster presentation in the **National Meeting on Gravitation and Cosmology**, Shahid Beheshti University, proceeding book, p. 157-160, 2013.
44. **Karami, K.**, Abdolmaleki, A., Asadzadeh, S., and Safari, Z., Ghost  $f(T)$ -gravity model, poster presentation in the **National Meeting on Gravitation and Cosmology**, Shahid Beheshti University, proceeding book, p. 161-164, 2013.

45. **Karami, K.**, and Bahari, K., The Effect of Twisted Magnetic Field on the Kink Waves, oral presentation in the **17<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 205-208, 2013.
46. **Karami, K.**, The study of resonantly damped oscillations of elliptically shaped magnetic flux tubes, poster presentation in the **17<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 209-212, 2013.
47. **Karami, K.**,  $f(T)$ -gravity as an alternative for DE, oral presentation in the **National Meeting on Gravitation and Cosmology**, University of Tehran, proceeding book, p. 49-52, 2014.
48. **Karami, K.**, Rezazadeh, K., and Karimi, P., Warm Inflationary Universe with Spontaneous Symmetry Breaking Potential, poster presentation in the **National Meeting on Gravitation and Cosmology**, University of Tehran, proceeding book, p. 136-139, 2014.
49. **Karami, K.**, Hashemi, S., and Rezazadeh, K., Observational Constraints on Inflationary Models Using Planck 2013 and BICEP2 Results, oral presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 47-50, 2015.
50. Rezazadeh, K., Karimi, P., and **Karami, K.**, Study of Intermediate Inflation in Non-canonical Scalar Field Framework, poster presentation in the **National Meeting on Gravitation and Cosmology**, Sharif University of Technology, proceeding book, p. 122-125, 2015.
51. Ebrahimi, Z., and **Karami, K.**, Resonance absorption of kink oscillations of solar coronal loops by the magnetic twist, oral presentation in the **8<sup>th</sup> National Meeting in Astronomy and Astrophysics**, Amirkabir University of Technology, proceeding book, p. 79-82, 2015.
52. Asadzadeh, S., Khaledian, M.S., and **Karami, K.**, Structure formation and GSL in some viable  $f(R)$ -gravity models, oral presentation in the **18<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 1-4, 2015.
53. Amiri, S., Ebrahimi, Z., and **Karami, K.**, The effect of inclination angle of the coronal loop plane on the resonant absorption of kink waves, oral presentation in the **18<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 5-7, 2015.
54. Rezazadeh, K., **Karami, K.**, and Karimi, P., Intermediate inflation in a non-canonical setting, oral presentation in the **18<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 44-47, 2015.
55. **Karami, K.**, Structure formation in the presence of interaction between MGDE and DM, poster presentation in the **18<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 205-208, 2015.
56. Rezazadeh, K., Abdolmaleki, A., and **Karami, K.**, Power-law and Intermediate Inflation in  $f(T)$ -Gravity, oral presentation in the **National Meeting on Gravitation and Cosmology**, Shahid Beheshti University, proceeding book, p. 36-39, 2016.
57. Tahmasebzadeh, B., Rezazadeh, K., and **Karami, K.**, Inflation in Brans-Dicke Gravity, poster presentation in the **National Meeting on Gravitation and Cosmology**, Shahid Beheshti University, proceeding book, p. 159-162, 2016.
58. Ebrahimi, Z., and **Karami, K.**, Resonant absorption of kink MHD waves by magnetic twist in coronal loops, oral presentation in the **19<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 15-18, 2016.
59. **Karami, K.**,  $f(T)$ -gravity and its cosmological implications, invited speaker in the **19<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 95, 2016.
60. Tahmasebzadeh, B., and **Karami, K.**, inflation in scalar-tensor gravity, poster presentation in the **19<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 166-169, 2016.

