Kristan L. Corwin
Department of Physics, 116 Cardwell Hall
Kansas State University, Manhattan, Kansas 66506
Phone: 785-532-1663 email: corwin@phys.ksu.edu

Patents:

"Reflected Pump Technique for Saturated Absorption Spectroscopy inside Hollow Photonic Bandgap Fibers," K. Knabe, R. Thapa, B. R. Washburn and K. L. Corwin, Provisional Patent, Submitted to US Patent Office Sept 18, 2006 (2006).

"A System and a Method for Frequency-Stabilizing a Diode Laser," K. L. Corwin, Zheng-Tian Lu, Carter F. Hand, Ryan J. Epstein, and Carl E. Wieman, US Patent Number US6009111 (1999).

Peer-Reviewed Journal Publications:

1. E. Moon, Chengquan Li, Zuoliang Duan, J. Tackett, K. L. Corwin, B. R. Washburn, Zenghu Chang , "Reduction of fast carrier-envelope phase jitter in femtosecond laser amplifiers," Optics Express, **14**, 9758-9763 (2006).
2. R. Thapa, K. Knabe, K. L. Corwin, and B. R. Washburn, "Arc fusion splicing of hollow-core photonic bandgap fibers for gas-filled fiber cells," Optics Express, **14**, 9576-9583 (2006).
3. K. Knabe, R. Thapa, O. L. Weaver, B. R. Washburn, and K. L. Corwin, "Comparison of Saturated Absorption Spectra of Acetylene Gas Inside Photonic Bandgap Fibers," Tech. Digest, Symposium on Optical Fiber Measurements (SOFM 2006), Sep 19-20, 2006, Boulder, CO, NIST Special Publication 1055, pp. 55-58 (2006).
4. Rajesh Thapa, Kevin Knabe, Mohammed Faheem, Ahmer Naweed, Oliver L. Weaver, and Kristan L. Corwin, "Saturated absorption spectroscopy of acetylene gas inside large-core photonic bandgap fiber," Optics Letters **31**, 2489 (2006).
5. R. Thapa, K. Knabe, A. Naweed, M. Faheem, O. L. Weaver, and K. L. Corwin, "Saturated Absorption Signals from Acetylene Gas Inside Photonic Bandgap Fiber," Tech. Dig., Conf. on Lasers and Electro-Optics and Quantum Electronics and Laser Science Conf. (CLEO/QELS), May 23-25, 2006, Long Beach, CA (2006).
6. R. Thapa, K. L. Corwin, and B. R. Washburn, "Splicing hollow-core photonic bandgap fiber to solid core fiber using an arc fusion splicer," Tech. Dig., Conf. on Lasers and Electro-Optics and Quantum Electronics and Laser Science Conf. (CLEO/QELS), May 23-25, 2006, Long Beach, CA (2006).
7. Mohammed Faheem, Rajesh Thapa, and Kristan L. Corwin, "Spectral Hole Burning of Acetylene Gas inside a Photonic Bandgap Optical Fiber", Tech. Dig., Conf. on Lasers and Electro-Optics and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS), May 2005, Baltimore, MD (2005).
8. R.W. Fox, K.L. Corwin, and L. Hollberg, "Stable Optical Cavities for Wavelength References," NIST Tech. Note 1533, (2004).
9. K. L. Corwin, I. Thomann, T. Dennis, R. W. Fox, W. Swann, E. A. Curtis, C. W. Oates,

G. Wilpers, A. Bartels, S. L. Gilbert, L. Hollberg, N. R. Newbury, S. A. Diddams, J. W. Nicholson, and M. F. Yan, "Absolute-frequency measurements with a stabilized near-infrared optical frequency comb from a Cr : forsterite laser," Optics Letters, **29**, 397-399 (2004).

