

THE CURRICULUM VITAE

LEILA SHAHKARAMI

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I. PERSONAL INFORMATION



Full Name: Leila Shahkarami

Title: Dr.

Date of birth: September 23, (1983)

Marital status: Married

Nationality: Iranian

Address: School of Physics, Damghan University, Damghan 36716-45667, Iran.

E-Mail Address: l.shahkarami@du.ac.ir

leila.shahkarami@gmail.com

II. EDUCATION

- B.Sc. in Physics, Lorestan University (2001-2005).
- M.Sc. in Physics, on Molecular Dynamics Simulation of Slip Behavior in Liquid Films on Surfaces of Patterned Wettability, Shahid Beheshti University (2005-2007),
Supervisor: K. Ghafori Tabrizi.
- Ph.D. in Physics (QFT and Particle Physics), on Non-Perturbative Solutions of a Coupled Dynamical Fermion and Soliton System in Two Dimensions, Shahid Beheshti University, (2007-2012),
Supervisor: Siamak Sadat Gousheh.

III. RESEARCH INTERESTS

- AdS/CFT and Holography.
- Topological Field Theory (Soliton and Instanton).
- Quantum Gravity.
- Cosmology and Gravity.

IV. HONORS

- The top undergraduate student in Physics (18.22), Lorestan University, 2005.
- The top graduate student in Physics (18.64), Shahid Beheshti University, 2007.
- The top Ph.D. student in Physics (18.89), Shahid Beheshti University, 2012.
- The first grade in the Ph.D. entrance exam of Shahid Beheshti University.

V. TEACHING EXPERIENCES

- Physics II, Shahid Beheshti University, (2011).
- Physics Lab I, Shahid Beheshti University, (2007-2008).

- Physics Lab I & II, Shahid Beheshti University, (2012).
- Physics II, Teacher Asistant, Shahid Beheshti University, (2009-2012).
- Physics I, Teacher Asistant, Shahid Beheshti University, (2011-2012).
- Electromagnetism I, Teacher Asistant, Shahid Beheshti University, (2009).
- Physics I & II, Shahid Rajae Teacher Training University, (2013).
- Physics I, Tafresh University, (2013).
- Gravity II for Graduate students, Payamenoor University of Tehran, (2013).
- Gravity I for Graduate students, Payamenoor University of Tehran, (2014).
- A Course in Particle Physics for Graduate students, Payamenoor University of Tehran, (2014).
- Physics I & II, Electromagnetism I & II, Computational Physics for Graduate Students, Computer I & II, English for the Students of Physics, Modern Physics, Nuclear and Particle Physics, Particle Physics, Quantum Physics I & II, Thermodynamics and Statistical Mechanics, Damghan University, (2014-now).
- **Adviser of the following M.Sc. theses:**
 - Vacuum Polarization and Casimir Energy of a Fermi Field in a Scalar Potential Well in a One Spatial Dimension, Shahid Beheshti University.
 - Chern-Simons Vortices as a Representation of Anyons, Shahid Beheshti University.
 - Study of Thermalization Using Entanglement Entropy, Shahid Beheshti University.
 - A Study of Holographic Entanglement Entropy as a Probe of Confinement Phase Transition, Shahid Beheshti University.
- **Supervisor of the following M.Sc. theses:**
 - Holographic Flow from the AdS Boundary to the Singularity of a Hairy Black Hole in Massive Gravity, Mirmani Mirjalali, Shahrood University of Technology, September 2022.
 - Nuclear mass calculation of heavy and superheavy nuclei at high spin, Shaghayegh Alijani, Damghan University, October 2023.

