

Aleksandra Foltynowicz

EDUCATION

- Docent** (2018) Faculty of Science and Technology, Umeå University, Sweden
- Postdoctoral** JILA, University of Colorado at Boulder, CO, USA
Advisor: Jun Ye
Cavity-enhanced optical frequency comb spectroscopy
- PhD** (2009) Faculty of Science and Technology, Umeå University, Sweden
Advisor: Ove Axner
“Fiber-laser-based noise-immune cavity-enhanced optical heterodyne molecular spectrometry”
available at <http://umu.diva-portal.org/smash/record.jsf?pid=diva2:214195>
- MSc** (2005) Department of Physics, Adam Mickiewicz University, Poznań, Poland
Advisors: Ove Axner, Ryszard Naskręcki

EMPLOYMENT

- 2018 - **Associate professor**
Department of Physics, Umeå University, Sweden
- 2012 - 2017 **Assistant professor**
Department of Physics, Umeå University, Sweden
- 2010 - 2012 **Postdoctoral research associate**
JILA, University of Colorado at Boulder, CO, USA
- 2004 - 2009 **Graduate student**
Department of Physics, Umeå University, Sweden

RESEARCH GRANTS, SCHOLARSHIPS AND AWARDS

- 2022 - 2026 Knut and Alice Wallenberg Foundation Academy Fellow prolongation
- 2021 - 2026 Swedish Research Council Consolidator Grant
- 2019 Coblentz Award at ISMS2019
- 2017 - 2020 Swedish Research Council Project Grant
- 2016 Peter Werle Early Career Scientist Award at FLAIR2016
- 2016 - 2021 Knut and Alice Wallenberg Foundation Academy Fellow
- 2015 Kungliga Skytteanska Samfundets teknisk-naturvetenskapliga priset
- 2015 - 2016 Carl-Trygger Foundation equipment grant
- 2013 - 2016 Ingvar Carlsson Award 5 (Swedish Foundation for Strategic Research)
- 2013 - 2016 Swedish Research Council Junior Researcher Project Grant
- 2014 - 2015 Kempestiftelserna postdoctoral stipend
- 2013 - 2014 Carl-Trygger Foundation equipment grant
- 2013 Stiftelsen Lars Hiertas Minne equipment grant
- 2012 Swedish Research Council homing fellowship
- 2010 - 2011 Swedish Research Council postdoctoral fellowship
- 2010 The Wenner-Gren Foundations postdoctoral fellowship (declined)
- 2003 - 2004 European Physical Society university student fellowship

SUPERVISION OF STUDENTS AND POSTDOCS

- Postdoctoral Matthias Germann, Vinicius Silva de Oliveira, Francisco Senna Vieira, Ibrahim Sadiq, Grzegorz Soboń, Lucile Rutkowski, Venkata Ramaiah Badarla, Chadi Abd Alrahman, Hsuan-Chen Chen
- Graduate Adrian Hjältén, Clayton Forssén (co-supervisor), Chuang Lu, Alexandra C. Johansson, Thomas Hausmaninger (co-supervisor), Amir Khodabakhsh

PEER-REVIEWED PUBLICATIONS

1. *Dual-wavelength pumped highly birefringent microstructured silica fiber for widely tunable soliton self-frequency shift*
O. Szewczyk, P. Pala, K. Tarnowski, J. Olszewski, F. Senna Vieira, C. Lu, A. Foltynowicz, P. Mergo, J. Sotor, G. Soboń, and T. Martynkien
IEEE J. Lightwave Technol. (2021) DOI: 10.1109/JLT.2021.3057657.
2. *Measurement and assignment of double-resonance transitions to the 8900-9100-cm⁻¹ levels of methane*
A. Foltynowicz, L. Rutkowski, I. Silander, A. C. Johansson, V. Silva de Oliveira, O. Axner, G. Soboń, T. Martynkien, P. Mergo, and K. K. Lehmann
Phys. Rev. A **103**, 022810 (2021)
3. *Sub-Doppler double-resonance spectroscopy of methane using a frequency comb probe*
A. Foltynowicz, L. Rutkowski, I. Silander, A. C. Johansson, V. Silva de Oliveira, O. Axner, G. Soboń, T. Martynkien, P. Mergo, and K. K. Lehmann
Phys. Rev. Lett. **126**, 063001 (2021)
4. *Line positions and intensities of the ν_4 band of methyl iodide using mid-infrared optical frequency comb Fourier transform spectroscopy*
I. Sadiq, A. Hjältén, F. Senna Vieira, C. Lu, M. Stuhr, and A. Foltynowicz
JQSRT **255**, 107263 (2020)
5. *Compact mode-locked Er-doped fiber laser for broadband cavity-enhanced spectroscopy*
A. Głuszek, F. Senna Vieira, A. Hudzikowski, A. Wąż, J. Sotor, A. Foltynowicz, and G. Sobon
Appl. Phys B **126**, 137 (2020)
6. *Stabilized all-fiber source for generation of tunable broadband f_{CEO} -free mid-IR frequency comb in the 7 – 9 μm range*
K. Krzempek, D. Tomaszewska, A. Gluszek, T. Martynkien, P. Mergo, J. Sotor, A. Foltynowicz, and G. Sobon
Opt. Express **27**, 37435 (2019)
7. *Time-resolved continuous-filtering Vernier spectroscopy of H₂O and OH radical in a flame*
C. Lu, F. Senna Vieira, F. M. Schmidt, and A. Foltynowicz
Opt. Express **27**, 29521 (2019)
8. *Optical frequency comb photoacoustic spectroscopy*
I. Sadiq, T. Mikkonen, M. Vainio, J. Toivonen, and A. Foltynowicz
Phys. Chem. Chem. Phys. **20**, 27849-27855 (2018) arXiv 1809.02175
9. *Broadband calibration-free cavity-enhanced complex refractive index spectroscopy using a frequency comb*
A. C. Johansson, L. Rutkowski, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, and A. Foltynowicz
Opt. Express **26**, 20633-20648 (2018) arXiv 1805.00799
10. *Optical frequency comb Faraday rotation spectroscopy*
A. C. Johansson, J. Westberg, G. Wysocki, and A. Foltynowicz
Appl. Phys. B **124**, 79 (2018) arXiv 1801.08399

