

## Refereed Publications

- *Alternative ideas in cosmology*, M. López-Corredoira, **L. Marmet**, in preparation for the International Journal of Modern Physics D (2022)
- *Technique for Rapid Mass Determination of Airborne Microparticles Based on Release and Recapture from an Optical Dipole Force Trap*, G. Carlse, K.B. Borsos, H.C. Beica, T. Vacheresse, A. Pouliot, J. Perez-Garcia, A. Vorozcovs, B. Barron, S. Jackson, **L. Marmet**, A. Kumarakrishnan, Physical Review Applied **14**(2), 024017 (2020)
- *Development of a Technique for Precise Determination of Atomic Lifetimes Based on Photon Echoes*, H.C. Beica, A. Pouliot, P. Dowling, A. Carew, T. Vacheresse, G. Carlse, **L. Marmet**, A. Kumarakrishnan, Physical Review A **101**(3), 033408 (2020)
- *Mapping the magnetic field vector in a fountain clock*, M. Gertsvoft, **L. Marmet**, Review of Scientific Instruments **82**(12) 123115 (2011)
- *Cavity-enhanced optical frequency doubler based on transmission-mode Hänsch-Couillaud locking*, M. Vainio, J.E. Bernard, **L. Marmet**, Applied Physics B**104**: Lasers and Optics (4) 897 (2011)
- *A narrow linewidth and frequency-stable probe laser source for the  $^{88}\text{Sr}^+$  single ion optical frequency standard*, P. Dubé, A.A. Madej, J.E. Bernard, **L. Marmet**, A.D. Shiner, Applied Physics B**95**: Lasers and Optics (1) 43-54 (2009)
- *Laser cooling with a modified optical shaker*, **L. Marmet**, Physical Review **A79**(1) 013412 (2009) [arXiv:0901.1671](https://arxiv.org/abs/0901.1671)
- *Quantum physics exploring gravity in the outer solar system: the SAGAS project*, P. Wolf, Ch.J. Bordé, A. Clairon, L. Duchayne, A. Landragin, P. Lemonde, G. Santarelli, W. Ertmer, E. Rasel, F.S. Cataliotti, M. Inguscio, G.M. Tino, P. Gill, H. Klein, S. Reynaud, C. Salomon, E. Peik, O. Bertolami, P. Gil, J. Paramos, C. Jentsch, U. Johann, A. Rathke, P. Bouyer, L. Cacciapuoti, D. Izzo, P. De Natale, B. Christophe, P. Touboul, S.G. Turyshv, J.D. Anderson, M.E. Tobar, F. Schmidt-Kaler, J. Vigué, A. Madej, **L. Marmet**, M.-C. Angonin, P. Delva, P. Tournenc, G. Metris, H. Müller, R. Walsworth, Z.H. Lu, L. Wang, K. Bongs, A. Toncelli, M. Tonelli, H. Dittus, C. Lämmerzahl, G. Galzerano, P. Laporta, J. Laskar, A. Fienga, F. Roques, K. Sengstock, Experimental Astronomy **23**(2) 651 (2008) [arXiv:0711.0304](https://arxiv.org/abs/0711.0304)
- *Optical Forces as a Redshift Mechanism: The “Spectral Transfer Redshift”*, **L. Marmet**, 2<sup>nd</sup> Crisis in Cosmology Conference, CCC-2, Astronomical Society of the Pacific Conference Series **413**, 268 (2008)
- *Laser-Cooled Atoms and Ions in Precision Time and Frequency Standards*, J.E. Bernard, **L. Marmet**, A.A. Madej, P. Dubé, Physics in Canada **62**(2) 67 (2006)
- *Electric quadrupole shift cancellation in single-ion optical frequency standards*, P. Dubé, A.A. Madej, J.E. Bernard, **L. Marmet**, J.-S. Boulanger, S. Cundy, Physical Review Letters **95**(3), 033001 (2005)
- *Absolute frequency of the  $^{88}\text{Sr}^+$   $5s\ ^2S_{1/2} - 4d\ ^2D_{5/2}$  reference transition at 445 THz and evaluation of systematic shifts*, A.A. Madej, J.E. Bernard, P. Dubé, **L. Marmet**, R.S. Windeler, Physical Review **A 70**(1), 012507 (2004)
- *Absolute Frequency Measurement of a  $\text{CO}_2/\text{OsO}_4$  stabilised Laser at 28.8 THz*, K.J. Siemsen, J.E. Bernard, A.A. Madej, **L. Marmet**, Applied Physics B: Lasers and Optics **72**(5) 567 (2001)
- *Absolute frequency measurement of the  $\text{HeNe}/\text{I}_2$  standard at 633 nm*, J.E. Bernard, A.A. Madej, K.J. Siemsen, **L. Marmet**, Optics Communications **187**(1/3) 211 (2001)
- *Accuracy Comparison of Absolute Optical Frequency Measurement between Harmonic-Generation Synthesis and a Frequency-Division Femtosecond Comb*, J. Ye, T.H. Yoon, J.L. Hall, A.A. Madej, J.E. Bernard, K.J. Siemsen, **L. Marmet**, J.-M. Chartier, A. Chartier, Physical Review Letters **85**(18) 3797 (2000)
- *Optical Ramsey spectroscopy and coherence measurements of the clock transition in a single trapped Sr ion*, **L. Marmet**, A.A. Madej, Canadian Journal of Physics, Boris Stoicheff Festschrift Issue **78**(5/6) 495 (2000)

