

**David Villeneuve**

National Research Council of Canada 100 Sussex Drive Ottawa ON Canada K1A 0R6 E-mail: <a href="mailto:David.Villeneuve@nrc-cnrc.gc.ca">David.Villeneuve@nrc-cnrc.gc.ca</a>	Department of Physics University of Ottawa Ottawa ON Canada K1N 6N5 Email: David.Villeneuve@uottawa.ca
---	---

**Education**

B.Math: University of Waterloo, 1975  
Ph.D (Physics): University of Waterloo, 1980  
NSERC Postdoctoral Fellowship: University of Rochester, 1980-82.

**Employment**

Group leader, National Research Council, Attosecond Science, 2006 – 2021  
Principal Research Scientist, National Research Council, Ottawa, 1982-2021.  
Researcher Emeritus, National Research Council, 2021--.  
Adjunct professor of physics, University of Ottawa, 2006--  
Adjunct professor, Université du Québec (INRS-EMT), 1991--2008.

**Awards and Honours**

Schneider Medal of the National Research Council of Canada 2023.  
NRC Commemorative Centennial Medallion, 2018  
IEEE Quantum Electronics Award 2016.  
Thomson-Reuters Highly Cited Author 2014 for period 2004-2014.  
Fellow, Royal Society of Canada, 2014.  
Fellow, Optical Society of America 2011.  
Fellow, American Physical Society 2007.  
The 125th Anniversary of the Confederation of Canada Medal, 1992.

**Impact Summary**

- h-index = 69 (ISI Web of Science, December 2022)  
h-index = 69 (Scopus, January 2021)  
h-index = 78 (Google Scholar, January 2023).
- 242 articles, 23,000 citations.
- Science (7 papers), Nature (6), Nature Physics (8), Nature Photonics (9), Phys Rev Lett (59).
- 12 articles rated as Highly Cited by Web of Science.
- 33 invited talks in past 5 years.
- Thomson-Reuters Highly Cited Author 2014 for period 2004-2014 (1 of 144 physicists worldwide, and 1 of 3 Canadians) ([The World's Most Influential Scientific Minds 2014](#))

Web of Science Researcher ID: <http://www.researcherid.com/rid/I-4140-2012>

Scopus author ID <https://www.scopus.com/authid/detail.uri?authorId=7103162769> .

Google Scholar profile: [https://scholar.google.ca/citations?user=igYm\\_loAAAAJ&hl=en](https://scholar.google.ca/citations?user=igYm_loAAAAJ&hl=en)

### **Committees and Chairs**

Joint Centre for Extreme Photonics, National Research Council and University of Ottawa, chair 2018-2021.

Ultrafast Optics Conference, October 2017, Jackson Hole WY (executive advisory committee)

Ultrafast Phenomena Conference, Santa Fe (program committee) 2016

International Conference on Attosecond Physics, Quebec, July 2015 (international committee)

Ultrafast Dynamic Imaging of Matter Conference, Switzerland (program committee) 2015

APS Rabi Prize Selection Committee, 2014

Ultrafast Phenomena Conference, Japan (program committee) 2014

Attosecond Science Conference, Paris (program committee) 2013

NSERC Appeal Advisor, 2013, 2014

Frontiers in Optics Laser Science Conference (FiO/LS), (General Co-Chair) 2012

Gordon Conference on Multiphoton Processes (conference chair) 2012

Dynamic Molecular Imaging Conference, Banff AB, July 2012 (conference chair)