11. *An experimental water line list at 1950 K in the 6250-6670 cm⁻¹ region*
L. Rutkowski, A. Foltynowicz, F. M. Schmidt, A. C. Johansson, A. Khodabakhsh, A. A. Kyuberis, N. F. Zobov, O. L. Polyansky, S. N. Yurchenko, and J. Tennyson
JQSRT **205**, 213-219 (2018) arXiv 1712.09406
12. *Optical frequency comb Fourier transform spectroscopy with sub-nominal resolution and precision beyond the Voigt profile*
L. Rutkowski, P. Masłowski, A. C. Johansson, A. Khodabakhsh, and A. Foltynowicz
JQSRT **204**, 63-73 (2017) arXiv 1612.04808
13. *Sensitive and broadband measurement of dispersion in a cavity using a Fourier transform spectrometer with kHz resolution*
L. Rutkowski, A. C. Johansson, G. Zhao, T. Hausmaninger, A. Khodabakhsh, O. Axner, and A. Foltynowicz
Opt. Express **25**, 21711-18 (2017) arXiv 1705.04729
14. *Mid-infrared continuous-filtering Vernier spectroscopy using a doubly resonant optical parametric oscillator*
A. Khodabakhsh, L. Rutkowski, J. Morville, and A. Foltynowicz
Appl. Phys. B **123**, 210 (2017) arXiv 1702.00396
15. *High-power frequency comb source tunable from 2.7 to 4.2 μm based on difference frequency generation pumped by an Yb-doped fiber laser*
G. Sobon, T. Martynkien, P. Mergo, L. Rutkowski, and A. Foltynowicz
Opt. Lett. **42**, 1748-1751 (2017), editor's choice arXiv 1703.03277
16. *Detection of OH in an atmospheric flame at 1.5 μm using optical frequency comb spectroscopy*
L. Rutkowski, A. C. Johansson, D. Valiev, A. Khodabakhsh, A. Tkacz, F. M. Schmidt, and A. Foltynowicz
Phot. Lett. Pol **8**, 110-112 (2016)
17. *Signal line shapes of Fourier transform cavity-enhanced frequency modulation spectroscopy with optical frequency combs*
A. C. Johansson, L. Rutkowski, A. Khodabakhsh, and A. Foltynowicz
J. Opt. Soc. Am. B **34**, 358-365 (2016) arXiv 1609.06443
18. *Fourier transform and Vernier spectroscopy using an optical frequency comb at 3-5.4 μm*
A. Khodabakhsh, V. Ramaiah-Badarla, L. Rutkowski, A. C. Johansson, K. F. Lee, J. Jiang, C. Mohr, M. E. Fermann, and A. Foltynowicz
Opt. Lett. **41**, 2541 (2016) arXiv 1603.09680
19. *Surpassing the path-limited resolution of a Fourier transform spectrometer with frequency combs*
P. Masłowski, K. F. Lee, A. C. Johansson, A. Khodabakhsh, G. Kowzan, L. Rutkowski, A. A. Mills, C. Mohr, J. Jiang, M. E. Fermann, and A. Foltynowicz
Phys. Rev. A **93**, 021802(R) (2016) arXiv:1505.07706
20. *Noise-immune cavity-enhanced optical frequency comb spectroscopy: a sensitive technique for high-resolution broadband molecular detection*
A. Khodabakhsh, A. C. Johansson, and A. Foltynowicz
Appl. Phys. B **119**, 87-95 (2015) arXiv 1410.8800
21. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
A. Khodabakhsh, C. Abd Alrahman, and A. Foltynowicz
Opt. Lett. **39**, 5034-5038 (2014)
22. *Cavity-enhanced optical frequency comb spectroscopy of high-temperature H₂O in a flame*
C. Abd Alrahman, A. Khodabakhsh, F. M. Schmidt, Z. Qu, and A. Foltynowicz
Opt. Express **22**, 13889-13895 (2014) arXiv 1202.1216

23. *Use of etalon-immune-distances to reduce the influence of background signals in frequency modulation spectroscopy and NICE-OHMS*
P. Ehlers, A. C. Johansson, I. Silander, A. Foltynowicz, and O. Axner
J. Opt. Soc. Am B **31**, 2938-2945 (2014)
24. *Fiber-laser-based NICE-OHMS incorporating an optical circulator*
P. Ehlers, J. Wang, I. Silander, A. Foltynowicz, and O. Axner
Opt. Lett. **39**, 279-282 (2013)
25. *Optical measurement of the gas number density in a Fabry-Perot cavity*
I. Silander, M. Zelan, O. Axner, F. Arrhen, L. Pendrill, and A. Foltynowicz,
Meas. Sci. Instr. **24**, 105207 (2013)
26. *Cavity-enhanced optical frequency comb spectroscopy in the mid-infrared – application to trace detection of hydrogen peroxide*
A. Foltynowicz, P. Maslowski, A. J. Fleisher, B. J. Bjork, and J. Ye
Appl. Phys. B **110**, 163–175 (2013)
27. *Hydrogen peroxide enhanced nonthermal plasma effluent for biomedical applications*
M. Golkowski, C. Golkowski, J. Leszczynski, R. Plimpton, P. Maslowski, A. Foltynowicz,
J. Ye, and B. McCollister
IEEE Trans. Plasma Sci. **40**, 1984-1991 (2012)
28. *Quantum-noise-limited optical frequency comb spectroscopy*
A. Foltynowicz, T. Ban, P. Maslowski, F. Adler, and J. Ye
Phys. Rev. Lett. **107**, 233002 (2011) *editors choice and selected for a Viewpoint in Physics*
29. *Reduction of background signals in fiber-based NICE-OHMS*
A. Foltynowicz, I. Silander, and O. Axner
J. Opt. Soc. Am. B **28**, 2797-2805 (2011)
30. *Optical frequency comb spectroscopy*
A. Foltynowicz, P. Maslowski, T. Ban, F. Adler, K. C. Cossel, T. C. Briles, and J. Ye
Faraday Disc. **150**, 23-31 (2011)
31. *Mid-infrared Fourier transform spectroscopy with a broadband frequency comb*
F. Adler, P. Maslowski, A. Foltynowicz, K. C. Cossel, T. C. Briles, I. Hartl, and J. Ye
Opt. Express **18**, 21861-21872 (2010)
32. *Distributed-feedback-laser-based NICE-OHMS in the pressure-broadened regime*
A. Foltynowicz, J. Wang, P. Ehlers, and O. Axner
Opt. Express **18**, 18580-18591 (2010)
33. *Highly sensitive dispersion spectroscopy by probing the free spectral range of an optical cavity using dual-frequency modulation*
F. M. Schmidt, W. Ma, A. Foltynowicz, and O. Axner
Appl. Phys. B **101**, 497-509 (2010)
34. *Wavelength modulated noise-immune cavity-enhanced optical heterodyne molecular spectroscopy signal line shapes in the Doppler limit*
A. Foltynowicz, W. Ma, F. M. Schmidt, and O. Axner
J. Opt. Soc. Am. B **26**, 1384-1394 (2009)
35. *Characterization of fiber-laser-based sub-Doppler NICE-OHMS for trace gas detection*
A. Foltynowicz, W. Ma, and O. Axner
Opt. Express **16**, 14689-14702 (2008)
36. *Noise-immune cavity-enhanced optical heterodyne molecular spectroscopy: Current status and future potential*
A. Foltynowicz, F. M. Schmidt, W. Ma, and O. Axner
Appl. Phys. B **92**, 313-326 (2008)