VI. PUBLICATIONS

A. Research Papers

1. **L. Shahkarami** and S.S. Gousheh, *Exact solutions of a fermion-soliton system in two dimensions*, JHEP **06**, 116 (2011) ([arXiv:1309.3179 \[hep-th\]](#)).
2. **L. Shahkarami**, A. Mohammadi and S.S. Gousheh, *Casimir energy for a coupled fermion-soliton system*, JHEP **11**, 140 (2011) ([arXiv:1209.5237 \[hep-th\]](#)).
3. S.S. Gousheh, A. Mohammadi and **L. Shahkarami**, *Casimir energy for a coupled fermion-kink system and its stability*, Phys. Rev. D **87**, 045017 (2013) ([arXiv:1209.4490 \[hep-th\]](#)).
4. S.S. Gousheh, A. Mohammadi and **L. Shahkarami**, *Non-adiabatic non-cyclic generalization of the Berry phase for a spin-1/2 particle in a rotating magnetic field*, ([arXiv:1212.2104 \[hep-th\]](#)).
5. S.S. Gousheh, A. Mohammadi and **L. Shahkarami**, *An investigation of the Casimir energy for a fermion coupled to the sine-Gordon soliton with parity decomposition*, Eur. Phys. J. C **74**, 3020 (2014) ([arXiv:1212.2089 \[hep-th\]](#)).
6. S.S. Gousheh, S.S. Mousavi and **L. Shahkarami**, *Vacuum polarization and Casimir energy of a Dirac field induced by a scalar potential in one spatial dimension*, Phys. Rev. D **90**, 045027 (2014) ([arXiv:1402.3922 \[hep-th\]](#)).
7. M. Ali-Akbari, F. Charmchi, A. Davody, H. Ebrahim and **L. Shahkarami**, *Time-dependent meson melting in external magnetic field*, Phys. Rev. D **91**, 106008 (2015) ([arXiv:1503.04439 \[hep-th\]](#)).
8. M. Ali-Akbari, F. Charmchi, A. Davody, H. Ebrahim and **L. Shahkarami**, *Evolution of $Q\bar{Q}$ potential in $N = 4$ super Yang-Mills plasma*, Phys. Rev. D **93**, 086005 (2016) ([arXiv:1510.00212 \[hep-th\]](#)).
9. F. Charmchi, Z. Haghani, S. Shahidi and **L. Shahkarami**, *One-loop corrections to vector Galileon theory*, Phys. Rev. D **93**, 124044 (2016) ([arXiv:1511.07034 \[hep-th\]](#)).
10. M. Ali-Akbari, F. Charmchi, H. Ebrahim and **L. Shahkarami**, *Various time-scales of relaxation*, Phys. Rev. D **94**, 046008 (2016) ([arXiv:1602.07903 \[hep-th\]](#)).
11. **L. Shahkarami**, H. Ebrahim, M. Ali-Akbari and F. Charmchi, *Far-from-Equilibrium Initial Conditions Probed by a Nonlocal Operator*, Phys. Lett. B **773**, 91 (2017) ([Spires](#), [arXiv:1702.08482 \[hep-th\]](#)).

12. **L. Shahkarami** and M. Dehghani and P. Dehghani, *Holographic Schwinger effect in a D-instanton background*, Phys. Rev. D **97**, 046013 (2018) ([arXiv:1511.07986 \[hep-th\]](#)).
13. S. Shahidi, F. Charmchi, Z. Haghani and **L. Shahkarami**, *Modified gravity one-loop partition function*, Eur. Phys. J. C **78**, 833 (2018) ([Spires](#), [arXiv:1805.05368 \[hep-th\]](#)).
14. **L. Shahkarami** and F. Charmchi, *Confining D-instanton background in an external electric field*, Eur. Phys. J. C **79**, 343 (2019) ([Spires](#), [arXiv:1904.09806 \[hep-th\]](#)).
15. D. Masoumi, **L. Shahkarami** and F. Charmchi, *Effect of electromagnetic fields on deformed AdS₅ models*, Phys. Rev. D **101**, 126011 (2020) ([Spires](#), [arXiv:2003.06848 \[hep-th\]](#)).
16. **L. Shahkarami**, *Magnetic catalysis in a confining holographic theory (in Persian)*, Iranian Journal of Physics Research (IJPR) **20**, 463 (2020), No. 3 ([Spires](#)).
17. **L. Shahkarami**, *Magnetized Einstein-Maxwell-dilaton model under external electric fields*, Eur. Phys. J. C **82**, 33 (2022) ([Spires](#), [arXiv:2111.04813 \[hep-th\]](#)).
18. Mirmani Mirjalali, Seyed Ali Hosseini Mansoori, **Leila Shahkarami** and Morteza Rafiee, *Probing inside a charged hairy black hole in massive gravity*, JHEP **09**, 222 (2022), ([Spires](#), [arXiv:2206.02128 \[hep-th\]](#)).
19. S.N.Sajadi, **L. Shahkarami**, F. Charmchi and S. H. Hendi, *Charged black holes in einsteinian quartic gravity*, Annals of Physics **447**, 169162 (2022), ([Spires](#), [arXiv:2207.07374 \[hep-th\]](#)).
20. **L. Shahkarami** and F. Charmchi, *Long-term oscillations and universal behavior in pulsed electric fields*, ([Spires](#), [arXiv:2308.02218 \[hep-th\]](#)).
21. **L. Shahkarami**, *Massive $N = 2$ Supersymmetric gauge theory under electric field quench*, JHAP **4**, 71 (2024), ([Spires](#)).
22. **L. Shahkarami**, *Fast electric quenches and scaling behavior at finite coupling*, JHAP **5**, 98 (2025), ([Spires](#)).
23. **L. Shahkarami** and F. Charmchi, *Schwinger effect in dynamical holographic QCD with a supercritical region*, JHEP **02**, 014 (2026), ([Spires](#), [arXiv:2509.20151 \[hep-th\]](#)).
24. **L. Shahkarami**, *Criticality in nonconformal plasmas at finite temperature and density*, Iran. J. Astron. Astrophys. **12**, 299 (2026), ([Spires](#)).

