

Curriculum Vitae

Farnaz Farman

Introduction:

I am interested in theoretical physics and the concepts of quantum optics and their connection to quantum communication, quantum information and quantum cryptography as well as fundamental aspects of physics. Now I am working on quantum key distribution (QKD) project in Sharif university of technology.

Personal Information

First Name: Farnaz **Last Name:** Farman **Gender:** Female **Date of Birth:** 19/07/1980 **Location:** Tehran, Iran
Nationality: Iranian **Email:** farnaz_farman@yahoo.com

Current Position(s):

- Postdoctoral researcher

Educations

Ph.D. Student (Started 9/2009, Finished 3/2015)

Sharif University of Technology, Tehran, Iran

Ph.D. in Physics, 2009-2015, Total (Current) GPA: (18.81/20)

Research Field: Quantum optics

Thesis Title: Optical quantum memories based on optomechanically induced transparency

Supervisor: Prof. Alireza Bahrampour

M.Sc. (Started 9/2005, Finished 11/2007)

Sharif University of Technology, Tehran, Iran

M.Sc. in Physics, 2005-2007, Total GPA: (17.14/20)

Research Field: Photonics

Thesis Title: Analysis of noise in fiber Raman amplifiers

Thesis Grade: 20

Supervisor: Prof. Alireza Bahrampour, Prof. Mohammad Mahdavi

B.Sc. (Started 9/1998, Finished at 10/2002)

Tehran University, Tehran, Iran

B.Sc. in Physics, 1998-2002, Total GPA: (14 / 20)

Research Field: Condensed matter physics

Project Title: Transmission of sound by laser

Project Grade: (20/20)

Supervisor: Dr. Madanipour

Scientific Activities

- Attending workshop on “Structured Light and Matter: Concept and Applications”. ICTP, Zanjan, Iran, September 17-23, 2016.
- Attending workshop on “Quantum Information Processing”, School of Physics, IPM, Tehran, Iran, December 27-29, 2016.
- Project consultant on “Fundamental research project on quantum communication and quantum cryptography”, Iran Telecommunication Research Center, (2017).
- Member of organizing committee and speaker of educational workshop on “Quantum communication, a new evolution in telecommunication”, 25 th Iranian conference on electrical engineering, May 2-4, 2017, K.N. Toosi University of Technology, Tehran, Iran.
- Attending “Advanced School and Workshop on Quantum Science and Quantum Technologies “. ICTP, Trieste (Italy), September 4-15, 2017.
- Member of organizing committee and Speaker of educational workshop on “Secure quantum communication, challenges and opportunities”, February 14 (2018). Department of communication technology, Iran telecommunication research center, Tehran, Iran
- Attending “The first national conference and workshop on quantum information and open quantum systems“. Tabriz, Iran, February 21-23 (2018).

Presentations

- Quantum cryptography, Tehran University, Physics Society of Iran (2016).

Publications

- [“The moment method for fiber Raman amplifier gain ripple minimization”](#)
A.R. Bahrampour, F. Farman A. Ghasempour,
Optics Communications, Volume 281, pp.3673-3680, (2008).
- [“All-optical flip-flop composed of a single nonlinear passive microring coupled to two straight waveguides”](#)
A.R. Bahrampour, S. Mohammad Ali Mirzaee, F. Farman and S.S. Zakeri
Optics Communications, Volume 282, Issue 3, pp.427-433, (2009).
- [“All-optical Set Reset Flip-Flop Based on Frequency Bistability in Semiconductor Microring Lasers”](#)
A.R. Bahrampour, S.S Zakeri, S. Mohammad Ali Mirzaee, Z. Ghaderi, F. Farman
Optics Communications, Volume 282, Issue 12, pp. 2451-2456, (2009).
- [“A Perturbation Method for Analysis of TDM-Pumped Fiber Raman Amplifier”](#)
A.R .Bahrampour, M.Farhadi, F.Farman
Optical Fiber Technology, Volume 15, Issue 4, pp. 353-362, (2009).
- [“Polarization maintained optical fiber multi-intruder sensor”](#)
A.R. Bahrampour, M. Bathaee, S. Tofighi, A. Bahrampour, F. Farman, M. Vali,
Optics and Laser Technology, Volume 44, Issue 7, pp. 2026-2031, (2012).