37. *Sub-Doppler dispersion and noise-immune cavity-enhanced optical heterodyne molecular spectroscopy revised*
O. Axner, W. Ma, and A. Foltynowicz
J. Opt. Soc. Am. B **25**, 1166-1177 (2008)
38. *Doppler-broadened noise-immune cavity-enhanced optical heterodyne molecular spectroscopy signals from optically saturated transitions under low pressure conditions*
A. Foltynowicz, W. Ma, F. M. Schmidt, and O. Axner
J. Opt. Soc. Am. B **25**, 1156-1165 (2008)
39. *Theoretical description of Doppler-broadened noise-immune cavity-enhanced optical heterodyne molecular spectroscopy under optically saturated conditions*
W. Ma, A. Foltynowicz, and O. Axner
J. Opt. Soc. Am. B **25**, 1144-1155 (2008)
40. *Doppler-broadened fiber-laser-based NICE-OHMS - Improved detectability*
F. M. Schmidt, A. Foltynowicz, W. Ma, T. Lock, and O. Axner
Opt. Express **15**, 10822-10831 (2007)
41. *Fiber-laser-based noise-immune cavity-enhanced optical heterodyne molecular spectrometry for Doppler-broadened detection of C₂H₂ in the parts per trillion range*
F. M. Schmidt, A. Foltynowicz, W. Ma, and O. Axner
J. Opt. Soc. Am. B **24**, 1392-1405 (2007)
42. *Wavelength modulation absorption spectrometry from optically pumped collision broadened atoms and molecules*
A. Foltynowicz, F. M. Schmidt, J. Gustafsson, and O. Axner
J. Quant. Spectrosc. Radiat. Transfer **108**, 220-238 (2007)
43. *Absorption spectrometry by narrowband light in optically saturated and pumped collision and Doppler broadened gaseous media under arbitrary optical thickness conditions*
O. Axner, F. M. Schmidt, A. Foltynowicz, J. Gustafsson, N. Omenetto, and J. D. Winefordner
Appl. Spectrosc. **60**, 1217-1240 (2006) cover
44. *Wavelength modulation absorption spectrometry from optically saturated collision-broadened transitions.*
F. M. Schmidt, A. Foltynowicz, M. Gustafsson, and O. Axner
J. Quant. Spectrosc. Radiat. Transfer **94**, 225-254 (2005)

BOOK CHAPTERS

1. *NICE-OHMS – Frequency modulation cavity-enhanced spectroscopy – Principles and performance.*
O. Axner, P. Ehlers, A. Foltynowicz, I. Silander, and J. Wang
Cavity-Enhanced Spectroscopy and Sensing, eds H.P. Loock, G. Gagliardi, Springer 2013
2. *Cavity-enhanced direct frequency comb spectroscopy.*
P. Maslowski, K. C. Cossel, A. Foltynowicz, and J. Ye
Cavity-Enhanced Spectroscopy and Sensing, eds H.P. Loock, G. Gagliardi, Springer 2013

INVITED TALKS

1. *Mid-infrared comb-based Fourier transform spectroscopy.*
A. Foltynowicz et al.
High-brightness Sources and Light-driven Interactions Congress: Mid-infrared Coherent Sources, Nov 2020 (online)
2. *Optical frequency comb Fourier transform spectroscopy.*
A. Foltynowicz

- 74th International Symposium on Molecular Spectroscopy, Champaign-Urbana, IL, USA, Jun 2019
3. *Cavity-enhanced comb-based Fourier transform spectroscopy.*
A. Foltynowicz
13th International Used Meeting on Cavity Enhanced Spectroscopy, Madison, WI, USA, Jun 2019
 4. *Precision Fourier transform spectroscopy using optical frequency combs.*
A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2019
 5. *Precision Fourier transform spectroscopy using optical frequency combs. (within 'Spectroscopy for bright future')*
A. Foltynowicz, L. Rutkowski, A. C. Johansson, A. Filipsson, and A. Khodabakhsh
25th Colloquium on High Resolution Molecular Spectroscopy, Helsinki, Finland, Sept 2017
 6. *Optical frequency comb spectroscopy for gas metrology and trace gas detection.*
P. Maslowski, G. Kowzan, D. Charczun, D. Lisak, R. Trawinski, L. Rutkowski, A. C. Johansson, A. Khodabakhsh, A. Foltynowicz, K. F. Lee, and M. E. Fermann (SW4J.5)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2017
 7. *Optical frequency comb spectroscopy*
A. Foltynowicz
Optics and Photonics in Sweden, Linköping, Sweden, Nov 2016
 8. *Cavity-enhanced Fourier transform and Vernier spectroscopy with optical frequency combs*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, V. Ramaiah-Badarla, and A. Foltynowicz
Frontiers in Optics, Rochester, NY, Oct 2016
 9. *Cavity-enhanced optical frequency combs spectroscopy in the near- and mid-infrared*
A. Foltynowicz, A. Khodabakhsh, L. Rutkowski, A. C. Johansson, and V. Ramaiah-Badarla
Laser Applications to Chemical, Security and Environmental Analysis (LACSEA), Heidelberg, Germany, Jul 2016
 10. *High-resolution optical frequency comb spectroscopy*
A. Foltynowicz, L. Rutkowski, A.C. Johansson, and A. Khodabakhsh
23rd International Conference on Spectral Line Shapes, Toruń, Poland, Jun 2016
 11. *Broadband molecular detection with cavity-enhanced optical frequency comb spectroscopy*
A. Foltynowicz, A. Khodabakhsh, C. Abd Alrahman, A. C. Johansson
Light, Energy and the Environment Congress: Optics and Photonics for Energy & the Environment (E2), Canberra, Australia, Dec 2014
 12. *Optical frequency comb spectroscopy*
A. Foltynowicz
Swedish Physical Society AMO Physics section meeting, Lund, Sweden, Jun 2013
 13. *Cavity-enhanced direct frequency comb spectroscopy for human breath analysis*
P. Maslowski, A. Foltynowicz, A. J. Fleisher, B. J. Bjork, and J. Ye
2012 International Breath Analysis Meeting, Sonoma, CA, USA, Oct 2012
 14. *Optical frequency comb as a new tool for broadband high resolution spectroscopy*
P. Maslowski, A. Foltynowicz, T. Ban, K. C. Cossel, and J. Ye
21st International Conference on Spectral Line Shapes, St. Petersburg, Russia, Jun 2012
 15. *Frequency comb spectroscopy and applications*
A. Foltynowicz, P. Maslowski, T. Ban, F. Adler, K. C. Cossel, and J. Ye
Field Laser Applications in Industry and Research, Murnau, Germany, Sept 2011
 16. *Direct frequency comb spectroscopy: time and frequency domain approach*
T. Ban, A. Foltynowicz, P. Maslowski, D. Aumiler, G. Pichler, and J. Ye
43rd Congress of the European Group on Atomic Systems, Fribourg, Switzerland, Jun 2011