25. **L. Shahkarami**, *Analytic correspondence between Barrow holographic dark energy and $f(Q)$ gravity*, JHAP. **6**, 217 (2026), ([Spires](#)).
26. **L. Shahkarami** and F. Charmchi, *Thermodynamic scaling and string dynamics in rotating holographic QCD*, ([\[arXiv:2607.12906 \[hep-th\]\]](#)).

B. Book Translation

1. Advanced Concepts in Quantum Field Theory: With Exercises, 2020, James M. Cline, Translated from English to Persian 2024 by **Leila Shahkarami**. Published by Damghan University Press. ISBN: 978-622-5209-25-1.

VII. CONFERENCES, WORKSHOPS, AND VISITS

- International conference of physics of Iran, 2005, Khoramabad-Iran.
- IPM workshop on Casimir, 2010, Tehran-Iran.
- National conference on gravitation and cosmology, Shahid Beheshti University, 2010, Tehran-Iran.
- IPM school in symmetries in High Energy Physics 2013, Tehran-Iran.
- IPM school and workshop on QCD and QGP, 2014, Tehran-Iran.
- One-day school on quark-gluon plasma from holography, University of Tehran, 15 October 2015, Tehran-Iran.
- One-day school on quark-gluon plasma from holography, Isfahan University of Technology, 19 May 2016, Tehran-Iran.
- A short-term visit of CERN TH, 1 July-1 August 2016, Geneva-Switzerland.
- ULtra-RelatIvistiCH HEavy IoNZ 2016 workshop to celebrate 60th birthday of Ulrich Heinz, 18 July-20 July 2016, CERN TH, Geneva-Switzerland.
- Annual physics conference of Iran, Shiraz University (**talk**), 22-25 August 2016, Shiraz-Iran.
- 7th conference of Physics of particles and fields, Damghan University (**organizer**), 25-26 January 2017, Damghan-Iran.

- One-day school on quark-gluon plasma from holography, Shahrood University of Technology, 18 May 2017, Shahrood-Iran.
- A short-term visit of ICTP HECAP, 3-17 July 2017, Trieste-Italy.
- A short-term visit of ICTP HECAP, 4-19 July 2018, Trieste-Italy.
- A short-term visit of CERN TH, 19 July-5 August 2018, Geneve-Switzerland.
- Annual physics conference of Iran, Imam Khomeini International University (**talk**), 27-30 August 2018, Qazvin-Iran.
- Annual physics conference of Iran (Online), Razi University (**talk**), 22-25 August 2020, Kermanshah-Iran.
- Annual physics conference of Iran (Online), Isfahan University of Technology (**talk**), 23-26 August 2021, Isfahan-Iran.
- The 1st international conference on holography and its applications (Online), Damghan University (**organizer**), 9-10 March 2022, Damghan-Iran.
- International conference on high energy physics (Online), Damghan University (**talk**), 6-7 July 2022, Damghan-Iran.
- Annual physics conference of Iran (Online), Sistan & Baluchestan University (**talk**), 5-8 September 2022, Zahedan-Iran.
- Annual physics conference of Iran, Isfahan University (**talk**), 28-31 August 2023, Isfahan-Iran.

VIII. SKILLS

- **Languages:**

Persian (Mother Tongue).

English.

- **Computer:**

Programming Language: Fortran, Python.

Software: Mathematica.