Ultrafast Phenomena Conference, Lausanne Switzerland (program committee) 2012

CLEO/QELS Program Committee (Committee SC07 Chair) 2010

CLEO/QELS Program Committee (Committee SC07 Chair) 2011

NSERC Grant Evaluation Committee 2010-2014

NSERC Grant Evaluation Committee section chair 2011

Gordon Conference on Multiphoton Processes, vice-chair 2010

CLEO/QELS Program Committee 2008, co-chair 2009

Ultra-Intense Laser Interaction Science, scientific committee 2009

Ultrafast Dynamic Imaging of Matter, program committee 2009

International Conference on Raman Spectroscopy program committee, 2004

Photonics North 2004 Conference program committee, 2004

Technical design committee, Advanced Laser Light Source (ALLS), 2003-06

Special editor of Applied Physics B, 2002

Chairman, CAP Division of Plasma Physics, 1991/1992

### **List of Publications in Refereed Journals (n= 242)**

1. Samuel Lemieux, Sohail A. Jalil, David N. Porschke, Neda Boroumand, T. J. Hammond, David Villeneuve, Andrei Naumov, Thomas Brabec, Giulio Vampa, *Photon Bunching in High-Harmonic Emission Controlled by Quantum Light*, Nature Photonics 19, 767–771 (2025)[DOI](#) [PDF](#)
2. D. M. Villeneuve, Hiromichi Niikura, *Attosecond Wave-Packet Interferometry Using Two-Color XUV Pulses*, Physical Review A 112, 053107 (2025)[DOI](#) [PDF](#)
3. David N. Porschke, Aleksey Korobenko, André Staudte, Andrei Yu Naumov, David M. Villeneuve, Giulio Vampa, *Inline-delay Fourier transform imaging spectrometer for mid-IR ultrashort pulses*, Optics Express 32, 37635–37644 (2024)[DOI](#) [PDF](#)
4. Álvaro Jiménez-Galán, Chandler Bossaer, Guilmot Ernotte, Andrew M. Parks, Rui E. F.