17. *Cavity-enhanced optical frequency comb spectroscopy*
A. Foltynowicz, P. Maslowski, T. Ban, F. Adler, K. C. Cossel, and J. Ye
Cavity Enhanced Spectroscopy, Kingston, ON, Canada, Jun 2011
18. *Noise-immune cavity-enhanced optical heterodyne molecular spectroscopy (NICE-OHMS): a laser-based cavity-enhanced spectroscopic technique for sensitive detection of gases*
O. Axner, J., Wang, P. Ehlers, I. Silander, A. Foltynowicz, W. Ma
Cavity Enhanced Spectroscopy, Kingston, ON, Canada, Jun 2011
19. *Broadband direct frequency comb spectroscopy in the mid-infrared*
P. Maslowski, A. Foltynowicz, F. Adler, K. C. Cossel, T. C. Briles, T. Ban, and J. Ye
Conference on Lasers and Electro-Optics, Baltimore, Md, USA, May 2011

CONFERENCE CONTRIBUTIONS

1. *Sub-Doppler optical-optical double-resonance spectroscopy of methane using a frequency comb probe*
V. Silva de Oliveira, I. Silander, L. Rutkowski, A. C. Johansson, G. Soboń, O. Axner, K. K. Lehmann, and **A. Foltynowicz** (oral)
Optical Sensors and Sensing Congress: Fourier Transform Spectroscopy, Jul 2021 (online)
2. *Fourier transform spectroscopy using difference frequency generation comb sources at 3.3 μm and 7.8 μm*
A. Hjältén, M. Germann, I. Sadiék, C. Lu, F. Senna Vieira, M. Stuhr, K. Krzempek, A. Hudzikowski, A. Głuszek, D. Tomaszewska, M. Stuhr, G. Soboń, and **A. Foltynowicz** (oral)
Optical Sensors and Sensing Congress: Fourier Transform Spectroscopy, Jul 2021 (online)
3. *Sub-Doppler double-resonance spectroscopy of methane using a frequency comb probe*
V. Silva de Oliveira, I. Silander, A. C. Johansson, O. Axner, **A. Foltynowicz**, L. Rutkowski, G. Soboń, and K. K. Lehmann (oral)
International Symposium on Molecular Spectroscopy, Jun 2021 (online)
4. *High-resolution comb-based Fourier transform spectroscopy in the 3.3 μm and 7.8 μm range*
A. Hjältén, M. Germann, C. Lu, F. Senna Vieira, **A. Foltynowicz**, I. Sadiék, M. Stuhr, K. Krzempek, A. Hudzikowski, A. Głuszek, D. Tomaszewska, and G. Soboń (oral)
International Symposium on Molecular Spectroscopy, Jun 2021 (online)
5. *Frequency comb Fourier transform spectroscopy at 8 μm using a compact difference frequency generation source*
M. Germann, A. Hjältén, K. Krzempek, A. Hudzikowski, A. Głuszek, D. Tomaszewska, G. Soboń, and **A. Foltynowicz** (oral)
CLEO/EU-EQEC, Munich, Germany, Jun 2021 (online)
6. *High-resolution measurements of halogenated volatile organic compounds using frequency comb Fourier transform spectroscopy*
A. Hjältén, I. Sadiék, C. Lu, F. Senna Vieira, M. Stuhr, M. Germann, and **A. Foltynowicz** (oral)
CLEO/EU-EQEC, Munich, Germany, Jun 2021 (online)
7. *Double-resonance spectroscopy of methane using a comb probe*
V. Silva de Oliveira, I. Silander, L. Rutkowski, A. C. Johansson, G. Soboń, O. Axner, K. K. Lehmann, and **A. Foltynowicz** (oral)
CLEO/EU-EQEC, Munich, Germany, Jun 2021 (online)
8. *Robust and high-speed cavity-enhanced Vernier spectrometer*
C. Lu, F. Senna Vieira, A. Głuszek, I. Silander, G. Soboń, and **A. Foltynowicz** (oral)
CLEO/EU-EQEC, Munich, Germany, Jun 2021 (online)

