Komeil Najafi

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Education

2022–Now **M.Sc in physics** .
Isfahan University of Technology, Isfahan, Iran

2018–2022 **B.Sc in physics**.
Isfahan University of Technology, Isfahan, Iran

Reaserch Interest

Quantum Sensing and Technology.
Quantum information,Quantum sensing, gravity gradiometry, spin systems, quantum programming, quantum machine learning, quantum optimization, quantum computing, optomagnonics

Cosmology and Quantum Optics.
Gravitational wave , quantum optics, cosmology, interferometry, optomechanics

Projects

M.Sc Project, *supervisor: Dr. M.zarei*.
I have a study on gravimetry, gradiometery. Also I have study on magnonic system to sense the Gravitional Waves at lower frequency than GHz

B.Sc Project, *supervisor: Dr. f.Loran*.
I had a Study project on Friedman's space-time and solve some problems about it

Publications

Sensing Gravitational Gradients with a Magnonic System, *(In Progress)*.
We're using magnons, the quanta of spin waves, in a YIG sphere placed in a microwave cavity to detect gravity gradients by sensing gravitational differences, which can be read from the microwave cavity.

Course Project

Cosmology.
I had a talk on Kruskal diagrams of black holes, An introduction to the relations of black holes, black holes metrics

Electrodynamics.
I had a talk on Analysis and investigation of flight without propulsion by the phenomenon of Electrogravity

Astrophysics.
I had a talk on General virial theorem for modified-gravity MOND

Quantum mechanics 1.
I had a talk on removing the splash effect on the photon in quantum mechanics

Working Exprience

fall 2020 **Programming the andorid application**.
I programmed a game app for kids over the course of 6 months. The app rewarded players with discount codes for online shops after winning a game.

Computer Skills

General Software	Word, Powerpoint , Excel, Latex , mathematica
Programming Languages	Python ,Java, C++, xML, HTML/CSS, Android, kotlin

Teaching Assistant

fall 2023   **Teacher of Electricity laboratory**.
At Physics Faculty Of the Isfahan University Of Technology

Confrences and Workshops (Organized)

fall 2024   **The first Winter School Of Quantum Technologies**.
Member Of Organizing Committee

Spring 2023   **National Conference on Quantum Technologies**.
Member Of Organizing Committee

Confrences and Workshops (Attended)

Summer 2024   **Summer School in Quantum Chaos, Dissipation and Information in Nordita** .
I had poster about Gravity Gradient Sensing via Magnonic System in Nordita, Stockholm, Sweden

Summer 2024   **International Conference of Physics Students (ICPS)** .
I had talk about quantum gravity gradiometers in free university of Georgia

winter 2024   **Second Workshop Of Quantum Technology**.
Qiskit Academy Of Sharif University Of Technology in Tehran, Iran

winter 2024   **Tensor Networks For Many body Systems**.
Pre-workshops of the 6th Iran Computational Physics Conference at Isfahan University Of Technology, Isfahan, Iran

winter 2024   **The First Winter School Of Quantum Technologies**.
At Isfahan University Of Technology, Isfahan, Iran

Spring 2023   **Introductory Quantum Computing (With Qutip)**.
At Sharif University Of Technology, Isfahan, Iran

Online Courses

winter and spring 2024   **A comprehensive course on quantum computing**, *Aria Quanta startup*.
include: Quantum Computing,Introduction to Quantum Simulation,Quantum Programming with Qiskit, An Introduction To Quantum Optimization Approximation Algorithm, Introduction To Quantum Chemistry, Introduction To Quantum Machine Learning, Make Superconducting Qubit, Make photonic Qubit, Make Ion Trapped

winter 2024   **Exploring Quantum Physics**, *Coursera.org*.
At University of Maryland, College Parke

Summer 2023   **Quantum Optics 1:Single Photon**, *Coursera.org*.
At École Polytechnique

Summer 2023   **Quantum Optics 2:Two photons and more**, *Coursera.org*.
At École Polytechnique

winter 2021   **Supplementary Android programming**, *faradars.org*.

fall 2021   **Advanced Android programming**, *faradars.org*.

summer 2021   **How to Communicate With The Server-side Database In Android**, *faradars.org*.

Language

Native	Persian
Fluent	English