- Silva, David M. Villeneuve, André Staudte, Thomas Brabec, Adina Luican-Mayer, Giulio Vampa,  
*Orbital Perspective on High-Harmonic Generation from Solids*,  
Nature Communications 14, 8421 (2023)[DOI](#) [PDF](#)
5. Aleksey Korobenko, Sabaa Rashid, Andrei Yu Naumov, David M. Villeneuve, David A. Reis, Pierre Berini, Paul B. Corkum, Giulio Vampa,  
*In Situ High-Harmonic Microscopy of a Nanostructured Solid*,  
Optica 10, 642–649 (2023)[DOI](#) [PDF](#)
  6. Yonghao Mi, Enliang Wang, Zack Dube, Tian Wang, A. Y. Naumov, D. M. Villeneuve, P. B. Corkum, André Staudte,  
*D3+ formation through photoionization of the molecular D2–D2 dimer*,  
Nature Chemistry 15, 1224–1228 (2023)[DOI](#) [PDF](#)
  7. David N. Purschke, Álvaro Jiménez-Galán, Thomas Brabec, Andrei Yu. Naumov, André Staudte, David M. Villeneuve, Giulio Vampa,  
*Microscopic Mechanisms of High-Order Wave Mixing in Solids*,  
Physical Review A 108, L051103 (2023)[DOI](#) [PDF](#)
  8. Mingze Sun, Zixiang Jiang, Yong Fu, Yanrong Jiang, Hongtao Hu, Chunyuan Bai, Zhongyao Yue, Jiaming Jiang, Hongqiang Xie, Cheng Jin, Ruxin Li, P. B. Corkum, D. M. Villeneuve, Peng Peng,  
*Observation of Refractive Index Line Shape in Ultrafast XUV Transient Absorption Spectroscopy*,  
Ultrafast Science 3, 0029 (2023)[DOI](#) [PDF](#)
  9. Sohail A. Jalil, Kashif M. Awan, Idriss A. Ali, Sabaa Rashid, Joshua Baxter, Aleksey Korobenko, Guilmot Ernotte, Andrei Naumov, David M. Villeneuve, André Staudte, Pierre Berini, Lora Ramunno, Giulio Vampa,  
*Controlling the polarization and phase of high-order harmonics with a plasmonic metasurface*,  
Optica 9, 987–991 (2022)[DOI](#) [PDF](#)
  10. Takashi Nakajima, Tasuku Shinoda, D. M. Villeneuve, Hiromichi Niikura,  
*High-resolution attosecond imaging of an atomic electron wave function in momentum space*,  
Physical Review A 106, 063513 (2022)[DOI](#) [PDF](#)
  11. Peng Peng, Yonghao Mi, Marianna Lytova, Mathew Britton, Xiaoyan Ding, A. Yu Naumov, P. B. Corkum, D. M. Villeneuve,  
*Coherent Control of Ultrafast Extreme Ultraviolet Transient Absorption*,  
Nature Photonics 16, 45–51 (2022) [DOI](#) [PDF](#)
  12. T. Wang, Z. Dube, Y. Mi, G. Vampa, D. M. Villeneuve, P. B. Corkum, Xiaojun Liu, A. Staudte,  
*Disentangling Interferences in the Photoelectron Momentum Distribution from Strong-Field Ionization*,  
Physical Review A 106, 013106 (2022) [DOI](#) [PDF](#)
  13. Takashi Nakajima, Tasuku Shinoda, D. M. Villeneuve, Hiromichi Niikura,  
*High-resolution attosecond imaging of an atomic electron wave function in momentum space*,  
Physical Review A 106, 063513 (2022) [DOI](#) [PDF](#)
  14. Sohail A. Jalil, Kashif M. Awan, Idriss A. Ali, Sabaa Rashid, Joshua Baxter, Aleksey Korobenko, Guilmot Ernotte, Andrei Naumov, David M. Villeneuve, André Staudte, Pierre Berini, Lora Ramunno, Giulio Vampa,  
*Controlling the polarization and phase of high-order harmonics with a plasmonic metasurface*,  
Optica 9, 987–991 (2022) [DOI](#) [PDF](#)
  15. D. M. Villeneuve, Peng Peng, Hiromichi Niikura,  
*Complete Characterization of Attosecond Photoelectron Wave Packets*,  
Physical Review A 104, 053526 (2021) [DOI](#) [PDF](#)
  16. A. Korobenko, S. Saha, A. T. K. Godfrey, M. Gertszolf, A. Yu Naumov, D. M. Villeneuve, A. Boltasseva, V. M. Shalaev, P. B. Corkum,  
*High-harmonic generation in metallic titanium nitride*,  
Nature Communications 12, 1–6 (2021) [DOI](#) [PDF](#)
  17. A. Korobenko, P. Rosenberger, J. Schötz, A. Yu Naumov, D. M. Villeneuve, M. F. Kling, A.