- *Effect of counterintuitive time delays in nonlinear mixing*, R.I. Thompson, **L. Marmet**, B.P. Stoicheff, Optics Letters **25**(2), 120 (2000)
- *Absolute frequency measurement of a laser at 1556 nm locked to the  $^5S_{1/2}$ - $^5D_{5/2}$  two-photon transition in  $^{87}\text{Rb}$* , J.E. Bernard, A.A. Madej, K.J. Siemsen, **L. Marmet**, C. Latrasse, M. Poulin, D. Touahri, M. Allard, M. Têtu, Optics Communications **173**(1/6) 357 (2000)
- *Absolute Frequency Measurement of an HDO Absorption Line near  $1480\text{ cm}^{-1}$* , K.J. Siemsen, J.E. Bernard, A.A. Madej, **L. Marmet**, Journal of Molecular Spectroscopy **199**(1) 144 (2000)
- *Single, trapped ions for absolute optical frequency measurements*, A.A. Madej, J.E. Bernard, **L. Marmet**, K.J. Siemsen, LEOS Newsletter, IEEE Lasers and Electro-Optics Society, **13**(5) 3 (1999)
- *Linking the 474 THz HeNe/I<sub>2</sub> standard to the 445 THz single Sr<sup>+</sup> trapped ion standard: heterodyne frequency measurements using an OsO<sub>4</sub> stabilized 29 THz laser system*, A.A. Madej, K.J. Siemsen, **L. Marmet**, J.E. Bernard, O. Acef, IEEE Transactions on Instrumentation and Measurement **48**(2) 553 (1999)
- *Cs-based Frequency Measurement of a Single, Trapped Ion Transition in the Visible Region of the Spectrum*, J.E. Bernard, A.A. Madej, **L. Marmet**, B.G. Whitford, K.J. Siemsen, S. Cundy, Physical Review Letters **82**(16) 3228 (1999)
- *Phase-locked optical divide-by-3 system for visible radiation*, J.E. Bernard, B.G. Whitford, **L. Marmet**, Optics Letters **24**(2) 98 (1999)
- *Rb Atomic Absorption Line Reference for Single Sr<sup>+</sup> Laser Cooling Systems*, A.A. Madej, **L. Marmet**, J.E. Bernard, Applied Physics B: Lasers and Optics **67**(2) 229 (1998)
- *A laser frequency lock referenced to a single trapped ion*, J.E. Bernard, **L. Marmet**, A.A. Madej, Optics Communications **150**(1/6) 170 (1998)
- *Precision frequency measurement of the  $^2S_{1/2}$ - $^2D_{5/2}$  transition of Sr<sup>+</sup> with a 674-nm diode laser locked to an ultrastable cavity*, **L. Marmet**, A.A. Madej, K.J. Siemsen, J.E. Bernard, B.G. Whitford, IEEE Transactions on Instrumentation and Measurement **46**(2) 169 (1997)
- *A multiple frequency heterodyne technique for the measurement of long gauges*, K.J. Siemsen, R.F. Siemsen, J.E. Decker, **L. Marmet**, J.R. Pekelsky, Metrologia **33**(6) 555 (1996)
- *Rubidium Rydberg atoms in strong static fields*, G. Raithel, H. Held, **L. Marmet**, H. Walther, Journal of Physics B: Atomic, Molecular and Optical Physics **27**(13) 2849 (1994)
- *Observation of Quasi-Landau Wave Packets*, **L. Marmet**, H. Held, G. Raithel, J.A. Yeazell, H. Walther, Physical Review Letters **72**(24) 3779 (1994)
- *Observation of wave packet motion along quasi-Landau orbits*, J.A. Yeazell, G. Raithel, **L. Marmet**, H. Held, H. Walther, Physical Review Letters **70**(19) 2884 (1993)
- *Second-harmonic generation in atomic hydrogen induced by a charge-separation field*, **L. Marmet**, K. Hakuta, B.P. Stoicheff, Journal of the Optical Society of America **B 9**(7) 1038 (1992)
- *Nonlinear optical generation with reduced absorption using electric-field coupling in atomic hydrogen*, K. Hakuta, **L. Marmet**, B.P. Stoicheff, Physical Review **A 45**(7) 5152 (1992)
- *Second Harmonic Generation in Atomic Hydrogen With and Without an Electric Field*, **L. Marmet**, Ph. D. Thesis, University of Toronto, 114 pages, Canada (1991)
- *Second-harmonic generation at Lyman-alpha in atomic hydrogen*, **L. Marmet**, K. Hakuta, B.P. Stoicheff, Optics Letters **16**(4) 261 (1991)
- *Electric-field-induced second-harmonic generation with reduced absorption in atomic hydrogen*, K. Hakuta, **L. Marmet**, B.P. Stoicheff, Physical Review Letters **66**(5) 596 (1991)
- *Binomial smoothing filter: A way to avoid some pitfalls of least square polynomial smoothing*, P. Marchand, **L. Marmet**, Review of Scientific Instruments **54**(8) 1034 (1983)