- “Effects of optical parametric amplifier pump phase noise on the cooling of optomechanical resonators”
F. Farman, A. R. Bahrapour,
J. Opt. Soc. Am. B, Vol. 30, No. 7, pp. 1898-1904, (2013).
- “Heat transfer between micro and nano mechanical systems through optical channels”
F. Farman, A. R. Bahrapour,
J. Opt. Soc. Am. B. Vol. 31, No. 7. (2014).
- “Effect of laser phase noise on the fidelity of optomechanical quantum memory”
F. Farman, A. R. Bahrapour,
Phys. Rev. A, 91, 033828 (2015).
- First chapter of “Interferometry - Research and Applications in Science and Technology” entitled "Optical Fiber Interferometers and Their Applications",
A.R. Bahrapour, S. Tofighi, M. Bathaee, F. Farman,
Intech publisher (2012) ISBN 978-953-51-0403-2.

INTERNATIONAL OR NATIONAL CONFERENCES

- “Calculation of Noise in Raman Fiber Amplifiers with Broadened Pump”
F. Farman, and A.R. Bahrapour,
13th Iranian Conference on Optics and Photonics, ITRC, Tehran, Iran (2007).
- “Matrix Analysis of Micro-Ring Coupled-Resonator Optical Waveguide Raman Amplifier”
E.Daghigh Ahmadi, R. Taghiabadi, F. Farman, Sh. Keivaninia, A.R. Bahrapour, England, OFMC, IET Optoelectronics (2007).
- “A perturbation method for analysis the TDM-pumped Raman fiber amplifier”
M. Farhadi, F. Farman, and A.R. Bahrapour,
14th Iranian Conference on Optics and Photonics, Valiasr University, Rafsanjan, Iran (2008).
- “Raman Amplifying in Coupled Silicon Rings photonic crystal”
R. Tghiabadi, F. Farman, E. Daghigh Ahmadi, and A. R. Bahrapour,
14th Iranian Conference on Optics and Photonics, Valiasr University, Rafsanjan, Iran (2008).
- “Gain Ripple minimization in the TDM pumped Raman fiber amplifier with lagrange multipliers method”
M.Farhadi, F.Farman, and A. R. Bahrapour,
The Annual Physics Confrence of Iran, Kashan University, Kashan , Iran, (2008).
- “All Optical D-Flip Flop Composed of Two Coupled Chalcogenied Glass Micro-rings”
F.Farman, S. S. Zakeri, S. Mohammad Ali Mirzaee G.R. Fayaz, M. Asgari kaji, and A.R. Bahrapour,

The Annual Physics Conference of Iran, Kashan University, Kashan , Iran, (2008).

- “Gain variation of Raman amplifier in silicon micro-ring coupled-resonator optical waveguides”
E.Daghigh Ahmadi, F. Farman, R. Taghiabadi, Sh. Keivaninia, A.R. Bahrampour, France, Solid State Lasers and Amplifiers, Proceedings of the SPIE. Volume 6998, pp. 699818-699818-8 (2008).
- “Transient behavior of a nonlinear micro ring coupled to a straight wave guide”
S S Zakeri, F Farman, S Mohammad Ali Mirzaee, Z Ghaderi ,G R Fayaz, M H. Asgari kaji, A.R. Bahrampour,
International conference on Optics and Photonics, New Delhi, INDIA ,December 13-17, (2008).
- “Heat transfer between micro mechanical resonators through optical Channels”
F. Farman, S.S. Zakeri , S. Tofighi, and A.R. Bahrampour,
20th Iranian Conference on Optics and Photonics, Shiraz University of Technology, Shiraz, Iran (2014).
- “Fano resonance in optomechanical systems with two movable mirrors”
F. Farman, A.R. Bahrampour,
Proceedings of the OSA conference :Research in Optical Sciences, Quantum Information and Measurement (QIM), Berlin, Germany, March 18-20 (2014).
- “Secure deterministic communication based on orbital angular momentum of light”
F. Farman, S. Tofighi, and A.R. Bahrampour,
The First National Conference and Workshop on Quantum Information and Open Quantum systems, Tabriz, Iran, February 21-23 (2018)

Teaching Experiences

- Teaching Assistant in Electrodynamics, Sharif University (2011)
- Teaching Assistant in General Physics. II. , Sharif University (2011)
- Teaching Assistant in General Physics Lab. I, II. , Sharif University (2010-2011)
- Teaching in General Physics, II., Ershad Damavand University (2012-2013)
- Teaching in Optics, Farhangian University (2015-2016)

Computer Skills

Scientific Software Tools: Matlab, Mathematica

Programming Languages: Fortran

Languages

Persian Native

English Fluent

References

- Dr. A.R. Bahrampour, Professor, Sharif Uni. of Tech., Bahrampour@sharif.edu
- Dr. Mohammad Mahdavi, Professor, Sharif Uni. of Tech., Mahdavi@sharif.edu
- Dr. Ahmad Amjadi, Associate Professor, Sharif Uni. of Tech., Amjadi@sharif.edu