



Kharazmi University

Faculty of Physics

Curriculum Vitae



Shahram Khosravi

Scientific Position: Assistant Professor

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Education

Ph.D. 2001: Cosmology, Department of Physics, Tarbiat Modarres University, Tehran, Iran.

- *Thesis:* Cosmological constant, comoving system, and axially symmetric spaces.
- *Supervisor:* Dr. Amirhossein Abbasi.

M.Sc. 1995: Physics, Department of Physics, Tarbiat Moallem University, Tehran, Iran.

- *Thesis:* Inverse problem of calculus of variations and equivalent Lagrangians.
- *Supervisor:* Dr. Reza Mansouri.

B.Sc. 1989: Electronics Engineering, Faculty of Engineering, Tehran University, Tehran, Iran.

- *Final Project:* Fabrication of integrated circuits by the thick film method.
- *Supervisor:* Dr. Fathi.

Honors

- Distinguished Professor, Physics Dept., Kharazmi Univ., 2016.
- First rank as M.Sc. student of Physics, Tarbiat Moallem Univ., 1995.

Responsibilities

- Head of Physics Dept., Science Faculty, Tarbiat Moallem Univ.(2009-2011).
- Head of Astronomy and High Enrgy Dept., Kharazmi Univ. (2013-2016).

Professional Activities

- Design engineering for gas lasers, Defense ministry (1989-1991).
- Design and manufacturing of wire and cable QC lab apparatus, Automotive industry (1994-2000).
- Part time researcher, School of physics, Institute for research in fundemantal sciences (IPM), (2003-2004, 2006-2007).
- Part time researcher, School of astronomy, Institute for research in fundemantal sciences (IPM), (2007-2012).
- Sabatical, School of astronomy, Institute for research in fundemantal sciences (IPM), (2012-2013).

Membership

- Fellow member, Physics Society of Iran, (2002- present).
- Professional member, Astronomical Society of Iran, (2013- present).
- Member of the executive council, Gravitation and Cosmology branch, Physics Society of Iran (2013- present).
- Membership of the center of excellence in particles and cosmology, Sharif Univ. (2004).
- Member of the editorial board, Physics journal, Iran university press (2008-2011).
- Member of the scientific committee, 17th spring theoretical conference, Physics school, IPM, May 2010.
- Member of the scientific committee, Gravity and Cosmology school, Physics society of Iran, Nov. 2014, Shahid Beheshti Univ., Tehran, Iran.
- Member of the scientific committee, National Gravitation and Cosmology meeting, Jan. 2015, Sharif Univ. Tehran, Iran.
- Member of the scientific committee, National Gravitation and Cosmology meeting, Jan. 2016, Shahid Beheshti Univ. Tehran, Iran.

Teaching

B.Sc. courses

Relativity, Quantum Mechanics, Mathematical Physics, Introduction to Astrophysics, Modern Physics, Electronics.

M.Sc. courses

Advanced Statistical Mechanics, Advanced Quantum Mechanics, Advanced Computational Physics, Gravitation, Cosmology.

Ph.D. courses

General Relativity, Cosmology.

Research Interests

- General Relativity and Gravitation: Exact solutions with symmetries, Attaching manifolds, Thick walls.
- Cosmology: Inflationary cosmology, Structure formation and large scale probes, Dark Energy models, Topological defects, Inhomogeneous cosmological models.
- Mathematical foundations of mechanics.

Books

- S. Khosravi, R. Mansouri, *Special Relativity*, Sharif Univ. Press, 2011 (in persian).

Papers (refereed)

1. Amir H. Abbassi, S. Khosravi, *Test of Comoving Coordinate Frame by Low Magnitude – Redshift Relation*, *Gravitation and Cosmology*, vol. 6(2000), No 4(24), pp341-343.
2. S. Khosravi, S. Khakshournia, R. Mansouri, *Evolution of Thick Walls in Curved Spacetimes*, *Classical and Quantum Gravity*, 23(2006), 5927-5939.
3. S. Khosravi, E. Kourkchi, R. Mansouri, Y Akrami, *An Inhomogeneous Model Universe Behaving Homogeneously*, *General Relativity and Gravitation*, (2008)40:1047-1069.
4. S. Khosravi, E. Kourkchi, R. Mansouri, *Modified Averaging Process in Cosmology and the structured FRW Model*, *IJMPD*, Vol 18, Issue7 (2009) pp. 1177-1192.
5. R. Brandenberger, H. Firouzjahi, J. Karouby, S. Khosravi, *Gravitational Radiation by Cosmic Strings in a Junction*, *JCAP* (2009) 008.
6. F. Firouzjahi, J. Karoubi, S. Khosravi, R. Brandenberger, *Zippering and Unzippering of Cosmic String Loops in Collision*, *Phys Rev D* **80**, 083508 (2009).
7. Amir H. Abbassi , S. Khosravi, Amir M. Abbassi, *On Kerr-deSitter metric*,

- IJMPA, Vol. 25, No. 4 .837-859 (2010).
8. H. Firouzjahi, S. Khoeini-Moghaddam, S. Khosravi, *Cosmic string collision in cosmological backgrounds*, Phys Rev D **81**, 123506 (2010).
 9. M. Sadegh Movahed, S. Khosravi, *Level crossing analysis of cosmic microwave background radiation: a method for detecting cosmic strings*, JCAP 03(2011)012.
 10. A. Abolhasani, H. Firouzjahi, S. Khosravi, M. Sasaki, *Local features with large spiky non-Gaussianities during inflation*, JCAP 11(2012)012.
 11. N. Mirzatan, S. Khosravi, S. Baghran, H. Moshafi, *Simultaneous effect of modified gravity and primordial non-Gaussianity in large scale structure observations*, JCAP 01(2014)019.
 12. S. Khosravi, A. Mollazadeh, S. Baghran, *ISW-galaxy cross correlation: a probe of dark energy clustering and distribution of dark matter tracers*, JCAP 09(2016)03.
 13. S. Khosravi, *Direct quantization of classical systems via equations of motion and removing the degeneracy in the Lagrangian formalism*, J. Science, Kharazmi Univ., accepted for publication (in persian).

Papers (non-refereed)

1. S. Khosravi, R. Mansouri, *Equivalent Lagrangians*, Physics J., Iran Univ. Press, Vol. 13, Nos. 3&4, 1984 (in persian).
2. S. Khosravi, *A mathematical approach to the foundations of classical mechanics*, Students journal, Mathematics department, Sharif Univ., Issue 1, 1989 (in persian).
3. S. Khosravi, R. Mansouri, *Equivalent Lagrangians and Quantization*, Potsdam University, preprint 96/4, May 1996.

Talks (selected conferences and schools)

1. *Spherical Gravitating Thick Domain Walls*, 4th National Cosmology Meeting, Dec. 2003, Sharif University of Technology.

2. Brane cosmology, National cosmology school, Aug. 2004, School of physics, IPM.
3. *Asymptotically Non-Static Kerr-deSitter Spacetime with Cosmological Constant*, 5th National Cosmology Meeting, Dec. 2004, Sharif University of Technology.
4. *Spherical Symmetric Thick Domain Wall*, IPM International School on Cosmology, January 2005, Qeshm.
5. *Structured Friedman universe on the basis of the attachment of LTB metric along the past light cone*, 14th spring theoretical conference, School of Physics, IPM, May 2007.
6. *Challenges with averaging in GR*, IPM international Cosmology School and Workshop (ICSW07), 2-9 June 2007, IPM, Tehran.
7. *Cosmic String Collisions in Cosmological Backgrounds*, 14th Meeting on Research Astronomy, 13 May 2010, IASBS, Zanjan.
8. *Cosmic String Detection by Planck*, Planck Day, 25 July 2013, School of Physics, IPM.
9. *Probing dark energy: From CMB to galaxies*, 7-8 October 2015, The 2nd Topical Workshop on Theoretical Physics, School of Particles and Accelerators, IPM.

Conferences and schools participated

- IPM School on Cosmology, 16-24 Jan 2005, Qeshm, Iran.
- IPM international Cosmology School and Workshop (ICSW07), 2-9 June 2007, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
- Cosmology, Strings, and Phenomenology, Nordita, Stockholm, Sweden, 11-20 June 2007.

- Strings and Superstrings in Observational Cosmology, APC Institute, University of Paris7, 9-13 Dec 2007, Paris, France.
- International Conference on Particle Physics and Cosmology (COSMO 2009), CERN, Geneva, 6-12 September 2009.
- Celebrating DBI in the Sky, School of Physics, IPM, 20 Apr 2012, Tehran, Iran.
- 16th IASBS Meeting on Research in Astronomy, IASBS, 10-11 May 2012, Zanjan, Iran.
- International Conference on Particle Physics and Cosmology (COSMO 2012), University of Chinese Academy of Sciences (UCAS) and Kavli Institute for Theoretical Physics China (KITPC), Beijing, China, 10-14 September 2012.
- Galaxies Inside and Out, School of Astronomy, IPM, 25-28 Jan 2015, Tehran, Iran.
- Tehran Meeting on Modified Gravity, School of Astronomy, IPM, 23-26 Jan 2016, Tehran, Iran.

Thesis Supervision

- Cosmological perturbation theory and some of its observational consequences, Zahra Nejati, Ferdowsi Univ., Mashhad, Jan. 2012.
- Hybrid model in the inflationary scenario, Ali Askari, Kharazmi Univ., Tehran, Sep. 2012.
- Non-Gaussian perturbation in the early universe and inflationary models, Nareg Mirzaturunyan, Sharif Univ., Tehran, Sep. 2013.

- Inflationary models and structure formation in the early universe, Mina Alizadeh, Zanzan Univ., Zanzan, Sep. 2013.
- Dark matter in the standard model of particle physics and beyond, Reza Ojani, Kharazmi Univ., Tehran, Jan. 2014.
- Dark Energy: Observational evidence and models, Sahar Mohammadi, Kharazmi Univ., Tehran, Sep. 2013.
- Dark energy structures with variable sound speed, Amir Mollazadeh, Kharazmi Univ., Tehran, Feb. 2014.
- Primordial multipole anisotropies on CMB power spectrum, Arsalan Norouzi, Kharazmi Univ., Tehran, Oct. 2014.
- Constraining dark matter power spectrum in small scales, Ahmad Shamlou Mehr, Kharazmi Univ., Tehran, Jan. 2015.
- Anisotropy in dark energy and its effect on the matter power spectrum, Farshid Deylami, Kharazmi Univ., Tehran, Jan. 2015.
- Studying the deviation from the standard model of cosmology using dynamical observations, Vahid Amirkhani, Kharazmi Univ., Tehran, Jan. 2016.