## Book chapter

- *On the road to ultra-high resolution and ultra-accurate spectroscopy at the National Research Council of Canada: Following the path of John L. Hall*, A.A. Madej, P. Dubé, **L. Marmet**, J.E. Bernard, K.J. Siemsen, Proceedings

of the John Hall Symposium: in honor of John Hall on the Occasion of His 70<sup>th</sup> Birthday (J.C. Bergquist et al. eds.) ISBN 981-256-745-3, World Scientific, Singapore, pp. 40–49 (2006)

## Patent

*Frequency Stabilization of an Atomic Clock Against Variations of the C-Field*, United States. US9048852 B2. 2012/02/06. Patent Status: Granted/Issued. Year Issued: 2015. Inventor: L. Marmet (2012)

## Conference presentations and Proceedings

- *Reducing the Uncertainty on the Dispersion Measure of FRB hosts*, **L. Marmet**, [FRB 2021 online Conference](#), Poster & Lightning talk ID PL04 (July 28th – August 5th, 2021)
- *Distributed cavity phase calculation for a rectangular Ramsey cavity in NRC-FCs1*, **L. Marmet**, N. Shtin, P. Dubé, J.M. López, to appear in the Proceedings of International Frequency Control Symposium and European Frequency and Time Forum (IFCS-EFTF), editor A. Partridge, Prague, Czech Republic ([2013](#))
- *Reduction of the Magnetic Sensitivity of an Atomic Clock Against the Non-Uniformity and Variations of the C-Field*, **L. Marmet**, Proceedings of the IEEE International Frequency Control Symposium and the European Frequency and Time forum, San Francisco ([2011](#))
- *Evaluation of NRC-FCs1: Mapping the C-field using the Larmor frequency*, **L. Marmet**, M. Gertsvolf, Proceedings of the Frequency Control Symposium, Newport Beach CA ([2010](#))
- *Update on the development of NRC-FCs1*, **L. Marmet**, Proceedings of the IEEE International Frequency Control Symposium Joint with the 22<sup>nd</sup> European Frequency and Time forum, Besançon France (Apr. [2009](#))
- *Detailed description of FCs1: NRC's cesium fountain primary standard*, **L. Marmet**, B. Hoger, P. Dubé, A.A. Madej, J.E. Bernard, Proceedings of the IEEE Int'l Frequency Control Symposium, Honolulu ([2008](#))
- *Optical Forces as a Redshift Mechanism: The "Spectral Transfer Redshift"*, **L. Marmet**, 2<sup>nd</sup> Crisis in Cosmology Conference, CCC-2 [268](#) (2008)
- *Progress in Building NRC's Cesium Fountain Clock*, **L. Marmet**, P. Dubé, C. Gigault, Proceedings of the IEEE International Frequency Control Symposium, Vancouver ([2005](#))
- *Progress towards NRC's fountain clock FCs1*, **L. Marmet**, E. Guillot, J.-S. Boulanger, Conference on Precision Electromagnetic Measurements digest, p. 468, Ottawa ([2002](#))
- *An electrostatic light shutter for atomic fountain clocks*, **L. Marmet**, R.M. Thomson, Proceedings of the IEEE International Frequency Control Symposium and PDA Exhibition, New Orleans ([2002](#))