- Staudte, P. B. Corkum, B. Bergues,  
*Single-shot dispersion sampling for optical pulse reconstruction*,  
Optics Express 29, 11845–11853 (2021) [DOI](#) [PDF](#)
18. Mathew Britton, Marianna Lytova, Dong Hyuk Ko, Abdulaziz Alqasem, Peng Peng, D. M. Villeneuve, Chunmei Zhang, Ladan Arissian, P. B. Corkum,  
*Control of N<sub>2</sub><sup>+</sup> air lasing*,  
Physical Review A 102, 053110 (2020) [DOI](#) [PDF](#)
19. Mladen M. Kekez, David M. Villeneuve,  
*Nitrogen Laser Emissions of Short and Long Durations Generated in Air*,  
IEEE Transactions On Plasma Science 48, 647–657 (2020) [DOI](#) [PDF](#)
20. A. Korobenko, K. Johnston, M. Kubullek, L. Arissian, Z. Dube, T. Wang, M. Kübel, A. Yu Naumov, D. M. Villeneuve, M. F. Kling, P. B. Corkum, A. Staudte, B. Bergues,  
*Femtosecond streaking in ambient air*,  
Optica 7, 1372–1376 (2020) [DOI](#) [PDF](#)
21. M. Kübel, M. Spanner, Z. Dube, A. Yu Naumov, S. Chelkowski, A. D. Bandrauk, M. J. J. Vrakking, P. B. Corkum, D. M. Villeneuve, A. Staudte,  
*Probing Multiphoton Light-Induced Molecular Potentials*,  
Nature Communications 11, 2596 (2020) [DOI](#) [PDF](#)
22. C. Marceau, J. B. Bertrand, Peng Peng, H. J. Wörner, P. B. Corkum, D. M. Villeneuve,  
*Simultaneous Measurements of Strong-Field Ionization and High Harmonic Generation in Aligned Molecules*,  
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 084006 (2020) [DOI](#) [PDF](#)
23. Nicola Mayer, Peng Peng, David M. Villeneuve, Serguei Patchkovskii, Misha Ivanov, Oleg Kornilov, Marc J. J. Vrakking, Hiromichi Niikura,  
*Population Transfer to High Angular Momentum States in Infrared-Assisted XUV Photoionization of Helium*,  
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 164003 (2020) [DOI](#) [PDF](#)
24. Yonghao Mi, Peng Peng, Nicolas Camus, Xufei Sun, Patrick Fross, Denhi Martinez, Zack Dube, P. B. Corkum, D. M. Villeneuve, André Staudte, Robert Moshhammer, Thomas Pfeifer,  
*Clocking Enhanced Ionization of Hydrogen Molecules with Rotational Wave Packets*,  
Physical Review Letters 125, 173201 (2020) [DOI](#) [PDF](#)
25. A. Yu Naumov, D. M. Villeneuve, Hiromichi Niikura,  
*High Conversion Efficiency of an Optical Parametric Amplifier Pumped by 1 kHz Ti:Sapphire Laser Pulses for Tunable High-Harmonic Generation*,  
Optics Express 28, 4088–4098 (2020) [DOI](#) [PDF](#)
26. Serguei Patchkovskii, Marc J. J. Vrakking, D. M. Villeneuve, Hiromichi Niikura,  
*Selection of the Magnetic Quantum Number in Resonant Ionization of Neon Using an XUV-IR Two-Color Laser Field*,  
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 134002 (2020) [DOI](#) [PDF](#)
27. Mathew Britton, Marianna Lytova, Patrick Laferrière, Peng Peng, Felipe Morales, Dong Hyuk Ko, Maria Richter, Pavel Polynkin, D. M. Villeneuve, Chunmei Zhang, Misha Ivanov, Michael Spanner, Ladan Arissian, P. B. Corkum,  
*Short- and long-term gain dynamics in N<sub>2</sub><sup>+</sup> air lasing*,  
Phys. Rev. A 100, 013406 (2019) [DOI](#) [PDF](#)
28. Xiaoyan Ding, R. Forbes, M. Kübel, Kevin F. Lee, M. Spanner, A. Yu. Naumov, D. M. Villeneuve, A. Stolow, P. B. Corkum, A. Staudte,  
*Threshold Photodissociation Dynamics of NO<sub>2</sub> Studied by Time-Resolved Cold Target Recoil Ion Momentum Spectroscopy*,  
The Journal Of Chemical Physics 151, 174301 (2019) [DOI](#) [PDF](#)
29. Korobenko, T. J. Hammond, C. Zhang, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum,  
*High-Harmonic Generation in Solids Driven by Counter-Propagating Pulses*,  
Optics Express 27, 32630-32637 (2019) [DOI](#) [PDF](#)
30. M. Kübel, Z. Dube, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum, A. Staudte,  
*Spatiotemporal Imaging of Valence Electron Motion*,  
Nature Communications 10, 1042 (2019) [DOI](#) [PDF](#)
31. M. Kübel, G. P. Katsoulis, Z. Dube, A. Yu. Naumov, D. M. Villeneuve, P. B. Corkum, A. Staudte, A. Emmanouilidou,  
*Streaking Strong-Field Double Ionization*,  
Physical Review A 100, 043410 (2019) [DOI](#) [PDF](#)