10. K. L. Corwin, T. Dennis, I. Thomann, R. Fox, W. Swann, E. A. Curtis, C. W. Oates, G. Wilpers, A. Bartels, S. L. Gilbert, L. Hollberg, S. A. Diddams, N. R. Newbury, J. W. Nicholson, and M. F. Yan "Absolute frequency measurements of methane absorption lines with a stabilized near-infrared optical frequency comb," Tech. Dig., Conf. on Lasers and Electro-Optics and International Quantum Electronics Conf. (CLEO/IQEC), May 16-21, 2004, San Francisco, CA (2004).
11. I. Thomann, A. Bartels, K. L. Corwin, N. R. Newbury, L. Hollberg, S. A. Diddams, J. W. Nicholson, and M. F. Yan, "420-MHz Cr : forsterite femtosecond ring laser and continuum generation in the 1-2 μm range," Optics Letters, **28**, 1368-1370 (2003).
12. N. R. Newbury, B. R. Washburn, K. L. Corwin, and R. S. Windeler, "Noise amplification during supercontinuum generation in microstructure fiber," Optics Letters, **28**, 944-946 (2003).
13. K. L. Corwin, N. R. Newbury, J. M. Dudley, S. Coen, S. A. Diddams, K. Weber, and R. S. Windeler, "Fundamental noise limitations to supercontinuum generation in microstructure fiber," Physical Review Letters, **90**, 113904 (2003).
14. K. L. Corwin, N. R. Newbury, J. M. Dudley, S. Coen, S. A. Diddams, B. R. Washburn, K. Weber, and R. S. Windeler, "Fundamental amplitude noise limitations to supercontinuum spectra generated in a microstructured fiber," Applied Physics B-Lasers and Optics, **77**, 269-277 (2003).
15. K. L. Corwin, N. R. Newbury, J. M. Dudley, S. Coen, S. A. Diddams, B. R. Washburn, K. Weber, and R. S. Windeler, "Fundamental amplitude noise limitations to supercontinuum spectra generated in a microstructured fiber,erratum" Applied Physics B-Lasers and Optics, **77**, 467-468 (2003).
16. K.L. Corwin, N.R. Newbury, B.R. Washburn, S.A. Diddams, J.M. Dudley, S. Coen and R.S. Windeler, "Experimental and Numerical Investigation of Fundamental Noise on Supercontinuum Generated in Microstructure Fiber," Tech. Digest, Quantum Electronics and Laser Science (QELS) Conference, Baltimore, MD, June 1-6 (2003).
17. B. R. Washburn, K.L. Corwin, N.R. Newbury and R.S. Windeler , "Impact of Technical Noise on Supercontinuum Generation in Microsctructure Fiber," In proceedings of the Conference on Lasers and Electro-Optics (CLEO), Optical Society of America, Jun 1-6, 2003, Balitmore, MD, Vol. CTu 3 (2003).
18. N.R. Newbury, K.L. Corwin, S.A. Diddams, B. Washburn, J.M. Dudley, S. Coen and R.S. Windeler, "Amplitude Noise on Supercontiuum Generated in Microstructure Fiber: Measurement and Simulations, Proc., IEEE Lasers and Electro-Optics Society, Summer Topicals, 2003, Photonics Time/Frequency Measurement and Control, Jul 14-16, 2003, Vancouver, British Columbia, Canada, Vol. 03TH8701, pp. 47-48 (2003).
19. L. Khaykovich, F. Schreck, J. Cubizolles, T. Bourdel, K. L. Corwin, G. Ferrari, and C. Salomon, "A Bose-Einstein condensate immersed in a Fermi sea: observation of ultra-

cold mixture of Bose and Fermi gases," Physica B-Condensed Matter, **329**, 13-16 (2003).

20. N. R. Newbury and K. L. Corwin, "Comparison of stimulated and spontantous scattering measurements of the full wavelength dependence of the Raman gain spectrum" Tech. Digest, Symposium on Optical Fiber Measurements (SOFM 2002), Sep 24-26, 2002, Boulder, CO, NIST Special Publication 988, p. 7, (2002).
21. K. L. Corwin, N. R. Newbury, S. L. Gilbert, K. Weber, S. A. Diddams, L. Hollberg, and R. S. Windeler,"Broadband Noise on supercontinuum generated in microstructure fiber" *in proceedings of Nonlinear Optics Topical Meeting*, Wailea, Maui, Hawaii: OSA Trends in Optics and Photonics (TOPS), p. 79, (2002).
22. N.R. Newbury, K.L. Corwin, J.M. Dudley, S. Coen, S.A. Diddams, K. Weber, and R.S. Windeler, "Measurements and Simulations of Noise Imposed on Supercontinuum Generated in Microstructure Fiber,"15th Annual Meeting of the IEEE Laser and Electro-Optics Society, Nov 10-14, 2002, Glasgow, Scotland (2002).
23. F. Schreck, G. Ferrari, K. L. Corwin, J. Cubizolles, L. Khaykovich, M. O. Mewes, and C. Salomon, "Sympathetic cooling of bosonic and fermionic lithium gases towards quantum degeneracy," Physical Review A, **64**, 011402 (2001).
24. F. Schreck, L. Khaykovich, K. L. Corwin, G. Ferrari, T. Bourdel, J. Cubizolles, and C. Salomon, "Quasipure Bose-Einstein condensate immersed in a Fermi sea," Physical Review Letters, **87**, 080403 (2001).
25. S. J. M. Kuppens, K. L. Corwin, K. W. Miller, T. E. Chupp, and C. E. Wieman, "Loading an optical dipole trap," Physical Review A, **62**, 13406 (2000).
26. K. L. Corwin, S. J. M. Kuppens, D. Cho, and C. E. Wieman, "Spin-polarized atoms in a circularly polarized optical dipole trap," Physical Review Letters, **83**, 1311-1314 (1999).
27. K. L. Corwin, Z. T. Lu, C. F. Hand, R. J. Epstein, and C. E. Wieman, "Frequency-stabilized diode laser with the Zeeman shift in an atomic vapor," Applied Optics, **37**, 3295-3298 (1998).
28. Z. T. Lu, K. L. Corwin, K. R. Vogel, C. E. Wieman, T. P. Dinneen, J. A. Maddi, and H. Gould, "An efficient trap of Fr-221 atoms," Abstracts of Papers of the American Chemical Society, **213**, 71-NUCL (1997).
29. Z. T. Lu, K. L. Corwin, K. R. Vogel, C. E. Wieman, T. P. Dinneen, J. Maddi, and H. Gould, "Efficient collection of Fr-221 into a vapor cell magneto-optical trap," Physical Review Letters, **79**, 994-997 (1997).
30. Z. T. Lu, K. L. Corwin, M. J. Renn, M. H. Anderson, E. A. Cornell, and C. E. Wieman, "Low-velocity intense source of atoms from a magneto-optical trap," Physical Review Letters, **77**, 3331-3334 (1996).