61. Rezazadeh, K., and **Karami, K.**, Inflation driven by scalar field with an exponentially decaying energy density, poster presentation in the **19<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 178-181, 2016.
62. Rezazadeh, K., Abdolmaleki, A., and **Karami, K.**, Logamediate Inflation in  $f(T)$ -Gravity, oral presentation in the **National Meeting on Gravitation and Cosmology**, IASBS, proceeding book, p. 28-31, 2017.
63. Teimoori, Z., and **Karami, K.**, Inflation in the Presence of Non-Canonical Scalar Field, poster presentation in the **National Meeting on Gravitation and Cosmology**, IASBS, proceeding book, p. 91-94, 2017.
64. Ebrahimi, Z., **Karami, K.**, and Soler, R., The Effect of a Twisted Magnetic Field on the Phase Mixing of the Kink Magnetohydrodynamic Waves in Coronal Loops, poster presentation in the **20<sup>th</sup> Research Meeting on Astronomy**, IASBS, proceeding book, p. 59-62, 2017.

## List of Publications: [h-index 23]

1. **Karami, K.**, Nasiri, N., and Sobouti, Y., Normal modes of magnetic flux tubes and dissipation, *Astronomy & Astrophysics (A&A)*, **396**, 993, 2002.
2. Safari, H., Nasiri, S., **Karami, K.**, and Sobouti, Y., Resonant absorption in dissipative flux tubes, *Astronomy & Astrophysics (A&A)*, **448**, 375, 2006 [arXiv:astro-ph/0506141].
3. **Karami, K.**, and Teimoorinia, H., Velocity curve analysis of the spectroscopic binary stars by the non-linear least squares, *Astrophysics and Space Science (Ap&SS)*, **311**, 435, 2007 [arXiv:astro-ph/0502184].
4. **Karami, K.**, and Asvar, A., The effects of density stratification on standing fast body oscillations in coronal loops and dissipation, *Monthly Notices of the Royal Astronomical Society (MNRAS)*, **381**, 97, 2007.
5. **Karami, K.**, and Mohebi, R., Velocity Curve Analysis of Spectroscopic Binary Stars AI Phe, GM Dra, HD 93917 and V502 Oph by Nonlinear Regression, *Chinese Journal of Astronomy & Astrophysics (ChJAA)*, **7**, 558, 2007.
6. **Karami, K.**, and Mohebi, R., Velocity curve analysis of the spectroscopic binary stars PV Pup, HD 141929, EE Cet and V921 Her by the nonlinear regression, *Journal of Astrophysics & Astronomy (JApA)*, **28**, 217, 2007.
7. **Karami, K.**, Third Order Effect of Rotation on Stellar Oscillations of a B Star, *Chinese Journal of Astronomy & Astrophysics (ChJAA)*, **8**, 285, 2008 [arXiv:astro-ph/0502194].
8. **Karami, K.**, Mohebi, R., and Soltanzadeh, M. M., Application of a New Non-Linear Least Squares Velocity Curve Analysis Technique for Spectroscopic Binary Stars, *Astrophysics and Space Science (Ap&SS)*, **318**, 69, 2008 [arXiv:0809.1175].
9. **Karami, K.**, Third Order Effect of Rotation on Stellar Oscillations of a  $\beta$ -Cephei Star, *Astrophysics and Space Science (Ap&SS)*, **319**, 37, 2009 [arXiv:0810.5092].
10. **Karami, K.**, and Barin, M., The effects of twisted magnetic field on coronal loops oscillations and dissipation, *Monthly Notices of the Royal Astronomical Society (MNRAS)*, **394**, 521, 2009 [arXiv:0809.4611].
11. **Karami, K.**, Nasiri, S., and Amiri, S., The effect of density stratification on the resonant absorption of MHD waves in coronal loops, *Monthly Notices of the Royal Astronomical Society (MNRAS)*, **394**, 1973, 2009.
12. **Karami, K.**, Ghaderi, K., Mohebi, R., Sadeghi, R., and Soltanzadeh, M.M., Velocity Curve Analysis of the Spectroscopic Binary Stars RZ Cas, CC Cas, HS Her, HD 93917, V921 Her and Y Cygni by the Artificial Neural Networks, *Astronomische Nachrichten (Astron. Nachr.)*, **330**, 836, 2009.
13. **Karami, K.**, Ghaderi, K., Mohebi, R., Sadeghi, R., and Soltanzadeh, M.M., Velocity Curve Analysis of the Spectroscopic Binary Stars V2082 Cyg, V918 Her, BW Dra, V2357 Oph, YZ Cas and V380 Cygni by the Artificial Neural Networks, *New Astronomy (NA)*, **14**, 478, 2009.
14. **Karami, K.**, Ghaderi, K., Mohebi, R., Sadeghi, R., and Soltanzadeh, M.M., Velocity Curve Analysis of the Spectroscopic Binary Stars V373 Cas, V2388 Oph, V401 Cyg, GM Dra, V523 Cas, AB And, and HD 141929 by Artificial Neural Networks, *Publications of the Astronomical Society of Australia (PASA)*, **26**, 121, 2009 [arXiv:0907.4411].
15. Sadeghi, R., Goodarzi, B., and **Karami, K.**, Effect of Potassium Citrate Salts on the Transport Behavior of l-Alanine in Aqueous Solutions at  $T = (293.15 \text{ to } 308.15) \text{ K}$ , *Journal of Chemical & Engineering Data (J. Chem. Eng. Data)*, **54**, 791, 2009.