32. Claude Marceau, Varun Makhija, Peng Peng, Marius Hervé, P. B. Corkum, A. Yu. Naumov, A. Stolow, D. M. Villeneuve,  
*Non-Born-Oppenheimer electronic wave packet in molecular nitrogen at 14 eV probed by time-resolved photoelectron spectroscopy*,  
Phys. Rev. A 99, 023426 (2019) [DOI](#) [PDF](#)
33. Peng Peng, Claude Marceau, Marius Hervé, P. B. Corkum, A. Yu Naumov, D. M. Villeneuve,  
*Symmetry of Molecular Rydberg States Revealed by XUV Transient Absorption Spectroscopy*,  
Nature Communications 10, 5269 (2019) [DOI](#) [PDF](#)
34. Peng Peng, Claude Marceau, D. M. Villeneuve,  
*Attosecond imaging of molecules using high harmonic spectroscopy*,  
Nature Reviews Physics 1, 144-155 (2019) [DOI](#) [PDF](#)
35. Ladan Arissian, Brian Kamer, Ali Rastegari, D. M. Villeneuve, Jean-Claude Diels,  
*Transient gain from N<sub>2</sub><sup>+</sup> in light filaments*,  
Phys. Rev. A 98, 053438 (2018) [DOI](#) [PDF](#)
36. T.J Hammond, Aleksey Korobenko, A Yu Naumov, D M Villeneuve, Paul B Corkum, Dong Hyuk Ko,  
*Near-field imaging for single-shot waveform measurements*,  
Journal Of Physics B: Atomic, Molecular And Optical Physics 51, 065603 (2018) [DOI](#) [PDF](#)
37. G. Vampa, T. J. Hammond, M. Taucer, Xiaoyan Ding, X. Ropagnol, T. Ozaki, S. Delprat, M. Chaker, N. Thiré, B. E. Schmidt, F. Légaré, D. D. Klug, A. Yu Naumov, D. M. Villeneuve, A. Staudte, P. B. Corkum,  
*Strong-Field Optoelectronics in Solids*,  
Nature Photonics 12, 465-468 (2018) [DOI](#) [PDF](#)
38. D. M. Villeneuve,  
*Attosecond science*,  
Contemporary Physics 59, 47-61 (2018) [DOI](#) [PDF](#)
39. Xiaoyan Ding, M. Haertelt, S. Schlauderer, M. S. Schuurman, A. Yu. Naumov, D. M. Villeneuve, A. R. W. McKellar, P. B. Corkum, A. Staudte,  
*Ultrafast Dissociation of Metastable CO<sup>2+</sup> in a Dimer*,  
Phys. Rev. Lett. 118, 153001 (2017) [DOI](#) [PDF](#)
40. T. J. Hammond, Sylvain Monchocé, Chunmei Zhang, Giulio Vampa, Dennis Klug, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum,  
*Integrating Solids and Gases for Attosecond Pulse Generation*,  
Nature Photonics 11, 594--599 (2017) [DOI](#) [PDF](#)
41. T. J. Hammond, D. M. Villeneuve, P. B. Corkum,  
*Producing and controlling half-cycle near-infrared electric-field transients*,  
Optica 4, 826-830 (2017) [DOI](#) [PDF](#)
42. P. Hockett, E. Frumker, D. M. Villeneuve, P. B. Corkum,  
*Reply to Comment on 'Time delays in molecular photoionization'*,  
Journal Of Physics B: Atomic, Molecular And Optical Physics 50, 078003 (2017) [DOI](#) [PDF](#)
43. M. Kübel, Z. Dube, A. Yu. Naumov, M. Spanner, G. G. Paulus, M. F. Kling, D. M. Villeneuve, P. B. Corkum, A. Staudte,  
*Streak Camera for Strong-Field Ionization*,  
Physical Review Letters 119, 183201 (2017) [DOI](#) [PDF](#)
44. C. Marceau, T. J. Hammond, A. Yu Naumov, P. B. