VADIM V. LOZOVOY LIST OF PUBLICATIONS

US Patents (issued and active).

1. 7,105,811 September 12 2006 Control system and apparatus for use with laser excitation of ionization.
2. 7,439,497 October 21 2008 Control system and apparatus for use with laser excitation and ionization.
5. 7,583,710 September 1 2009 Laser and environmental monitoring system.
7. 8,208,504 June 26 2012 Laser pulse shaping system.
8. 8,208,505 June 26 2012 Laser system employing harmonic generation.
9. 8,265,110 September 11 2012 Laser and environmental monitoring method.
10. 8,300,669 October 30 2012 Control system and apparatus for use with ultra-fast laser.

Publications. (peer revived letters, articles and reviews)

30. V. V. Lozovoy, I. Pastirk, E. J. Brown, B. I. Grimberg, M. Dantus, "The role of pulse sequences in controlling ultrafast intramolecular dynamics with four-wave mixing." International Reviews in Physical Chemistry 19, 531-552 (October 1 2000).
33. V. V. Lozovoy, B. I. Grimberg, I. Pastirk, M. Dantus, "The Role of Microscopic and Macroscopic Coherence in Laser Control", Chemical Physics, 267, 99-114 (June 1 2001).
34. V. V. Lozovoy, I. Pastirk, M. G. Comstock, M. Dantus, "Cascaded free-induction decay four-wave mixing", Chemical Physics 266, 205-212 (May 15, 2001).
42. M. Comstock, V. V. Lozovoy, M. Dantus, “Femtosecond photon echo measurements of electronic coherence relaxation between the (1)B(1)u(1) and (1)I(1)u(1) states of I2 in the presence of He, Ar, N2, O2, C2H6”, Journal of Chemical Physics, 119, 6546-6553 (September 17 2003).
46. M. Comstock, V. V. Lozovoy, I. Pastirk, M. Dantus, “Multiphoton intrapulse interference 6: binary phase shaping”, Optics Express, 12, 1061-1066 (March 3 2004).
60. B. Xu, Y. Coello, V. V. Lozovoy, D. A. Harris, M. Dantus, “Pulse shaping of octave spanning femtosecond laser pulses”, Optics Express, 14, 10939-10944 (October 30 2006).
63. I. Pastirk, V. V. Lozovoy, M. Dantus, “Femtosecond pulse shaping adds a new dimension to mass spectrometry” Applied Optics, 46, 4041-4045 (July 1 2007).
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69. V. V. Lozovoy, B. Xu, Y. Coello, M. Dantus, “Direct measurement of spectral phase for ultrashort laser pulses” Optics Express, 16, 592-597 (January 21 2008).
70. P. Xi, L. R. Weisel, Y. Andegeko, D. Schlam, V. V. Lozovoy, M. Dantus, “Greater signal, increased depth, and less photobleaching in two-photon microscopy with 10fs pulses”, Optics Communication, 281, 1841-1849 (April 1 2008).
94. P. Devi, V. V. Lozovoy, M. Dantus “Measurement of group velocity dispersion of solvents using 2-cycle femtosecond pulses: Experiment and theory” AIP Advances, 1, Article Number 032166 (September 2011).
95. M. T. Bremer, P. J. Wrzesinski, N. Butcher, V. V. Lozovoy, M. Dantus “Highly selective standoff detection and imaging of trace chemicals in a complex background using single-beam coherent anti-Stokes Raman scattering” Applied Physics Letters, 99, Article Number 101109, (September 5 2011)
102. A. Konar, V. V. Lozovoy, M. Dantus, “Pulse Shaping Strategies to Elucidate the Optical Response of Fluorescent Molecules at the Femtosecond Time Scale.” (in preparation 2012)
105. A. Konar, V. V. Lozovoy, M. Dantus, “Coherent Upconversion of Polarization of Fluorescent Molecules at the Femtosecond Time Scale.” (in preparation 2012)
106. I. Saytashev, V. V. Lozovoy, M. Dantus “Three-color imaging by using pulse shaping and linear unmixing in two photon fluorescence microscopy” (in preparation 2012)

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5. V. V. Lozovoy, M. Dantus “Quantum computation with femtosecond photon echo(es)” International Conference Quantum Information (ICQI), Rochester NY (June 10-13 2001).


8. I. Pastirk, V. V. Lozovoy, J. Dela Cruz, V. Senekerimyan, K. A. Walowicz, M. Dantus, “Control of multiphoton excitation in condensed phases based on multiphoton intrapulse interference” Quantum Electronics and Laser Science Conference (QELS), Baltimore, Maryland (June 1 2003)


33. H. Li, D. A. Harris, B. Xu, P. J. Wrzesinski, V. V. Lozovoy, M. Dantus, “Detection of chemicals at a standoff> 10 m distance based on single-beam coherent anti-Stokes Raman scattering”, Laser Applications to Chemical, Security and Environmental Analysis (March 16 2008).
34. P. Xi, Y. Andegeko, L. R. Weisel, V. V. Lozovoy, M. Dantus “Advantages Found for 10 fs Pulses in Multiphoton Microscopy”, Biomedical Optics (March 16, 2008).
52. D. Pestov, Y. Andegeko, V. V. Lozovoy, M. Dantus “Pulse shaping for reducing photodamage in multiphoton microscopy” BiOS, Pages 756926-756926-8 (November 2 2010).
57. A. Konar, J. Shah, T. Goswami, V. V. Lozovoy, M. Dantus, “Early optical response of fluorescent molecules studied by synthetic optically delayed pulses”, APS March Meeting, Boston Massachusetts (February 27–March 2 2012)
58. M. T. Bremer, O. Yue, V. V. Lozovoy, M. Dantus, “Standoff detection of trace compounds enabled by continuum pulse shaping and coherent Raman scattering”, APS March Meeting, Boston Massachusetts (February 27–March 2 2012)