16. **Karami, K.**, and Ebrahimi, Z., Phase-Mixing and Dissipation of Standing Shear Alfvén Waves, **Publications of the Astronomical Society of Australia (PASA)**, **26**, 448, 2009 [[arXiv:0911.4901](#)].
17. **Karami, K.**, Ghaffari, S., and Fehri, J., Interacting polytropic gas model of phantom dark energy in non-flat universe, **European Physical Journal C (EPJC)**, **64**, 85, 2009 [[arXiv:0911.4915](#)].
18. **Karami, K.**, and Mohebi, R., Velocity Curve Studies of Spectroscopic Binary Stars V380 Cygni, V401 Cyg, V523 Cas, V373 Cas and V2388 Oph, **Journal of Astrophysics & Astronomy (JApA)**, **30**, 153, 2009.
19. **Karami, K.**, and Mohebi, R., Velocity Curve Analysis of Spectroscopic Binary Stars EQ Tau, V376 And, V776 Cas, V2377 Oph and V380 Cygni by Nonlinear Regression, **Iranian Journal of Physics Research (IJPR)**, **9**, 61, 2009.
20. **Karami, K.**, Comment on “Interacting holographic dark energy model and generalized second law of thermodynamics in a non-flat universe”, by M.R. Setare (JCAP 01 (2007) 023), **J. Cosmol. Astropart. Phys. (JCAP)**, **01**, 015, 2010 [[arXiv:0911.4808](#)].
21. **Karami, K.**, and Fehri, J., New holographic scalar fields models of dark energy in non-flat universe, **Physics Letters B (Phys. Lett. B)**, **684**, 61, 2010 [[arXiv:0912.1541](#)].
22. **Karami, K.**, and Ghaffari, S., The generalized second law in irreversible thermodynamics for the interacting dark energy in a non-flat FRW universe enclosed by the apparent horizon, **Physics Letters B (Phys. Lett. B)**, **685**, 115, 2010 [[arXiv:0912.0363](#)].
23. **Karami, K.**, Khaledian, M.S., Felegary, F., and Azarmi, Z., Interacting new agegraphic tachyon, K-essence and dilaton scalar field models of dark energy in non-flat universe, **Physics Letters B (Phys. Lett. B)**, **686**, 216, 2010 [[arXiv:0912.1536](#)].
24. **Karami, K.**, and Ghaffari, S., The generalized second law of thermodynamics for the interacting polytropic dark energy in non-flat FRW universe enclosed by the apparent horizon, **Physics Letters B (Phys. Lett. B)**, **688**, 125, 2010.
25. **Karami, K.**, and Fehri, J., Holographic Dark Energy in a Non-flat Universe with Granda-Oliveros Cut-off, **Int. J. Theor. Phys. (IJTP)**, **49**, 1118, 2010 [[arXiv:0911.4932](#)].
26. **Karami, K.**, and Abdolmaleki, A., Reconstructing interacting holographic polytropic gas model in non-flat FRW universe, **Physica Scripta (Phys. Scr.)**, **81**, 055901, 2010.