- *The Ultimate Accuracy of Cooled-Cesium Atomic Clocks: Only time will tell*, **L. Marmet**, Invited talk, CAP Congress, 17-20 June, Victoria, B.C. (2001)
- *Precision Absolute Frequency Measurements using a Strontium Single Ion Optical Frequency Standard*, **L. Marmet**, A.A. Madej, J.E. Bernard, K.J. Siemsen, C. Latrasse, D. Touahri, M. Poulin, M. Allard, M. Têtu, Invited talk, IEEE/EIA International Frequency Control Symposium, Kansas City (June 2000)
- *Preliminary Results of NRC's Atomic Cesium Fountain*, **L. Marmet**, M.-C. Gagné, J.-S. Boulanger, R.J. Douglas, E. Guillot, S. Ghezali, IEEE/EIA International Frequency Control Symposium, Kansas City MO, U.S.A. (June 2000)
- *Dynamical Behaviour of the Temperature in Cs Optical Molasses*, **L. Marmet**, M.-C. Gagné, J.-S. Boulanger, Proceedings of the IEEE International Frequency Control Symposium, Pasadena CA, U.S.A., [46](#) (May 1998)
- *Breaking the Kilohertz Barrier: Optical Spectroscopy at the Hertz Level for Single Trapped Ion*, **L. Marmet**, A.A. Madej, J.E. Bernard, B.G. Whitford, K.J. Siemsen, Canadian Association of Physicists Congress, Calgary (1997)
- *Precision frequency measurement of the clock transition in a Sr<sup>+</sup> single atom with an ultra-stable diode laser*, **L. Marmet**, A.A. Madej, K.J. Siemsen, J.E. Bernard, [Conference](#) on Precision Electromagnetic Measurements, Braunschweig, Germany (1996)
- *Laser coupling to an ultra-stable Fabry-Perot cavity using optical fiber coupling*, **L. Marmet**, J.D. Sankey, Congrès

de l'Association Canadienne des Physiciens, Québec City (1995)

- *Wave packet motion in B and E fields observed with a phase sensitive technique*, **L. Marmet**, H. Held, G. Raithel, J.A. Yeazell, H. Walther, Optical Society of America Annual Meeting, Toronto (1993)
- *Classical orbits of a Rydberg atom in strong electric and magnetic fields*, **L. Marmet**, J.A. Yeazell, G. Raithel, H. Held, H. Walther, Deutsche Physikalische Gesellschaft Frühjahrstagung, Berlin (1993)
- *Second-harmonic generation in atomic hydrogen at Lyman-Alpha*, **L. Marmet**, K. Hakuta, B.P. Stoicheff, Optical Society of America Annual Meeting, Boston MA, U.S.A. (1990)
- *Second-harmonic generation in atomic hydrogen*, **L. Marmet**, K. Hakuta, Optical Society of America Annual Meeting, Orlando FL (1989)
- *Charge-separation field induced second harmonic in atomic hydrogen*, **L. Marmet**, Ontario Laser and Lightwave Research Centre, Light propagation in Nonlinear Media (Summer School One), Orangeville, Ontario (1989)
- *Fluorescence Excitation and Lifetime Measurements in Atomic Hydrogen*, **L. Marmet**, B.P. Stoicheff, Canadian Association of Physicists Congress, Toronto (1987)
- *Automation d'un magnétomètre supraconducteur*, G. Lamarche, F. Lamarche, **L. Marmet**, M. d'Iorio, Association Canadienne-Française pour l'avancement des Sciences, ACFAS 52<sup>nd</sup> Congress, Québec Qué. (May 9-11 1984)

