Personal Information

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Education

- **PhD in Atomic and Molecular Physics** (2010-2014)
    - Tarbiat Modares University, Tehran, Iran
    - Thesis: "Investigation of Plasmonic Properties of Conic Helical Nanostructures and Their Applications"
- **MS in Nuclear Physics** (1997-1999)
    - University of Tehran, Tehran, Iran
    - Thesis: " Determination of momentum distribution of aluminum electrons using Compton scattering "
- **BS in Atomic and Molecular Physics** (1993-1997)
    - University of Tabriz, Tabriz, Iran

Professional Experience

- **Quantum Technology Researcher** (2018-Present)
    - Atomic Energy Organization of Iran
    - Member of Quantum Technology Working Group
    - Advisor to the President of Atomic Energy Organization
- **Faculty Member** (2018-2020)
    - Nuclear Science and Technology Research Institute, Photonics and Quantum Technologies Research School
- **Head of Free Space Quantum Cryptography and Quantum Entanglement Laboratory**
    - Iranian National Laser Center (INLC) (2017-2019)
    - Advanced Technology Development and Application Company (2019-2022)
- **Project Manager** (2000-2020)
    - Various projects in vacuum technology, electron beam guns, thin film deposition systems (PVD, Glad) and free space quantum key distribution (FS-QKD)

Research Experience

- Design and construction of Entangled Photon Pair Sources
- Atom optics
- Research on plasmonic properties of nanostructures, particularly conical helical nanostructures
- Development of free space quantum cryptography systems
- Design and construction of various vacuum systems, electron guns and high precision optical coating systems
- Simulation and fabrication of nanostructures using glancing angle deposition method

Publications

Over 40 publications in international journals and conferences, including:

- "Optical properties of Ag conic helical nanostructures" in Applied Physics Letters
- "Silver conical helix broadband plasmonic nanoantenna" in Journal of Nanophotonics
- "Broadband Improvement of Light Absorption Properties of α-Fe_2O_3 Thin-film by Silver Helical Nanostructures" in Plasmonics
- Multiple papers on quantum entanglement and quantum technologies

Skills

- Programming: C++, Fortran, Labview
- Software: COMSOL, DDSCAT, Lumerical FDTD
- Gamma-ray (γ-ray) spectroscopy
- Vacuum technology and systems
- Thin film deposition techniques (PVD, GLAD)
- Quantum technologies
- Plasmonics and nanophotonics
- PLC control Systems

Professional Memberships

- Member and Secretary of Quantum Technology Think Tank, The Academy of Sciences of Iran
- Reviewer for Springer's Plasmonics journal
- Reviewer for Journal of Nuclear Research and Applications
- Member of the Physics Society of Iran
- Member of the Vacuum Society of Iran