Curriculum Vitae

Sajad Jahanbakht

Department of Electrical Engineering,
University of Kashan, Kashan, Iran,
Date & Place of Birth: August 16,1980,Dezful,Khouzestan,Iran

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Education:

- Ph.D. degree in Electrical Engineering (Microwave and optical communications), Sharif University of Technology, Tehran, Iran. 2011.
- M.Sc. degree in Electrical Engineering (Microwave and optical communications), Sharif University of Technology, Tehran, Iran. 2004.
- B.Sc. degree in Electrical Engineering, Isfahan University of Technology, Isfahan, Iran. 2002.

Honors:

- Ranked third in Department of Electrical & Computer Engineering at Isfahan University of Technology among 170 Students entered at 1998. (2001)
- First rank in entrance examination of PhD of Microwave Engineering at Sharif University of Technology (2002).

Publications:

Journal papers:

1-S. Jahanbakht, "Frequency domain approach to the steady state, stability, and phase noise analysis of externally injection-locked optoelectronic oscillators." Applied Optics, vol. 64, no. 28, pp. 8266-8275, 2025.

2- S. Jahanbakht, "Analytical analysis of phase-modulation-based frequency-tunable optoelectronic oscillators." *Applied Optics*, vol. 64, no. 9, pp. 2305-2314, 2025.

3- S. Jahanbakht, "Accurate estimation of the phase noise of delay- based optoelectronic

oscillators at close-in frequency offsets." Accepted for publication in *Scientia Iranica* (Available online from 09 April 2024). Doi: 10.24200/sci.2024.63729.8561

4- S. Jahanbakht, "Noise analysis of optoelectronic oscillators in the presence of the relative intensity noise of the laser." *Journal of the Optical Society of America B (JOSA B)*, vol. 39, no. 10, pp. 2742-2751, 2022.

5-Rahimi, Mohammad Mahdi, and Sajad Jahanbakht. "Frequency-domain analysis of dual-loop optoelectronic oscillators." *Applied Optics* 60, no. 36 (2021): 11125-11133.

6-Jahanbakht, Sajad. "Frequency domain analysis of optoelectronic oscillators utilizing optical and RF resonators with arbitrary transfer functions." *JOSA B* 38, no. 10 (2021): 2813-2822.

7-Abtahi, Seyed Ahmad, and Sajad Jahanbakht. "Frequency-domain behavioural noise analysis of analogue phase-locked loops." *IET Microwaves, Antennas & Propagation* 14, no. 14 (2020): 1909-1917.

8-Jahanbozorgi, Mandana, S. Esmail Hosseini, Sajad Jahanbakht, and Kambiz Jamshidi. "Dispersion effects on the performance of whispering gallery mode based optoelectronic oscillators." *Optics & Laser Technology* 135 (2021): 106665.

9-Jahanbakht, Sajad, S. Esmail Hosseini, and Abbas Karimi. "Frequency domain signal and noise analysis of optoelectronic oscillators under the effects of modulator frequency chirping and fiber dispersion." *JOSA B* 36, no. 10 (2019): 2678-2687.

10-Najari, Samaneh, Bahram Jazi, and Sajad Jahanbakht. "The mode generation due to the wave transmission phenomena from a loss free isotropic cylindrical metallic waveguide to the semi-bounded plasma waveguide." *Waves in Random and Complex Media* 31, no. 6 (2021): 1287-1302.

11-S. Jahanbakht, S. F. Mousavi-Bideli, “Frequency domain computation and stability analysis of oscillation modes of wideband optoelectronic oscillators,” (in Persian), Accepted for publication at Tabriz Journal of Electrical Engineering, Date of acceptance: May 2018.

12-Chamani, Zahra, and Sajad Jahanbakht. "Improved performance of double-T monopole antenna for 2.4/5.6 GHz dual-band WLAN operation using artificial magnetic conductors." *Progress In Electromagnetics Research M* 61 (2017): 205-213.

13-Hosseini, S. Esmail, Azadeh Karimi, and Sajad Jahanbakht. "Q-factor of optical delay-line based cavities and oscillators." *Optics Communications* 407 (2018): 349-354.