## Seminars

- *Cold Atoms, Cool Lasers, and a light-atom interaction that can heat interstellar gases*, PAGE Conference, Department of Physics, York University (May-10, 2018)
- *Accurate time measurement: how and why?* Guest lecturer, Carleton University, Ottawa (Sept. 2011)
- *Measuring the 15<sup>th</sup> significant digit: Evaluation of a Fountain Clock*, INMS Seminar Series, Ottawa (Nov. 2009)
- *Frequency & Time Group and NRC activities*, National Physical Laboratories, UK (June 2008)
- *Building Better Atomic Clocks*, University of Ottawa Physics Colloquium, Ottawa (Mar. 2006)
- *Cooled Cesium Standards and Beyond*, INMS Seminar Series, Ottawa (Oct. 2005)
- *Atomic Time with Cooled Cesium Atoms*, Invited talk, York University, Toronto (Mar. 2004)
- *NRC's Cooled Cesium Time Standard*, Inv. talk (given by A. Madej), Banff Meeting on Cooled Atoms (21 Feb. 2004)
- *The ultimate accuracy of Cooled-Cesium Atomic Clocks*, Invited talk, University of Ottawa, Ottawa (Oct. 2001)

## Reports and Papers

- *ACG Newsletter*, **L. Marmet**, **A Cosmology Group**, 24 Newsletters published (March 2018 – February 2021)
- *On the Interpretation of Spectral Red-Shift in Astrophysics: A Survey of Red-Shift Mechanisms - II*, **L. Marmet**, [arXiv:1801.07582](https://arxiv.org/abs/1801.07582) (Jan. 2018)
- *First occurrences of square-free gaps and an algorithm for their computation*, **L. Marmet**, [arXiv:1210.3829](https://arxiv.org/abs/1210.3829) (Oct. 2012)
- *Rotation Dynamics of a Galaxy with a Double Mass Distribution*, **L. Marmet**, [arXiv:1210.1998](https://arxiv.org/abs/1210.1998) (Oct. 2012)
- *NRC's recommendations for the questionnaire SG7 ITU-R and advice on the proposed revision of Recommendation ITU-R TF.460-6*, **L. Marmet**, for Industry Canada, the Canadian representative of the International Telecommunications Union (Sept. 2010)
- *Smallest integer equal to the sum and the product of the same n positive integers*, **L. Marmet**, Sequence [A104173](https://www.oeis.org/A104173), On-Line Encyclopedia of Integer Sequences, N.J. Sloane, AT&T Research (Mar. 2005)
- *Finite Element Analysis on the Length Change of a ULE Glass Bar for a Stable Reference*, **L. Marmet**, P. Dubé, G. Li, G. Shi, INMS-NRC Report NRCC46691 (2005)
- *Smallest of first run of exactly n consecutive integers which are not square-free; Qgap(10), Qgap(12) to Qgap(18)*, **L. Marmet**, D. Bernier, Sequence [A051681](https://www.oeis.org/A051681), On-Line Encyclopedia of Integer Sequences, N.J. Sloane, AT&T Research (Dec. 1999)
- *Updated precision measurement of a CO<sub>2</sub> laser based reference frequency for the frequency measurement of the*



*445 THz  $^{88}\text{Sr}^+$  single ion transition*, K.J. Siemsen, A.A. Madej, **L. Marmet**, J.E. Bernard, NRC Internal Report No. NRCC 41372, Ottawa, Canada. National Research Council of Canada (October 1997)

- *Preliminary Phase Coherent Frequency Chain Measurements of the 445 THz  $\text{Sr}^+$  Single Ion Transition*, J.E. Bernard, B.G. Whitford, A.A. Madej, **L. Marmet**, K.J. Siemsen, NRC Internal Report No. NRCC 41373, Ottawa, Canada. National Research Council of Canada (October 1997)

- *Almanach Graphique*, **L. Marmet**, Le Centre de Québec de la Société Royale d'Astronomie du Canada, ISSN 0384-7691, Published annually (1979–1991)