27. **Karami, K.**, and Sorouri, A., Interacting entropy-corrected new agegraphic dark energy in the non-flat universe, **Physica Scripta (Phys. Scr.)**, **82**, 025901, 2010 [[arXiv:1003.2365](#)].
28. **Karami, K.**, Jamil, M., and Sahraei, N., Irreversible thermodynamics of dark energy on the entropy-corrected apparent horizon, **Physica Scripta (Phys. Scr.)**, **82**, 045901, 2010 [[arXiv:1003.1890](#)].
29. **Karami, K.**, and Bahari, K., The Effect of Twisted Magnetic Field on the Resonant Absorption of MHD Waves in Coronal Loops, **Solar Physics (Sol. Phys.)**, **263**, 87, 2010 [[arXiv:1105.1120](#)].
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31. **Karami, K.**, and Abdolmaleki, A., Reconstructing interacting new agegraphic polytropic gas model in non-flat FRW universe, **Astrophysics and Space Science (Ap&SS)**, **330**, 133, 2010 [[arXiv:1010.4294](#)].
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57. **Karami, K.**, and Abdolmaleki, A.,  $f(T)$  modified teleparallel gravity as an alternative for holographic and new agegraphic dark energy models, **Research in Astronomy and Astrophysics (RAA)**, **13**, 757, 2013 [[arXiv:1009.2459](#)].
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66. Rezazadeh, K., Abdolmaleki, A., and **Karami, K.**, Power-law and intermediate inflationary models in  $f(T)$ -gravity, **J. High Energy Phys. (JHEP)**, **01**, 131, 2016 [[arXiv:1509.08769](#)].
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69. Asadzadeh, S., Khaledian, M.S., and **Karami, K.**, Structure formation and generalized second law of thermodynamics in some viable  $f(R)$ -gravity models, **Iranian Journal of Astronomy and Astrophysics (IJAA)**, **3**, 81, 2016 [[arXiv:1507.08538](#)].
70. Rezazadeh, K., Abdolmaleki, A., and **Karami, K.**, Logamediate Inflation in  $f(T)$  Teleparallel Gravity, **Astrophys. J. (ApJ)**, **836**, 228, 2017 [[arXiv:1702.07877](#)].
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72. Rezazadeh, K., **Karami, K.**, and Hashemi, S., Tachyon inflation with steep potentials, **Physical Review D (PRD)**, **95**, 103506, 2017 [[arXiv:1508.04760](#)].
73. Teimoori, Z., and **Karami, K.**, Resurrecting the exponential and inverse power-law potentials in non-canonical inflation, **Nuclear Physics B**, **921**, 25, 2017 [[arXiv:1705.10637](#)].
74. Ebrahimi, Z., **Karami, K.**, and Soler, R., The Effect of a Twisted Magnetic Field on the Phase Mixing of the Kink Magnetohydrodynamic Waves in Coronal Loops, **Astrophys. J. (ApJ)**, **845**, 86, 2017 [[arXiv:1708.07957](#)].