9. *Precision measurements of $^{14}\text{N}_2^{16}\text{O}$ using a comb-based Fourier transform spectrometer at $7.8\ \mu\text{m}$*
A. Hjältén, M. Germann, K. Krzempek, A. Hudzikowski, A. Głuszek, D. Tomaszewska, G. Soboń, and **A. Foltynowicz** (oral SM1C.4)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2021 (online)
10. *Optical-optical double-resonance spectroscopy of methane using a cavity-enhanced comb probe*
V. Silva de Oliveira, I. Silander, L. Rutkowski, G. Soboń, O. Axner, K. K. Lehmann, and **A. Foltynowicz** (oral SM1C.3)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2021 (online)
11. *Compact $6.5 - 9\ \mu\text{m}$ frequency comb and its application to Fourier transform spectroscopy*
K. Krzempek, D. Tomaszewska, A. Głuszek, A. Hudzikowski, T. Martynkien, P. Mergo, J. Sotor, **A. Foltynowicz**, Grzegorz Soboń (oral EM1C.2)
Optics and Photonics for Sensing the Environment, Jun 2020 (online)
12. *Continuous-filtering Vernier spectrometer with improved design and performance*
F. Senna Vieira, C. Lu, I. Silander, A. Głuszek, G. Soboń, and **A. Foltynowicz** (oral LTu3C.5)
Laser Applications to Chemical, Security and Environmental Analysis, Jun 2020 (online)
13. *Mid-infrared comb-based Fourier transform spectroscopy of halogenated volatile organic compounds*
I. Sadiék, A. Hjältén, M. Stuhr, C. Lu, F. Senna Vieira, and A. Foltynowicz (oral SM1M.8)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2020
14. *Sub-Doppler double-resonance spectroscopy of methane using a frequency comb probe*
A. Foltynowicz, L. Rutkowski, I. Silander, A. C. Johansson, V. Silva de Oliveira, O. Axner, G. Soboń, T. Martynkien, P. Mergo, and K. K. Lehmann (oral STu4N.1)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2020
15. *Towards a transferable standard for nitrous oxide isotopomer ratio*
I. Sadiék, A. Hjältén, M. Stuhr, G. Friedrichs, and A. Foltynowicz (oral STu4N.4)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2020
16. *Robust, fast and sensitive near-infrared continuous-filtering Vernier spectrometer*
F. Senna Vieira, C. Lu, I. Silander, A. Głuszek, G. Soboń², and A. Foltynowicz (oral SM1M.5)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2020
17. *Measurement of high-resolution spectra of HVOCs using comb-based Fourier transform spectroscopy.*
I. Sadiék, A. Hjältén, and A. Foltynowicz (oral)
26th Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, Aug 2019
18. *Cavity-enhanced complex refractive index spectroscopy using an optical frequency comb.*
A. C. Johansson, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, A. Foltynowicz, L. Rutkowski (poster)
26th Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, Aug 2019
19. *Optical frequency comb photoacoustic spectroscopy.*
I. Sadiék, A. Hjältén, A. Foltynowicz, T. Mikkonen, J. Toivonen, M. Vainio (poster)
26th Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, Aug 2019
20. *Sub-Doppler double-resonance spectroscopy of methane using a frequency comb probe.*
A. Foltynowicz, I. Silander, A. C. Johansson, O. Axner, K. K. Lehmann, L. Rutkowski, G. Soboń, T. Martynkiem, P. Mergo (poster)
26th Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, Aug 2019
21. *Time-resolved continuous-filtering Vernier spectroscopy in a flame.*

- C. Lu, F. Senna Vieira, F. M. Schmidt, and A. Foltynowicz (oral CH-13.1)
CLEO/EU-EQEC, Munich, Germany, Jun 2019
22. *Optical frequency comb photoacoustic spectroscopy.*
I. Sadiiek, T. Mikkonen, M. Vainio, J. Toivonen, and A. Foltynowicz (oral CH-3.4)
CLEO/EU-EQEC, Munich, Germany, Jun 2019
 23. *Precise comb-based Fourier transform spectroscopy for line parameter retrieval.*
A. C. Johansson, L. Rutkowski, P. Maslowski, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, and A. Foltynowicz (oral ED-4.3)
CLEO/EU-EQEC, Munich, Germany, Jun 2019
 24. *Highly birefringent microstructured silica fibers for broadband soliton self-frequency shift.*
T. Martynkien, K. Stefańska, F. Senna Vieira, C. Lu, A. Foltynowicz, P. Mergo, J. Sotor, G. Soboń (poster)
CLEO/EU-EQEC, Munich, Germany, Jun 2019
 25. *Comb-based Fourier transform spectroscopy as a platform for measurements of high-resolution spectra of HVOCs.*
I. Sadiiek, A. Hjältén, and A. Foltynowicz (oral)
13th International Used Meeting on Cavity Enhanced Spectroscopy, Madison, WI, USA, Jun 2019
 26. *Optical frequency comb photoacoustic spectroscopy.*
I. Sadiiek, T. Mikkonen, M. Vainio, J. Toivonen, and A. Foltynowicz (poster)
13th International Used Meeting on Cavity Enhanced Spectroscopy, Madison, WI, USA, Jun 2019
 27. *Continuous-filtering Vernier spectroscopy in a flame.*
F. Senna Vieira, C. Lu, F. M. Schmidt, and A. Foltynowicz (poster)
13th International Used Meeting on Cavity Enhanced Spectroscopy, Madison, WI, USA, Jun 2019
 28. *Optical frequency comb photoacoustic spectroscopy.*
I. Sadiiek, T. Mikkonen, M. Vainio, J. Toivonen, and A. Foltynowicz (oral SW3L.5)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2019
 29. *Near-infrared continuous-filtering Vernier spectroscopy in a flame.*
C. Lu, F. Senna Vieira, F. M. Schmidt, and A. Foltynowicz (oral SM2N.5)
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2019
 30. *Broadband calibration-free cavity-enhanced complex refractive index spectroscopy using an optical frequency comb.*
A. C. Johansson, L. Rutkowski, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, and A. Foltynowicz (oral)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
 31. *CO₂ line parameter retrieval beyond the Voigt profile using comb-based Fourier transform spectroscopy.*
A. C. Johansson, A. Filipsson, L. Rutkowski, P. Maslowski, and A. Foltynowicz (poster)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
 32. *Optical frequency comb Faraday rotation spectroscopy.*
A. C. Johansson, J. Westberg, G. Wysocki, and A. Foltynowicz (poster)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
 33. *Optical frequency comb photoacoustic spectroscopy.*
I. Sadiiek, T. Mikkonen, T. Tomberg, F. Senna Vieira, J. Karhu, M. Vainio, J. Toivonen and A. Foltynowicz (poster)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
 34. *Near-infrared continuous-filtering Vernier spectroscopy in a flame.*