## Public Outreach

- *Escaping cosmology's failing paradigm*, The Institute of Art and Ideas, [iai news](#) (Nov. 4, 2021)
- *La théorie du Big Bang: Comment en est-on venu à penser que l'univers provient d'une gigantesque explosion?* Déjeuner-conférence, Société des Amis Canada-France (29 septembre 2018)
- *Canadian time keepers*, radio interview with Maxime De Kiewit, CJMQ 88.9FM Lennoxville (Mar. 11, 2013)
- *Le changement de l'heure*, radio interview with Marie-Line Leblanc, CFIM 92.7FM Iles-de-la-Madeleine (Mar. 8, 2013)
- *How Canada's Official Time is Kept*, NRC promotional video [www.youtu.be/HFMsI.ZbOSw](http://www.youtu.be/HFMsI.ZbOSw), Ottawa (Mar. 7, 2013)
- *CBC Quirks and Quarks*, interview about the second and the meter, Ottawa (Jan. 12, 2013)
- *The time change and the effects on humans*, Interview on 600AM Calgary (Nov. 1, 2012)
- *CTV News Channel Express*, live interview about the leap second, Ottawa (June 29, 2012)
- *Les chroniques scientifiques de Jean-René Dufort*, interview, Explora science channel (Radio Canada), episode 14 "le temps canadien" (Sept. 24, 2012)
- *Là est la question*, interview, TFO TV, Montréal (Sept. 14, 2011)
- *Canada's Official Time*, interview, J.D. Brown, CJBQ-AM Belleville, Ontario (Feb. 24, 2011)
- *Le maître horloger du Canada*, interview, D. Thibeault, Radio-Canada Télévision, Ottawa (Dec. 31, 2010)
- *A global shortage of memory chips in the blink of an eye*, interview, P. Waldie, Globe and Mail (Dec. 10, 2010)
- *Le temps atomique canadien et la collaboration avec le Bureau International des Poids et Mesures*, seminar, Société des Amis Canada-France, Ottawa (Apr. 18, 2010)
- Tours of NRC-INMS laboratories for students from École Polytechnique (Oct. 22&29, 2009)
- *2011: L'odyssée du temps*, documentary, Le Code Chasténay, Télé Québec/Pixom (Feb. 11, 2008)
- *Clock changes - Daylight saving time*, live interview, R. d'Anjou, CHRC-AM (Corus), Québec (Nov. 2, 2007)
- *Time is on our side*, interview, A. Ventimiglia, Canadian Geographic, Ottawa (July/Aug. 2007)
- Tour of NRC-INMS laboratories for 30 Toronto students, Ottawa (May 28, 2007)
- *Universal Time: How can an atomic clock tick so accurately?* CISTI Seminars, Ottawa (Apr. 25, 2007)
- *Daylight Saving time*, interview, S. Fabiant, Radio-Canada Calgary (Mar. 9, 2007)
- *Decision to change Daylight Saving Time schedule*, interview, K. Djinko, Radio-Canada, Toronto (Mar. 9, 2007)
- *Tout le Monde Debout*, live interview about Daylight Saving Time, M.-C. Morin, and A. Larivière, radio Rock Détente 94.9-FM, Gatineau (Mar. 9, 2007)
- *L'heure avancée*, live interview, S. Chiasson, Radio-Canada, Moncton (Mar. 7, 2007)
- *How Canada has shaped the history of time*, web news interview, Capital News, Ottawa (Jan. 26, 2007)
- *Does anyone have the time?* documentary, Daily Planet (Discovery Channel Canada) (May 10, 2006)
- *La machine à mesurer le temps*, interview, B.A. Vu Van, Québec Science magazine (Mar. 2006)
- *Why a clock that loses 1 second every 30 million years won't cut it*, interview, S. Rennie, The Ottawa Citizen (Feb. 17, 2006)
- *A l'abris du temps*, documentary, S. Drolet, 78 min., National Film Board (2000)