## **Undergraduate Project Supervision:**

- 1- **Sadegh Khorshidi**, 2005, Study of Important Meteorological Parameters in Site Selection of Sanandaj Observatory.
- 2- **Mehdi Hemmati**, 2005, Study of Seeing Theory in Site Selection of the Optical Observatory.
- 3- **Amir Pirouzi**, 2005, Relativistic Electrodynamics.
- 4- **Narjes Shakeri**, 2005, Different Steps for Making of a 6 Inches Newtonian Telescope.
- 5- **Soude Afsharyan**, 2006, Study of Seismic Waves.
- 6- **Shayeste Ghafari**, 2006, Study of Tunneling Phenomena in Quantum Mechanics.
- 7- **Soroush Najafyan**, 2006, Calculation of Lunar and Solar Eclipses in Astronomy.
- 8- **Abdolbaset Nouri**, 2006, Study of Three Body Problem.
- 9- **Alireza Kazemi**, 2006, Using the Meteorological Parameters to Calculate the Seeing Parameter in Site Selection.
- 10- **Parvin Karimi**, 2008, Artificial Neural Networks (ANNs).
- 11- **Sonbol Ardalan**, 2008, Measuring of Seeing Parameter in Site Selection of Sanandaj Observatory.
- 12- **Elham Ahookhash**, 2008, Virtual Observatory.
- 13- **Fowad Manoochehri**, 2008, Study of Solar System.
- 14- **Amin Imani**, 2009, Study of Scaling Laws in Nature.
- 15- **Hamid Reza Kazeminezhad**, 2009, Stellar Orientation of Pyramids and Temple of Great Korosh.
- 16- **Omid Abdolazadeh**, 2014, Study of Moon Crescent Sighting.
- 17- **Nesa Salahi**, 2014, WMAP and CMB.
- 18- **Shamim Kahrizi**, 2014, Planck Satellite.
- 19- **Ahmad Badsar - Behzad Hosseinzadeh**, 2017, Gravitational waves and their detection.

## **Postgraduate Thesis Supervision:**

### **MSc Students:**

- 1- **Adel Asvar**, 2006, The Effect of Longitudinal Density Stratification on Oscillations and Damping of MHD Waves in Solar Coronal Loops, University of Kurdistan, Sanandaj, Iran.
- 2- **Rozita Mohebi**, 2006, Velocity Curve Analysis of the Spectroscopic Binary Stars, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 3- **Sirwan Amiri**, 2008, Modal Structure of Magnetic Flux Tube with Variable Density Profile, Zanjan University, Zanjan, Iran.
- 4- **Mohammad Esmaelzadeh Aghdam**, 2008, g-Mode Oscillation and the within Stability of the Sun, Tabriz University, Tabriz, Iran.
- 5- **Marjan Barin**, 2008, The effects of non-uniform magnetic field on coronal loops oscillations and dissipation, University of Kurdistan, Sanandaj, Iran.