- C. Lu, F. Senna Vieira, A. C. Johansson, F. M. Schmidt, and A. Foltynowicz (poster)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
35. *An experimental water line list at 1950 K in the 1.5-1.6 μm region.*
L. Rutkowski, A. Foltynowicz, F. M. Schmidt, A. C. Johansson, A. Khodabakhsh, A. A. Kyuberis, N. F. Zobov, O. L. Polyansky, S. N. Yurchenko, and J. Tennyson (poster)
Field Laser Applications in Industry and Research, Assisi, Italy, Sept 2018
 36. *Broadband calibration-free complex refractive index spectroscopy in a cavity using a comb-based Fourier transform spectrometer*
A. C. Johansson, L. Rutkowski, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, and A. Foltynowicz
International Symposium on Molecular Spectroscopy, Champaign-Urbana, IL, Jun 2018
 37. *CO₂ line parameter retrieval beyond the Voigt profile using comb-based Fourier transform spectroscopy*
A. C. Johansson, A. Filipsson, L. Rutkowski, P. Maslowski, and A. Foltynowicz
International Symposium on Molecular Spectroscopy, Champaign-Urbana, IL, Jun 2018
 38. *Broadband complex refractive index spectroscopy via measurement of cavity modes (STu3P.4)*
A. C. Johansson, L. Rutkowski, A. Filipsson, T. Hausmaninger, G. Zhao, O. Axner, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2018
 39. *CO₂ line parameter retrieval beyond the Voigt profile using comb-based Fourier transform spectroscopy (STu3P.6)*
A. C. Johansson, A. Filipsson, L. Rutkowski, P. Maslowski, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2018
 40. *Optical frequency comb Faraday rotation spectroscopy (JW2A.165)*
A. C. Johansson, J. Westberg, G. Wysocki, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2018
 41. *Broadband molecular spectroscopy via probing of cavity modes using a frequency-comb-based Fourier transform spectrometer*
A. C. Johansson, L. Rutkowski, G. Zhao, T. Hausmaninger, A. Khodabakhsh, A. Filipsson, O. Axner, and A. Foltynowicz
25th Colloquium on High Resolution Molecular Spectroscopy, Helsinki, Finland, Sept 2017
 42. *Line parameter retrieval beyond the Voigt profile using comb-based Fourier transform spectroscopy*
A. Filipsson, A. C. Johansson, L. Rutkowski, P. Maslowski, A. Khodabakhsh, and A. Foltynowicz
25th Colloquium on High Resolution Molecular Spectroscopy, Helsinki, Finland, Sept 2017
 43. *Measurement of H₂O and OH Spectra in an Atmospheric Flame using Optical Frequency Comb Spectroscopy*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, D. M. Valiev, F. M. Schmidt, L. Lodi, O. L. Polyansky, S. Yurchenko, J. Tennyson, and A. Foltynowicz
25th Colloquium on High Resolution Molecular Spectroscopy, Helsinki, Finland, Sept 2017
 44. *Broadband precision spectroscopy and multispecies detection using optical frequency combs*
A. Khodabakhsh, L. Rutkowski, A. C. Johansson, G. Soboń, A. Filipsson, C. Lu, and A. Foltynowicz
OPTO:2017, Warsaw, Poland, Jul 2017
 45. *Broadband and high resolution direct measurement of cavity resonances*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, and A. Foltynowicz

Conference on Lasers and Electro-Optics – European Quantum Electronics Conference, Munich, Germany, Jun 2017

46. *Cavity-enhanced continuous-filtering Vernier spectroscopy at 3.3 μm using a femtosecond optical parametric oscillator*
A. Khodabakhsh, L. Rutkowski, J. Morville, A. C. Johansson, G. Sobon, and A. Foltynowicz
Conference on Lasers and Electro-Optics – European Quantum Electronics Conference, Munich, Germany, Jun 2017
47. *High-power broadband source tunable from 2.8 to 4 μm based on difference frequency generation*
G. Soboń, T. Martynkien, P. Mergo, M. Marangoni, and A. Foltynowicz
Conference on Lasers and Electro-Optics – European Quantum Electronics Conference, Munich, Germany, Jun 2017
48. *Detection of OH and H₂O in an atmospheric flame by near-infrared optical frequency comb spectroscopy*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, D. Valiev, L. Lodi, S. Yurchenko, O. L. Polyansky, J. Tennyson, F. M. Schmidt, and A. Foltynowicz
Conference on Lasers and Electro-Optics – European Quantum Electronics Conference, Munich, Germany, Jun 2017
49. *Faraday rotation spectroscopy using an optical frequency comb*
A. C. Johansson, J. Westberg, A. Khodabakhsh, L. Rutkowski, G. Wysocki, and A. Foltynowicz
Conference on Lasers and Electro-Optics – European Quantum Electronics Conference, Munich, Germany, Jun 2017
50. *Direct broadband measurement of cavity modes using a mechanical Fourier transform spectrometer with kHz resolution*
L. Rutkowski, A. C. Johansson, G. Zhao, T. Hausmaninger, A. Khodabakhsh, and A. Foltynowicz
Cavity Enhanced Spectroscopy, Egmont aan Zee, the Netherlands, Jun 2017
51. *Mid-infrared cavity-enhanced continuous-filtering Vernier spectroscopy using a femtosecond optical parametric oscillator*
A. Khodabakhsh, L. Rutkowski, J. Morville, G. Sobon, C. Lu and A. Foltynowicz
Cavity Enhanced Spectroscopy, Egmont aan Zee, the Netherlands, Jun 2017
52. *Line parameter retrieval beyond the Voigt profile using comb-based Fourier transform spectroscopy*
A. C. Johansson, L. Rutkowski, P. Masłowski, A. Filipsson, A. Khodabakhsh, and A. Foltynowicz
Cavity Enhanced Spectroscopy, Egmont aan Zee, the Netherlands, Jun 2017
53. *Detection of OH in an atmospheric flame using near-infrared cavity-enhanced optical frequency comb spectroscopy*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, D. Valiev, F. M. Schmidt, and A. Foltynowicz
Cavity Enhanced Spectroscopy, Egmont aan Zee, the Netherlands, Jun 2017
54. *Mechanical Fourier transform spectrometer with kHz resolution (SW4J.6)*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2017
55. *Continuous-filtering Vernier spectroscopy at 3.3 μm using a femtosecond optical parametric oscillator (SW1L.5)*
A. Khodabakhsh, L. Rutkowski, J. Morville, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2017