## Other Conference Proceedings

- *Precise Determination of Atomic Lifetimes Based on Optical Photon Echoes*, H.C. Beica, A. Pouliot, P. Dowling, A. Carew, T. Vacheresse, G. Carlse, **L. Marmet**, A. Kumarakrishnan, *Frontiers in Optics/Laser Science - OSA Meeting, JTu4A*, Washington D. C. (September 2019)
- *Optical Tweezers Experiments with Home Built laser systems*, K. Borsos, G. Carlse, H. Beica, J. Perez-Garcia, A. Pouliot, T. Vacheresse, **L. Marmet**, A. Kumarakrishnan, *York University NSERC USRA Conference*, Toronto (July 2019)
- *Time and Frequency activities at NRC*, P. Dubé, A.A. Madej, J.E. Bernard, **L. Marmet**, M. Gertszov, in *Time and Frequency Metrology III*, Proceedings of the SPIE, San Diego, California, USA (T. Ido and T.R. Schibli eds.) SPIE press, Bellingham WA, ISBN 978-0-8194-8742-1, Vol. 8132, pp. [81320G-1 to 81320G-11](#) (2011)
- *Overview of Highly Accurate RF and Optical Frequency Standards at the National Research Council of Canada*, A.A. Madej, J.E. Bernard, P. Dubé, **L. Marmet**, in *Proceedings of the 7<sup>th</sup> Symposium on Frequency Standards and Metrology* (L. Maleki ed.) World Scientific, Singapore, ISBN-13 978-981-283-821-6, pp. [259–267](#) (2009)
- *Extended Precision Measurements of a Strontium Single Ion Optical Frequency Standard and its Development as an Optical Atomic Clock*, A.A. Madej, P. Dubé, J.E. Bernard, A.D. Shiner, **L. Marmet**, J. Jiang, D.J. Jones, in *Conference on Precision Electromagnetic Measurements Digest*, 8-13 June 2008, Broomfield CO (A.H. Cookson ed.) Johnson Printing, USA, IEEE Catalog No. CFP08PEM-PRT, ISBN: 978-1-4244-2399-6, pp. [92–93](#) (2008)
- *Measurement of the  $^{88}\text{Sr}^+$  reference transition frequency with a new probe laser system*, P. Dubé, **L. Marmet**, A.A. Madej, J.E. Bernard, in *2004 Conference on Precision Electromagnetic Measurements Digest*. IEEE Press, Piscataway NJ, USA, IEEE Catalog No. 04CH37570, pp. [283–284](#) (2004)
- *Optical Frequency Comb Measurements at 633 nm, 674 nm, and 1556 nm*, J.E. Bernard, A.A. Madej, P. Dubé, **L. Marmet**, A. Czajkowski, R.S. Windeler, in *Proceedings of the 2003 IEEE International Frequency Control Symposium and PDA Exhibition Jointly with the 17<sup>th</sup> European Frequency and Time Forum*, pp. [162–167](#) (2003)
- *Optical frequency measurements at the National Research Council*, J.E. Bernard, A.A. Madej, K.J. Siemsen, P. Dubé, **L. Marmet**, A. Czajkowski, R.S. Windeler, in *Conference on Precision Electromagnetic Measurements Digest*, 16-21 June 2002, Ottawa Ont., Canada. pp. [480–481](#) (2002)
- *Progress Towards an Improved  $^{88}\text{Sr}^+$  Single Ion Optical Frequency Standard*, P. Dubé, **L. Marmet**, J.E. Bernard, K.J. Siemsen, A.A. Madej, in *Frequency Standards And Metrology*, University of St. Andrews, Fife, Scotland, 14 September 2001, pp. [489–491](#) (2002)
- *Precision optical frequency measurements and coherent spectroscopy with a single trapped ion standard*, P. Dubé, A.A. Madej, J.E. Bernard, K.J. Siemsen, **L. Marmet**, in *Laser Frequency Stabilization, Standards, Measurement, and Applications*, San Jose, CA, USA (J.L. Hall, J. Ye eds.) Proceedings of the SPIE, the International Society for Optical Engineering, Vol. 4269, pp. [84–94](#) (2001)
- *Accurate frequency standard at 1556.2 nm based on a two-photon transition in rubidium for absolute calibration of WDM systems*, C. Latrasse, D. Touahri, M. Poulin, M. Allard, M. Têtu, J.E. Bernard, A.A. Madej, K.J. Siemsen, **L. Marmet**, *Optical Fiber Communication Conference*, Baltimore MD, USA. Technical Digest Series, Vol. 2, pp. 70–72 (2000)
- *Optical frequency measurements with a single, trapped strontium ion standard*, J.E. Bernard, A.A. Madej, K.J. Siemsen, **L. Marmet**, in *IQEC Proceedings*, International Quantum Electronics Conference, Nice, France. p. 29 (2000)
- *The Strontium single ion standard: Application to optical frequency measurements of the 385-THz Rb two-photon transition and the 474-THz I<sub>2</sub>/HeNe standard*, A.A. Madej, J.E. Bernard, K.J. Siemsen, **L. Marmet**, C. Latrasse, D. Touahri, M. Poulin, M. Allard, M. Têtu, in *2000 Conference on Precision Electromagnetic Measurements Digest*, Sydney, Australia. pp. 145-146 (2000)
- *Cs-referenced optical frequency measurement of the single, trapped  $\text{Sr}^+$  ion standard at 445 THz*, J.E. Bernard, A.A. Madej, **L. Marmet**, K.J. Siemsen, B.G. Whitford, in *Proceedings of the 1999 Joint Meeting of the European Frequency and Time Forum and the IEEE International Frequency Control Symposium*. Vol. 2, pp. 722-725 (2000)
- *Application of a phase-locked optical divide-by-three system to precision optical frequency measurements*, J.E. Bernard, B.G. Whitford, **L. Marmet**, A.A. Madej, K.J. Siemsen, in *Proceedings of the 1998 Conference on Lasers and*