- 6- **Kamal Ghaderi**, 2009, Application of Artificial Neural Networks in Linear & Non-linear Systems, University of Kurdistan, Sanandaj, Iran.
- 7- **Zanyar Ebrahimi**, 2009, Coronal Heating by The Phase Mixing of Alfven Waves, University of Kurdistan, Sanandaj, Iran.
- 8- **Jamile Fehri**, 2010, Study of Holographic Dark Energy Model of Accelerating Universe, University of Kurdistan, Sanandaj, Iran.
- 9- **Shayeste Ghafari**, 2010, Study of Chaplygin Gas Dark Energy Model of Accelerating Universe, University of Kurdistan, Sanandaj, Iran.
- 10- **Fereshte Felegary**, 2010, The study of tachyon scalar field model in Einstein gravity, University of Kurdistan, Sanandaj, Iran.
- 11- **Zohre Azarmi**, 2010, The study of agegraphic dark energy models in Einstein gravity, University of Kurdistan, Sanandaj, Iran.
- 12- **Neda Sahraei**, 2010, The study of thermodynamics of the accelerating universe with dark energy in Einstein gravity, University of Kurdistan, Sanandaj, Iran.
- 13- **Roya Tahmasebi**, 2012, The study of observational constraints on  $\Lambda$ CDM model, University of Kurdistan, Sanandaj, Iran.
- 14- **Nashmin Abdolahi**, 2012, The study of thermodynamics of the accelerating universe in  $f(R)$ -gravity, University of Kurdistan, Sanandaj, Iran.
- 15- **Marzieh Mousivand**, 2013, The study of ghost dark energy model in Horava-Lifshitz cosmology, University of Kurdistan, Sanandaj, Iran.
- 16- **Zahra Safari**, 2013, The study of observational constraints on polytropic gas model, University of Kurdistan, Sanandaj, Iran.
- 17- **Tayebe Najafi**, 2014, The study of generalized second law of thermodynamics in scalar-tensor gravity, University of Kurdistan, Sanandaj, Iran.
- 18- **Parvin Karimi**, 2014, The study of quintessence scalar field inflationary model, University of Kurdistan, Sanandaj, Iran.
- 19- **Saied Hashemi**, 2015, Study of potential-dependent inflationary universe models, University of Kurdistan, Sanandaj, Iran.
- 20- **Behzad Tahmasebzadeh**, 2015, Inflationary cosmological models in scalar-tensor gravity, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 21- **Zahra Ghafourizade**, 2015, The effect of dark energy on dynamics of galaxy clusters, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 22- **Mina Alipour**, 2016, Detection of extrasolar planets by gravitational microlensing, University of Kurdistan, Sanandaj, Iran.
- 23- **Kazhal Alvandi**, 2016, Study of cosmic inflation in Brans-Dicke gravity, University of Kurdistan, Sanandaj, Iran.
- 24- **Sara Rasouli**, 2017, Study of warm inflation in non-canonical scalar field framework, University of Kurdistan, Sanandaj, Iran.
- 25- **Roonak Amani**, 2017, Study of potential-dependent non-canonical inflationary models, University of Kurdistan, Sanandaj, Iran.

## PhD Students:

1- **Karam Bahari**, 2011, The study of coronal loops oscillations and dissipation in the presence of non-uniform magnetic field, IASBS, Zanjan, Iran.

2- **Mohammad Saied Khaledian**, 2013, The study of accelerated expansion of the universe in  $f(R)$  gravity, University of Kurdistan, Sanandaj, Iran.

3- **Asrin Abdolmaleki**, 2013, Thermodynamical description of the accelerating universe in  $f(T)$  and power-law entropy-corrected gravities, University of Kurdistan, Sanandaj, Iran.

4- **Somaye Asadzadeh**, 2016, The study of large scale structures formation in the universe using the cosmological perturbation theory, University of Kurdistan, Sanandaj, Iran.

5- **Kazem Rezazadeh Sarab**, 2017, Study of non-canonical scalar field inflationary models, University of Kurdistan, Sanandaj, Iran.

6- **Zanyar Ebrahimi**, 2017, Study of oscillations and damping of magnetohydrodynamics waves in solar coronal loops, University of Kurdistan, Sanandaj, Iran.

## Teaching

### For BSc Students:

- 1- Basic Physics 1,2,3
- 2- Mathematics of Physics 2
- 3- Analytical Mechanics 1,2
- 4- Quantum Mechanics 1,2
- 5- Electromagnetic 1,2
- 6- Introductory Astronomy
- 7- Astrophysics
- 8- Thermodynamics
- 9- Waves

### For MSc Students:

- 1- Advanced Astronomy and Astrophysics 1,2
- 2- Advanced Thermodynamics and Statistical Mechanics
- 3- Advanced Classical Mechanics
- 4- Computational Physics
- 5- Classical Electrodynamics
- 6- Modern Quantum Mechanics 1,2