14-Golharani, Saeedeh, Bahram Jazi, Sajad Jahanbakht, and Azam Moeini-Nashalji. "Modeling of a bimetallic eccentric cylindrical plasma waveguide based on a transmission line for TEM-mode." *Waves in Random and Complex Media* 28, no. 3 (2018): 488-507.

15-Jahanbakht, Sajad. "Frequency domain approach to the steady state and stability

analysis of dual injection-locked optoelectronic oscillators." *Applied Optics* 56, no. 20 (2017): 5705-5715.

16-Jahanbakht, Sajad. "Frequency domain computation of steady state modes of optoelectronic oscillators with stability analysis." *Applied Optics* 56, no. 4 (2017): 975-984.

17-Hajijamali-Arani, Z., B. Jazi, and S. Jahanbakht. "Theoretical modeling of average force acted on nano plasma spheres in presence of radiation of long wavelength point source." *Plasmonics* 12, no. 4 (2017): 1245-1255.

18-Jahanbakht, Sajad. "Frequency domain phase noise analysis of dual injection-locked optoelectronic oscillators." *Applied Optics* 55, no. 28 (2016): 7900-7910.

19-Safari, S., B. Jazi, and S. Jahanbakht. "Different roles of electron beam in two stream instability in an elliptical waveguide for generation and amplification of THz electromagnetic waves." *Physics of Plasmas* 23, no. 8 (2016): 083110.

20-Jahanbakht, Sajad, and S. Esmail Hosseini. "Frequency domain noise analysis of optoelectronic oscillators considering the nonlinearity of the RF amplifier." *JOSA B* 33, no. 4 (2016): 548-557.

21-Jahanbakht, Sajad. "Noise spectrum characterization of optoelectronic oscillators in the presence of laser frequency noise." *Applied Optics* 55, no. 8 (2016): 1854-1862.

22-Jahanbakht, Sajad, and Forouhar Farzaneh. "Phase noise characterization of oscillators through Ito calculus." *International Journal of Circuit Theory and Applications* 43, no. 11 (2015): 1581-1596.

23-Jahanbakht, Sajad, S. Esmail Hosseini, and Ali Banai. "Prediction of the noise spectrum in optoelectronic oscillators: an analytical conversion matrix approach." *JOSA B* 31, no. 8 (2014): 1915-1925.

24-Jahanbakht, Sajad, and Forouhar Farzaneh. "Computing all the Floquet eigenfunctions of oscillators using harmonic balance Jacobian matrices." *IET circuits, devices & systems* 5, no. 4 (2011): 257-266.

25-Jahanbakht, S., and F. Farzaneh. "Computation of the phase and amplitude noise in microwave oscillators and a simplified calculation method for far enough from the carrier offsets." *IET microwaves, antennas & propagation* 4, no. 12 (2010): 2031-2041.

Conference papers:

1- S.Jahanbakht and F.Farzaneh, *"Nonlinear Analysis of Microwave Active Mixers by Spectral Balance Methods"*, (in Persian), in Iranian National Conference on Electrical & Computer Engineering, May 2005.
2- Z. Chamani, S. Jahanbakht, " A novel T- shaped slot artificial magnetic conductor structure for gain enhancement of microstrip antennas," the 6th Iranian conference on engineering electromagnetics. June 20, 2018. (31/3/1397)

Research Interests

- Signal and noise analysis of conventional and optoelectronic oscillators
- Antenna analysis and optimization using numerical methods
- Passive and active microwave circuit design
- Nonlinear analysis of active microwave circuits
- RFIC and MMIC design

Teaching Experience:

Teaching the following courses at university of Kashan:
1- Communication circuits
2- Analog electronics
3- High frequency circuits design
4- Active microwave circuits design
5- Advanced Engineering Electromagnetics
6- Advanced Antenna design
7- Advanced Engineering Mathematics

Programing and Software Skills:

I have worked and done several projects with the following software media:
ADS, AWR-Microwave office, CST, MATLAB, Programming Arduino boards.