Vahid Hosseinzadeh

Physicist, Machine learning practitioner

Tehran/Iran
Tel:+989374490800

Email: vahid.hoseinzade64@gmail.com
More details on: Personal Website

Education	**Ph.D. in Physics - Gravitation and Cosmology**
	University of Mazandaran, Babolsar, Iran, (Sept. 2012 - Aug. 2016)
	M.Sc. in Physics - Foundation of Physics
	Shahid Bahonar University, Kerman, Iran, (Sept. 2010 - Sept. 2012)
	B.Sc. in Physics
	University of Mazandaran, Babolsar, Iran, (Sept. 2005 - June 2010)
Positions	**Postdoc in Mathematical Physics-Gravity**
	School of Physics-Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, (September 2018-September 2021)

Publications
Citations $\geq$ 121

1. E. Esmaeili, V. Hosseinzadeh, p-Form Surface Charges on AdS: Renormalization and Conservation, JHEP 2021 (11), 1-30.

2. E. Esmaeili, V. Hosseinzadeh, MM. Sheikh-Jabbari, Source and response soft charges for Maxwell theory on AdS_d, JHEP 2019 (12), 1-34.

3. H. Adami, V. Hosseinzadeh, MM. Sheikh-Jabbari, Sliding surface charges on AdS3, Physics Letters B 806, 135503.

4. V. Hosseinzadeh, A. Seraj and M.M. Sheikh-Jabbari, Soft Charges and Electric-Magnetic Duality, JHEP 1808 (2018) 102.

5. K. Nozari, V. Hosseinzadeh, and M. A. Gorji, High temperature di- mensional reduction in Snyder space, Phys. Lett. B 750 (2015) 218.

6. V. Hosseinzadeh, M. A. Gorji, K. Nozari and B. Vakili, Noncommutative spaces and covariant formulation of statistical mechanics, Phys. Rev. D 92 (2015) 025008.

7. K. Nozari, M. A. Gorji, V. Hosseinzadeh and B. Vakili, Natural cutoffs via compact symplectic manifolds, Class. Quantum. Grav. 33 (2016) 025009.

8. M. A. Gorji, V. Hosseinzadeh, K. Nozari and B. Vakili, Early universe thermostatistics in curved momentum spaces, Phys. Rev. D 93 (2016) 064029.

9. M. A. Gorji, V. Hosseinzadeh, K. Nozari and B. Vakili, Photon gas thermodynamics in dS and AdS momentum spaces, J. Stat. Mech. 1607 (2016) 073107.

10. B. Vakili, K. Nozari, V. Hosseinzadeh, and M .A. Gorji, Bouncing scalar

field cosmology in the polymeric minisuperspace picture.Modern Physics Letters A, 29(32), (2014) p.1450169.

11. V. Hosseinzadeh, and K. Nozari, 2018. Covariant statistical mechanics of non-Hamiltonian systems,International Journal of Geometric Methods in Modern Physics, 15(02), p.1850017.

12. M. J. Kazemi, V. Hosseinzadeh, On detection statistics in double-double-slit experiment, arxiv: 2208.01325

Funding

- 3 year of research grant from Saramadan'e Elmi Iran (2400 US Dollar per year).

Languages

- Persian (native)
- English (Fluent)

Code Projects

- Defining a criteria for scientific ranking based on concepts in graph theory (we are analyzing the inspirehep.net data but the application can be general). See here where we wrote a python wrapper for getting the data from inspirehep.net API and here where we construct the graphs by networkx module in python.
- I am writing a code in Julia for numerical computations of the SYK quantum mechanical model. This will be on the Github soon.
- I am writing a code in Julia (using DifferentialEquantions.jl) for numerical computations of the Bohmian quantum mechanics. This will be on the Github soon.
- I start a machine learning project where using Bohmian Data (related to the previous work) machine learns the quantum states of a many body quantum system. The analysis will be done in Julia using Flux.jl and jax in Python.

Programming Languages Skills

- Database: PostgreSQL
- Python: Scikit-Learn, Pandas, Numpy, Scipy, Tensorflow, Networkx, Matplotlib, ...
- Julia: DifferentialEquations, SparseArrayes, Parallel computation (multithreading, multiprocessing), ...
- Mathematica (Wolfram language): xAct (abstract tensor calculations) and ...

Courses

- Coursera.org Machine learning specialization by Andrew Ng

Academic References

- Mohammad Mehdi Sheikh-Jabbari Proffesor of School of Physics, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran.
  Email: jabbari@theory.ipm.ac.ir
  Tel: +98(21)22280692

- Hamid Reza Afshar Proffesor, Department of Physics, Ferdowsi University of Mashhad (FUM), Mashhad, Iran.

  Email: ham.afshar@gmail.com

  Tel: +98(51)38805570

- Kourosh Nozari Proffesor, Department of Physics, University of Mazandaran, Babolsar, Iran.

  Email: knozari@umz.ac.ir

  Tel: +98(11)35302482

- Babak Vakili Proffesor, Department of Physics, Central Tehran Branch, Islamic Azad University, Tehran, Iran.

  Email: b.vakili@iauctb.ac.ir

  Tel: +98(21)88385787