56. *Near-infrared Fourier transform cavity-enhanced optical frequency comb spectroscopy*
A. Khodabakhsh, L. Rutkowski, P. Maslowski, F. M. Schmidt, and A. Foltynowicz
Light, Energy and the Environment Congress: Fourier Transform Spectroscopy (FTS),
Leipzig, Germany, Nov 2016
57. *Fourier transform and Vernier spectroscopy with a mid-Infrared optical frequency comb*
A. Khodabakhsh, V. Ramaiah-Badarla, L. Rutkowski, A. C. Johansson, K. F. Lee, J. Jiang,
C. Mohr, M. E. Fermann, and A. Foltynowicz
Light, Energy and the Environment Congress: Fourier Transform Spectroscopy (FTS),
Leipzig, Germany, Nov 2016
58. *Fourier-transform-based noise-immune cavity-enhanced optical frequency comb spectroscopy*
A. C. Johansson, A. Khodabakhsh, L. Rutkowski, and A. Foltynowicz
Light, Energy and the Environment Congress: Fourier Transform Spectroscopy (FTS),
Leipzig, Germany, Nov 2016
59. *Detection of H₂O and OH in a flame by optical frequency comb spectroscopy*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, D. M. Valiev, L. Lodi, O. L. Polyansky,
S. Yurchenko, J. Tennyson, F. M. Schmidt, and A. Foltynowicz
Optics and Photonics in Sweden, Linköping, Sweden, Nov 2016
60. *Fourier Transform spectroscopy and Vernier spectroscopy using a mid-infrared optical frequency comb*
A. Khodabakhsh, V. Ramaiah-Badarla, L. Rutkowski, A. C. Johansson, K. F. Lee, J. Jiang,
C. Mohr, M. E. Fermann, and A. Foltynowicz
Optics and Photonics in Sweden, Linköping, Sweden, Nov 2016
61. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
A. C. Johansson, A. Khodabakhsh, L. Rutkowski, and A. Foltynowicz
Optics and Photonics in Sweden, Linköping, Sweden, Nov 2016
62. *Optical frequency comb Fourier transform spectroscopy with resolution beyond the path difference limit*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, P. Maslowski, G. Kowzan, K. F. Lee, A.
Mills, C. Mohr, J. Jiang, M. E. Fermann, and A. Foltynowicz
Field Laser Applications in Industry and Research, Aix-les-Bains, France, Sept 2016
63. *Fourier-transform-based cavity-enhanced optical frequency comb spectroscopy*
A. C. Johansson, L. Rutkowski, A. Khodabakhsh, and A. Foltynowicz
Field Laser Applications in Industry and Research, Aix-les-Bains, France, Sept 2016
64. *Measurement of H₂O and OH in a flame by optical frequency comb spectroscopy*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, D. M. Valiev, L. Lodi, Z. Qu, R.
Ghorbani, O. L. Polyansky, J. Tennyson, F. M. Schmidt, and A. Foltynowicz
Field Laser Applications in Industry and Research, Aix-les-Bains, France, Sept 2016
65. *Fourier transform spectroscopy and Vernier spectroscopy using an optical frequency comb in the 3-5.4 μm range*
A. Khodabakhsh, V. Ramaiah-Badarla, L. Rutkowski, A. C. Johansson, K. F. Lee, J. Jiang,
C. Mohr, M. E. Fermann, and A. Foltynowicz
Field Laser Applications in Industry and Research, Aix-les-Bains, France, Sept 2016
66. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
A. C. Johansson, L. Rutkowski, A. Khodabakhsh, and A. Foltynowicz
23rd International Conference on Spectral Line Shapes, Toruń, Poland, Jun 2016
67. *Optical frequency comb spectroscopy of H₂O and OH in a flame*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, D. M. Valiev, L. Lodi, Z. Qu, R.
Ghorbani, O. L. Polyansky, J. Tennyson, F. M. Schmidt, and A. Foltynowicz
23rd International Conference on Spectral Line Shapes, Toruń, Poland, Jun 2016

68. *Optical frequency comb spectroscopy at 3.2-5.4 μm*
A. Khodabakhsh, V. Ramaiah-Badarla, A. C. Johansson, L. Rutkowski, and A. Foltynowicz
23rd International Conference on Spectral Line Shapes, Toruń, Poland, Jun 2016
69. *Optical frequency comb spectroscopy at 3.3 and 5.2 μm by a Tm: fiber-laser-pumped optical parametric oscillator (JF2K.6)*
A. Khodabakhsh, V. Ramaiah-Badarla, L. Rutkowski, A. C. Johansson, K. F. Lee, J. Jiang, C. Mohr, M. E. Fermann, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, Jun 2016
70. *Optical frequency comb Fourier transform spectroscopy with resolution beyond the path difference limit (SW4H.1)*
L. Rutkowski, A. C. Johansson, A. Khodabakhsh, P. Maslowski, G. Kowzan, K. F. Lee, A. Mills, C. Mohr, J. Jiang, M. E. Fermann, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, Jun 2016
71. *Measurement of H₂O and OH in a flame by optical frequency comb spectroscopy (SW4H.8)*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, D. Valiev, L. Lodi, Z. Qu, R. Ghorbani, O. Polyanski, Y. Jin, J. Tennyson, F. M. Schmidt and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, Jun 2016
72. *Fourier transform spectroscopy with resolution beyond the optical path limit*
P. Maslowski, G. Kowzan, K. F. Lee, M. E. Fermann, A. Foltynowicz, A. C. Johansson, A. Khodabakhsh, and L. Rutkowski
High Resolution Molecular Spectroscopy, 24th Colloquium, Dijon, France, Aug 2015
73. *Optical frequency comb Fourier transform spectroscopy with resolution exceeding the limit set by the optical path difference*
A. Foltynowicz, L. Rutkowski, A. C. Johansson, A. Khodabakhsh, P. Maslowski, G. Kowzan, K. Lee, and M. E. Fermann
International Symposium on Molecular Spectroscopy, Champaign-Urbana, IL, June 2015
74. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, and A. Foltynowicz
International Symposium on Molecular Spectroscopy, Champaign-Urbana, IL, June 2015
75. *Optical frequency comb Fourier transform spectroscopy with resolution beyond the optical path limit*
A. Foltynowicz, L. Rutkowski, A. C. Johansson, A. Khodabakhsh, P. Maslowski, G. Kowzan, K. Lee, and M. E. Fermann
Cavity Enhanced Spectroscopy, Boulder, CO, USA, Jun 2015
76. *Cavity-enhanced optical frequency comb spectroscopy of high-temperature water in a flame*
A. Khodabakhsh, L. Rutkowski, A. C. Johansson, Y. Jin, Z. Qu, R. Ghorbani, F. M. Schmidt, and A. Foltynowicz
Cavity Enhanced Spectroscopy, Boulder, CO, USA, Jun 2015
77. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
L. Rutkowski, A. Khodabakhsh, A. C. Johansson, and A. Foltynowicz
Cavity Enhanced Spectroscopy, Boulder, CO, USA, Jun 2015
78. *Cavity-enhanced optical frequency comb spectroscopy of high-temperature water in a flame (STh4O.2)*
A. Khodabakhsh, Z. Qu, C. Abd Alrahman, A. C. Johansson, L. Rutkowski, F. M. Schmidt, and A. Foltynowicz
Conference on Lasers and Electro-Optics, San Jose, CA, USA, May 2015
79. *Fourier-transform-based noise-immune cavity-enhanced optical frequency comb spectroscopy (SM1O.6)*
A. Khodabakhsh, A. C. Johansson, L. Rutkowski, and A. Foltynowicz