Electro-Optics, CLEO Technical Digest, San Francisco CA, USA. p. 449 (1998)

- *Defining the Single Atom Oscillator: Phase-Locked Absolute Frequency Measurements of the Strontium Single Ion Optical Frequency Standard*, A.A. Madej, **L. Marmet**, J.E. Bernard, K.J. Siemsen, in Proceedings of the 16<sup>th</sup> International Conference on Atomic Physics, Windsor Ont., August 3-7, 1998. pp. 494–495 (1998)

- *A 29 THz OsO<sub>4</sub> stabilized reference laser for linking the 474 THz HeNe/I<sub>2</sub> optical standard to the 445 THz single strontium ion standard*, K.J. Siemsen, A.A. Madej, **L. Marmet**, in Conference on Precision Electromagnetic Measurements Digest, July 6-10, 1998, Washington D.C., USA. pp. 397–398 (1998)

- *The Strontium Single Ion Optical Frequency Standard: Preliminary Absolute Frequency Measurements using a Phase-locked Optical Frequency Chain*, A.A. Madej, J.E. Bernard, B.G. Whitford, **L. Marmet**, K.J. Siemsen, in Conference on Precision Electromagnetic Measurements, July 6-10, 1998, Washington D.C., USA (T.L. Nelson ed.) Conference Digest No. 98CH36254, IEEE Piscataway, NJ. pp. 323–324 (1998)

- *Sub-Kilohertz Linewidths and Absolute Frequency Measurements for the Single Sr<sup>+</sup> Atom at 445 THz*, A.A. Madej, **L. Marmet**, J.E. Bernard, K.J. Siemsen, B.G. Whitford, in Laser Spectroscopy, XIII International Conference. World Scientific, Singapore (1997)

- *Precision absolute frequency measurements with single atoms of Ba<sup>+</sup> and Sr<sup>+</sup>*, A.A. Madej, K.J. Siemsen, B.G. Whitford, J.E. Bernard, and **L. Marmet**, in Proceedings of the Fifth Symposium on Frequency Standards and Metrology, (J.C. Bergquist ed.) World Scientific, Singapore, New Jersey, London, Hong Kong. pp. 165–170 (1996)

- *Observation of Quasi-Landau Wave Packets*, H. Held, **L. Marmet**, H. Walther, in Laser Spectroscopy, 12<sup>th</sup> International Conference. World Scientific, Singapore. pp. 289–290 (1996)

- *Second-harmonic Generation with Reduced Absorption in Atomic Hydrogen*, K. Hakuta, **L. Marmet**, B.P. Stocheff, in Laser Spectroscopy X: Proceedings of the Tenth International Conference on Laser Spectroscopy (1991)

- *Second-Harmonic Generation in Atomic Hydrogen*, K. Hakuta, **L. Marmet**, Canadian Association of Physicists Congress (26–28 June 1989)