### For PhD Students:

- 1- Gravitation and General Relativity 1,2
- 2- Cosmology 1,2

## Research Interests

### Astronomy

- Velocity Curve Analysis of the Spectroscopic Binary Stars by the Non-Linear Least Squares
- Velocity Curve Analysis of the Spectroscopic Binary Stars by the Artificial Neural Networks (ANNs)

### Astrophysics

- Helio-, Astro-, and Coronal Seismology
- Magnetohydrodynamics (MHD) Waves
- Heating of Coronal Loops by the Resonance Absorption & Phase Mixing
- The Effects of Density Stratification and Twisted Magnetic Fields on Coronal Loops Oscillations and Dissipation
- Third Order Effect of Rotation on Stellar Oscillations

### Cosmology

- Dark Energy and Dark Matter

- Modified Theories of Gravity
- Thermodynamical Description of the Accelerating Universe
- Structure Formation
- Inflation

## Computer Skills

Fortran, SAS (Statistical Analysis System), Maple, Mathematica, and Matlab.

## Languages

Kurdish (Native Language)  
 Persian (Iranian Formal Language)  
 English (Spoken, Written)

## Referee

I am referee of the:

- 1- Journal of Cosmology and Astroparticle Physics (JCAP) - JCR
- 2- European Physical Journal C (EPJC) – JCR
- 3- European Physical Journal Plus (EPJPlus) - JCR
- 4- Advances in High Energy Physics - JCR
- 5- General Relativity and Gravitation (GERG) - JCR
- 6- Astrophysics and Space Science (Ap&SS) - JCR
- 7- Physica Scripta - JCR
- 8- Entropy (Open Access Journal) - JCR
- 9- International Journal of Modern Physics D (IJMPD) - JCR
- 10- Central European Journal of Physics (CEJP) - JCR
- 11- International Journal of Theoretical Physics (IJTP) - JCR
- 12- Canadian Journal of Physics - JCR
- 13- IEEE Transactions on Plasma Science - JCR
- 14- Scientific Research and Essays - JCR
- 15- Journal of Applied Fluid Mechanics (JAFM) - JCR
- 16- Iranian Journal of Science and Technology, Transactions A: Science - JCR
- 17- International Journal of Engineering, Science and Technology (IJEST)
- 18- Iranian Journal of Physics Research
- 19- Iranian Annual Research Meeting on Astronomy
- 20- Journal of Damghan University of Basic Sciences (JDUBS)
- 21- International Journal of Sciences Islamic Republic of Iran (University of Tehran)
- 22- Iranian Journal of Astronomy and Astrophysics

## Positions

1- Non-Residence Researcher at:

- 1-1- Institute for Advanced Studies in Basic Sciences (IASBS), Iran (2004-2008).
- 1-2- Institute for Studies in Theoretical Physics and Mathematics (IPM), Iran (2005-2006).
- 1-3- Research Institute for Astronomy & Astrophysics of Maragha (RIAAM), Iran (2004-present).
- 2- Member of Board of Directors of the Astronomical Society of Iran (2005-2012).
- 3- Member of the Astronomical Society of Iran (2005-present).
- 4- Member of the Physical Society of Iran (2006-present).
- 5- Member of the Research Committee at University of Kurdistan, Sanandaj, Iran (2006-2009).
- 6- Chairman of Physics Group, University of Kurdistan, Sanandaj, Iran (2007-2009).
- 7- Member of the Center for Excellence in Astronomy & Astrophysics of Iran (CEAAI-RIAAM), Maragha, Iran (2011-present).



- 8- Member of the International Astronomical Union, IAU (2012-present).
- 9- Member of the Workgroup of the International Scientific Cooperation at University of Kurdistan, Sanandaj, Iran (2016-present).
- 10- Member of the Expert Group of Investigation of Research Violations at University of Kurdistan, Sanandaj, Iran (2016-present).
- 11- Member of the Audit Board at University of Kurdistan, Sanandaj, Iran (2016-present).

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