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Contact Information

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Education

-**University of Maryland, College Park**
Ph.D., Electrical and Computer Engineering (Dec 2017), **ECE distinguished dissertation award**
Thesis: *Ultrafast Nonlinear Response of Atomic and Molecular Gases in Near-IR and Mid-IR Regions*
Advisor: Prof. Howard Milchberg

-**University of Maryland, College Park**
M.Sc., Electrical and Computer Engineering (Aug 2011)
Thesis: *Distributed Flow Optimization in Dense Wireless Networks*
Advisor: Dr. Mehdi Kalantari Khandani

-**Sharif University of Technology**
B.Sc., Electrical and Computer Engineering (Aug 2008)
Thesis: *Impulsive Noise Cancellation in 1D and 2D Signals*
Advisor: Prof. Farokh Marvasti

Research Interest

-Nonlinear/Ultrafast Optics
-Spectral Interferometry
-Femtosecond Laser Filamentation
-Laser Pulse Characterization.

Publications

Journal

[J14] S.W. Hancock, **S. Zahedpour**, A Goffin, and H. M. Milchberg "*Ultrashort spatio-temporal optical vortices (STOVs): single-shot phase and amplitude images*," submitted. [URL]

[J13] S. Zahedpour, S. W. Hancock, and H. M. Milchberg, "*Ultrashort infrared* 2.5–11μm *pulses: spatiotemporal profiles and absolute nonlinear response of air constituents*," Opt. Lett **44**, 843-846 (2019). [URL]

[J12] J. K. Wahlstrand, **S. Zahedpour**, A. Bahl, M. Kolesik, and H. M. Milchberg, "*Bound-Electron Nonlinearity Beyond the Ionization Threshold*," Phys. Rev. Lett. **120**, 183901 (2018). [URL]

[J11] A. Bahl, J. K. Wahlstrand, **S. Zahedpour**, H. M. Milchberg, M. Kolesik, "*Nonlinear optical polarization response and plasma generation in noble gases: Comparison of metastable-electronic-state-approach models to experiments*," Phys. Rev. A **96**, 043867 (2017). [URL]

[J10] N. Jhajj, I. Larkin, E. W. Rosenthal, **S. Zahedpour**, J. K. Wahlstrand, H. and M. Milchberg, "*Spatiotemporal optical vortices*," Phys. Rev. X **6**, 031037 (2016). [URL]

[J9] J. K. Wahlstrand, **S. Zahedpour**, and H. M. Milchberg, "*Optimizing the time resolution of supercontinuum spectral interferometry*," J. Opt. Soc. Am. B **33**, 1476-1481 (2016).[URL]

[J8] E. W. Rosenthal, N. Jhajj, I. Larkin, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "*Energy deposition of single femtosecond filaments in the atmosphere*," Opt. Lett. **41**, 3908-3911 (2016).[URL]

[J7] J. K. Wahlstrand, **S. Zahedpour**, Y. –H. Cheng, J. P. Palastro, and H. M. Milchberg, "*Absolute measurement of the ultrafast nonlinear electronic and rovibrational response in* H_2 *and* D_2," Phys. Rev. A **92**, 063828 (2015).[URL]

[J6] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Measurement of the nonlinear refractive index of air constituents at mid-infrared wavelengths*," Opt. Lett. **40**, 5794-5797 (2015).[URL]

[J5] E. W. Rosenthal, J. P. Palastro, N. Jhajj, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "*Sensitivity of propagation and energy deposition in femtosecond filamentation to the nonlinear refractive index*," J. Phys. B **48**, 094011 (2015). [URL]

[J4] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Quantum control of molecular gas hydrodynamics*," Phys. Rev. Lett. **112**, 143601 (2014).[URL]

[J3] H. M. Milchberg, Y. –H. Chen, Y. –H. Cheng, N. Jhajj, J. P. Palastro, E. W. Rosenthal, S. Varma, J. K. Wahlstrand, and **S. Zahedpour,** "*The extreme nonlinear optics of gases and femtosecond optical filamentation*," Phys. Plasmas **21**, 100901 (2014).[URL]

[J2] J. K. Wahlstrand, N. Jhajj, E. W Rosenthal, **S Zahedpour**, and H. M. Milchberg, "*Direct imaging of the acoustic waves generated by femtosecond filaments in air*," Opt. Lett. **39**, 1290-1293 (2014).[URL]

[J1] S. Zahedpour, S. Feizi, A. Amini, M. Ferdosizadeh, and F. Marvasti, "*Impulsive noise cancellation based on soft decision and recursion*," IEEE Trans. Instrum. Meas. **58**, 2780-2790 (2009).[URL]

Conference

[C29] S. W. Hancock, **S. Zahedpour**, and H. M. Milchberg, "*Single Shot Measurement of Pulse Collapse and Spatiotemporal Optical Vortex* (*STOV*) *Formation in Sapphire*," Frontiers in Optics 2019, Washington D.C., United States. [URL]

[C28] S. Zahedpour, S. W. Hancock, and H. M. Milchberg, "*Direct Measurement of Linearly Imposed Spatiotemporal Optical Vortices* (*STOVs*)," Frontiers in Optics 2019, Washington D.C., United States. [URL]

[C27] F. Salehi, **S. Zahedpour,** S. W. Hancock, and H. M. Milchberg, "*MeV electron acceleration at 1 kHz using mJ-scale few-cycle laser pulses*," DPP 2018, Portland, OR, United States. [URL]

[C26] S. Zahedpour, S. W. Hancock, F. Salehi, J. K. Wahlstrand, and H.M. Milchberg, "Measurement of the nonlinear refractive index of air constituents from λ=2.5 μm to λ=10.6 μm," Frontiers in Optics 2018, Washington D.C., United States. [URL]

