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CONTACT INFORMATION

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RESEARCH INTERESTS

Gravitational Collapse, Black holes and Naked Singularities, Cosmological and Astrophysical Aspects of Alternative Theories of Gravity

EDUCATION

Shahid Beheshti University, Tehran, Evin

Ph.D., Theoretical Physics, September 2015

- Thesis Topic: Naked Singularities as Possible Outcomes of Gravitational Collapse of Dense Stars
- Advisor: Hamid Reza Sepangi, Ph.D

M.Sc., Theoretical Physics, September 2010

- Topic: The Cauchy problem of Scalar-Tensor theories of Gravity
- Supervisor: Mehrdad Farhoudi, Ph.D

Shahid Bahonar University, Kerman

B.Sc., Physics, September 2007

RESEARCH EXPERIENCE

Research Assistant Division of Theoretical Physics, Shahid Beheshti University Supervisor: Mehrdad Farhoudi, Ph.D	September 2009 September 2011
Research Assistant Division of Theoretical Physics, Shahid Beheshti University Supervisor: Hamid Reza Sepangi, Ph.D	October 2011 to August 2015
Research Assistant Division of Theoretical Physics, Shahid Bahonar University Supervisor: Mohammad Reza Mehdizadeh, Ph.D, mehdizadeh.mr@uk.ac.ir	September 2015 to 2019
Assistant Professor RIAAM	January 2019 to present

REFEREED JOURNAL PUBLICATIONS

1. Ziaie, A. H., Atazadeh, K., & Tavakoli, T., “Naked Singularity Formation In Brans-Dicke Theory,” *Class. Quant. Grav.* **27** (2010) 075016,
DOI: <https://doi.org/10.1088/0264-9381/27/20/209801>.

2. Tavakoli, T., Marto, J., Ziaie, A. H., & Moniz, P. V., “*Gravitational collapse with tachyon field and barotropic fluid*,” *Gen. Rel. Grav.* **45** (2013) 819,
DOI: <https://doi.org/10.1007/s10714-013-1503-3>.
3. Ziaie, A. H., Atazadeh, K., & Rasouli, S. M. M., “*Naked Singularity Formation In $f(R)$ Gravity*,” *Gen. Rel. Grav.* **43** (2011) 2943,
DOI: <https://doi.org/10.1007/s10714-011-1216-4>.
4. Tavakoli, T., Marto, J., Moniz, P. V., & Ziaie, A. H., “*Loop quantum effect and the fate of tachyon field collapse*,” *J. Phys. Conf. Ser.* **360** (2012) 012016,
DOI: <https://doi.org/10.1088/1742-6596/360/1/012016>.
5. Ziaie, A. H., Moniz, P. V., Ranjbar, A., & Sepangi, H., R., “*EinsteinCartan gravitational collapse of a homogeneous Weyssenhoff fluid*,” *Eur. Phys. J. C* **74** (2014) 3154,
DOI: <https://doi.org/10.1140/epjc/s10052-014-3154-2>.
6. Tavakoli, T., Marto, J., Ziaie, A. H., & Moniz, P. V., “*Semiclassical collapse with tachyon field and barotropic fluid*,” *Phys. Rev. D* **87** (2013) 024042,
DOI: <https://doi.org/10.1103/PhysRevD.87.024042>.
7. Ziaie, A. H., Ranjbar, A., & Sepangi, H., R., “*Trapped surfaces and nature of singularities in Lyra’s geometry*,” *Class. Quant. Grav.* **32** (2015) 025010,
DOI: <https://doi.org/10.1088/0264-9381/32/2/025010>. *
8. Rasouli, S. M. M., Ziaie, A. H., Marto, J., & Moniz, P. V., “*Gravitational Collapse of a Homogeneous Scalar Field in Deformed Phase Space*,” *Phys. Rev. D* **89** (2014) 044028,
DOI: <https://doi.org/10.1103/PhysRevD.89.044028>.
9. Hashemi, M., Jalalzadeh, S., & Ziaie, A. H., “*Collapse and dispersal of a homogeneous spin fluid in Einstein-Cartan theory*,” *Eur. Phys. J. C* **75** (2015) 53,
DOI: <https://doi.org/10.1140/epjc/s10052-015-3276-1>.
10. Shabani, H., & Ziaie, A. H., “*Stability of the Einstein static universe in $f(R, T)$ gravity*,” *Eur. Phys. J. C* **77** (2017) 31,
DOI: <https://doi.org/10.1140/epjc/s10052-017-4597-z>. *
11. Rasouli, S. M. M., Ziaie, A. H., Jalalzadeh, S., & Moniz, P. V., “*Non-singular Brans-Dicke collapse in deformed phase space*,” *Annals Phys.* **375** (2016) 178,
DOI: <https://doi.org/10.1016/j.aop.2016.09.007>.
12. Shabani, H., & Ziaie, A. H., “*Consequences of energy conservation violation: late time solutions of $\Lambda(T)$ CDM subclass of $f(R, T)$ gravity using dynamical system approach*,” *Eur. Phys. J. C* **77** (2017) 282,
DOI: <https://doi.org/10.1140/epjc/s10052-017-4844-3>.
13. Shabani, H., & Ziaie, A. H., “*Late-time cosmological evolution of a general class of $f(R, T)$ gravity with minimal curvature-matter coupling*,” *Eur. Phys. J. C* **77** (2017) 507,
DOI: <https://doi.org/10.1140/epjc/s10052-017-5077-1>. *
14. Mehdizadeh, M. M., & Ziaie, A. H., “*Einstein-Cartan wormhole solutions*,” *Phys. Rev. D* **95** (2017) 064049,
DOI: <https://doi.org/10.1103/PhysRevD.95.064049>.
15. Shabani, H., & Ziaie, A. H., “*Interpretation of $f(R, T)$ gravity in terms of a conserved effective fluid*,” *Int. J. Mod. Phys. A* **33** (2018) 1850050,
DOI: <https://doi.org/10.1142/S0217751X18500501>.

16. Shabani, H., & Ziaie, A. H., “*Bouncing cosmological solutions from $f(R, T)$ gravity,*” *Eur. Phys. J. C* **78** (2018) 397,
DOI: <https://doi.org/10.1140/epjc/s10052-018-5886-x>.
17. Shabani, H., & Ziaie, A. H., “*Static Vacuum Solutions on Curved Spacetimes with Torsion,*” *Int. J Mod. Phys. A* **33** (2018) 1850095,
DOI: <https://doi.org/10.1142/S0217751X18500951>.
18. Mehdizadeh, M. R. & Ziaie, A. H., “*Dynamic wormhole solutions in Einstein-Cartan gravity,*” *Phys. Rev. D* **96** (2017) 124017,
DOI: <https://doi.org/10.1103/PhysRevD.96.124017>.
19. Luz, P. Mena, F. C. & Ziaie, A. H., “*Influence of intrinsic spin in the formation of singularities for inhomogeneous effective dust space-times,*” *Class. Quant. Grav.* **36** (2019) 015003,
DOI: <https://doi.org/10.1088/1361-6382/aae9ff>.
20. Mehdizadeh, M. R., & Ziaie, A. H., “*Charged Wormhole Solutions in Einstein-Cartan gravity,*” *Phys. Rev. D* **99** (2019) 064033,
DOI: <https://doi.org/10.1103/PhysRevD.99.064033>.
21. Shabani, H., & Ziaie, A. H., “*Stability of the Einstein static Universe in Einstein-Cartan-Brans-Dicke gravity,*” *Eur. Phys. J. C* **79** (2019) 270,
DOI: <https://doi.org/10.1140/epjc/s10052-019-6754-z>.
22. Ziaie, A. H., Moradpour, H. & Ghaffari, S. “*Gravitational Collapse in Rastall Gravity,*” *Phys. Lett. B* **793** (2019) 276,
DOI: <https://doi.org/10.1016/j.physletb.2019.04.055>.

AWARDS	Travel Awards <ul style="list-style-type: none"> • Summer School on cosmology, ICTP July 2012
PRESENTATIONS	Meetings on Cosmology and Astrophysics <ul style="list-style-type: none"> • Summer School on cosmology, ICTP July 2012 • French-Iranian Workshop on the Mercury Transit of 2016, University of Yazd, Iran May 2016 • Iranian Conference on Mathematical Physics, Qom University of Technology, Qom, Iran November 2016 • National Meeting on Gravity and Cosmology, Institute for Advanced Studies in Basic Sciences, GavaZang, Zanjan, Iran February 2017 • Workshop on Particle Physics and CERN Colliders, IPM, Tehran, Iran Mar 2011 • National Conference on Physics, University of Yazd, Iran August 2017
TEACHING EXPERIENCE	Co-Instructor September 2012–2014 <ul style="list-style-type: none"> • Fundamental of Physics (Teaching Assistant) Instructor: Hamid R. Sepangi, Ph.D Division of Physics, Shahid Beheshti University • Elementary Differential Equations and Boundary Value Problems (Teaching Assistant) Instructor: Hamid R. Sepangi, Ph.D Division of Physics, Shahid Beheshti University

- Fundamental of Physics
Instructor: Amir H. Ziaie, Ph.D
Division of Physics,
Shahid Bahonar University September 2015–2017
- Fundamental of physics
Instructor: Amir H. Ziaie, Ph.D
Division of Physics,
Islamic Azad University, Kahnouj Branch March 2011–August 2018

REFERENCES

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