Conference on Lasers and Electro-Optics, San Jose, Ca, USA, May 2015

80. *Fourier-transform cavity-enhanced optical frequency comb spectroscopy*
A. Foltynowicz, A. Khodabakhsh, and A. C. Johansson
2nd Stakeholder Workshop on Traceability of Spectral Reference Line Data, Braunschweig, Germany, Oct 2014
81. *Noise-immune cavity-enhanced optical frequency comb spectroscopy*
A. Khodabakhsh, C. Abd Alrahman, and A. Foltynowicz
Field Laser Applications in Industry and Research, Florence, Italy, May 2014
82. *Cavity-enhanced optical frequency comb spectroscopy of H₂O and CO₂ in a flame*
C. Abd Alrahman, A. Khodabakhsh, F. M. Schmidt, Z. Qu, and A. Foltynowicz
Field Laser Applications in Industry and Research, Florence, Italy, May 2014
83. *Optical measurement of the gas number density in a Fabry–Perot cavity*
I. Silander, M. Zelan, O. Axner, F. Arrhén, L. Pendrill, and A. Foltynowicz
Field Laser Applications in Industry and Research, Florence, Italy, May 2014
84. *Fourier-transform cavity-enhanced optical frequency comb spectroscopy*
A. Foltynowicz, C. Abd Alrahman, A. Khodabakhsh
Cavity Enhanced Spectroscopy, Naples, Italy, Jun 2013
85. *Cavity-enhanced direct frequency comb spectroscopy in the mid-infrared*
A. J. Fleisher, B. J. Bjork, K. C. Cossel, A. Foltynowicz, P. Maslowski, and J. Ye
Gordon Research Conference on Atomic and Molecular Interactions, Easton, MA, USA, Jul 2012
86. *Developments in cavity-enhanced direct frequency comb spectroscopy*
B. J. Bjork, A. Foltynowicz, A. J. Fleisher, P. Maslowski, and J. Ye
43rd Annual DAMOP Meeting, Anaheim, CA, USA, Jun 2012
87. *Mid-infrared frequency comb spectrometer based on an optical parametric oscillator*
F. Adler, P. Maslowski, A. Foltynowicz, K. C. Cossel, S. A. Diddams, and J. Ye
IEEE Photonics Society Summer Topical Meetings, Montreal, QC, Canada, Jul 2011
88. *Direct frequency comb spectroscopy of molecules in the mid-infrared*
P. Maslowski, A. Foltynowicz, F. Adler, K. C. Cossel, T. Ban, T. C. Briles, and J. Ye
Frontiers in Spectroscopy: Faraday Discussion 150, Basel, Switzerland, April 2011
89. *High-resolution mid-infrared frequency comb Fourier transform spectrometer*
F. Adler, P. Maslowski, A. Foltynowicz, K. C. Cossel, T. C. Briles, and J. Ye
Frontiers in Optics, Rochester, NY, USA, Oct 2010
90. *Broadband direct frequency comb spectroscopy in the mid-IR*
P. Maslowski, A. Foltynowicz, F. Adler, K. C. Cossel, T. C. Briles, and J. Ye
21st International Conference on High Resolution Spectroscopy, Poznan, Poland, Sept 2010
91. *Applications of cavity-enhanced direct frequency comb spectroscopy*
A. Foltynowicz, P. Maslowski, F. Adler, K. C. Cossel, T. C. Briles, and J. Ye
21st International Conference on High Resolution Spectroscopy, Poznan, Poland, Sept 2010
92. *Fiber-laser-based NICE-OHMS for trace gas detection*
A. Foltynowicz, W. Ma, and O. Axner
Ohio State University International Symposium on Molecular Spectroscopy, Columbus, OH, USA, Jun 2009
93. *Fiber-laser-based NICE-OHMS for ultra-sensitive trace species detection*
A. Foltynowicz, F. M. Schmidt, W. Ma, and O. Axner
Laser Applications to Chemical Security, and Environmental Analysis, St. Petersburg, FL, USA, Mar 2008
94. *Fiber-laser-based NICE-OHMS and trace gas detection*

A. Foltynowicz, F. M. Schmidt, W. Ma, and O. Axner
Stable Isotope Ratio Infrared Spectrometry, Florence, Italy, Sept 2007

95. *Fiber-laser-based NICE-OHMS and trace gas detection*
A. Foltynowicz, F. M. Schmidt, W. Ma, and O. Axner
Field Laser Applications in Industry and Research, Florence, Italy, Sept 2007
96. *A scrutiny of NICE-OHMS for trace species detection*
A. Foltynowicz, F. M. Schmidt, W. Ma, and O. Axner
Tunable Diode Laser Spectroscopy, Reims, France, Jul 2007
97. *Fiber-laser-based NICE-OHMS for ultra-sensitive trace species detection*
F. M. Schmidt, A. Foltynowicz, W. Ma, and O. Axner
Tunable Diode Laser Spectroscopy, Reims, France, Jul 2007