[C25] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Measurement of Kerr Coefficient in Large Bandgap Solids at Mid-IR Wavelengths*," Laser Science 2017, Washington D.C., United States. [URL]

[C24] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Spatiotemporal Characterization of Ultrashort Pulses from the near- to mid-IR*," Laser Science 2017, Washington D.C., United States. [URL]

[C23] J. K. Wahlstrand, **S. Zahedpour**, Y. –H. Cheng, J. P. Palastro, and H. M. Milchberg, "*Absolute Measurements of the Electronic, Rotational, and Rovibrational Optical Nonlinearity in Gases*," Laser Science 2016, Rochester, NY, United States. [URL]

[C22] E. W. Rosenthal, I. Larkin, N. Jhajj, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "*Atmospheric Energy Absorption in Single Filamentation*," PCAOP 2016, Washington D.C. , United States. [URL]

[C21] J. Elle, E. Iglesias, J. K. Wahlstrand, **S. Zahedpour**, and H. M. Milchberg, "*Identification of anomalous ionization in an ultrashort pulse laser-generated xenon plasma*," ICOPS 2016, Banff, AB, Canada. [URL]

[C20] E. W. Rosenthal, I. Larkin, N. Jhajj, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "*Energy Absorption in Femtosecond Filamentation*, " HILAS 2016, Long Beach, CA, United States. [URL]

[C19] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Measurement of the Nonlinear Refractive Index of Air Constituents at Mid-Infrared Wavelengths*," HILAS 2016, Long Beach, CA, United States. [URL]

[C18] E. W. Rosenthal, J. P. Palastro, N. Jhajj, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "Air Waveguides from Femtosecond Filaments," European CLEO/EQEC 2015, Munich, Germany. [URL]

[C16] J. K. Wahlstrand, **S. Zahedpour**, and H. M. Milchberg, "*Two-dimensional supercontinuum spectral interferometry for measurement of laser-induced plasmas*," CLEO 2014, San Jose, CA, United States. [URL]

[C15] J. K. Wahlstrand, N. Jhajj, E. W. Rosenthal, **S. Zahedpour**, and H. M. Milchberg, "*Direct Interferometric Measurements of the Acoustic Waves from Femtosecond Filaments*," CLEO 2014, San Jose, CA, United States. [URL]

[C14] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "Quantum Control of Molecular Gas Hydrodynamics," CLEO 2014, San Jose, CA, United States. [URL]

[C13] J. K. Wahlstrand, **S. Zahedpour**, and H. M. Milchberg, "*Space- and time-resolved absolute measurements of ionization in atomic and molecular gases*," DAMOP 2014, Madison, WI, United States. [URL]

[C12] J. Elle, **S. Zahedpour**, J. K. Wahlstrand, and H. M. Milchberg, "*Time-resolved measurements of two-pulse enhanced ionization* ," DAMOP 2014, Madison, WI, United States. [URL]

[C11] S. Zahedpour, J. K. Wahlstrand, and H. M. Milchberg, "*Quantum Control of Molecular Gas Hydrodynamics*," DAMOP 2014, Madison, WI, United States. [URL]

[C10] J. K. Wahlstrand, N. Jhajj, E. W. Rosenthal, **S. Zahedpour**, and H. M. Milchberg, "*Long-lived High Power Optical Waveguides in Air*," HILAS 2014, Berlin, Germany. [URL]

[C9] S. Zahedpour, Y. –H. Cheng, J. K. Wahlstrand, and H. M. Milchberg, "*Measurements of ultrafast laser-driven ionization and extreme gas nonlinearity*," DPP 2013, Denver, CO, United States. [URL]

[C8] J. Elle, **S. Zahedpour**, J. Penano, D. F. Gordon, T. Ting, P. Sprangle, and H. M. Milchberg, "*Electron Density Measurements of Plasma Columns for* N_2 *Atmospheric Lasing*," CLEO 2013, San Jose, CA, United States. [URL]

[C7] J. K. Wahlstrand, Y. –H. Cheng, **S. Zahedpour**, and H. M. Milchberg, "*Direct measurements of the nonlinear refractive index at high intensity in gases*," DAMOP 2013, Quebec City, QC, Canada. [URL]

[C6] S. Zahedpour, and M. Kalantari, "*Filling gap between discrete and continuous space flow models in dense wireless networks*," ICC 2011, Kyoto, Japan. [URL]

[C5] K. Rezaei, **S. Zahedpour**, and M. Kalantari, "*Implementing continuous flow over dense Wireless Sensor Networks*," CISS 2011, Baltimore, MD, United States. [URL]

[C4] S. Zahedpour, and M. Kalantari, "*Acceleration of distributed minimax flow optimization in networks*," CISS 2011, Baltimore, MD, United States. [URL]

[C3] S. Zahedpour, S. Feizi, A. Amini, M. Ferdosizadeh, and F. Marvasti, "*Impulsive noise cancellation using CFAR and iterative techniques*," ICT 2008, St. Petersburg, Russia. [URL]

[C2] S. Feizi, **S. Zahedpour**, M. Soltanolkotabi, A. Amini, and F. Marvasti, "*Salt and pepper noise removal for image signals*," ICT 2008, St. Petersburg, Russia. [URL]

[C1] S. Zahedpour, M. Ferdosizadeh, F. Marvasti, G. Mohimani, and M. Babaie-Zadeh, "*A novel impulsive noise cancellation based on successive approximations,"*Proceedings of SampTa2007, Thessaloniki, Greece. [URL]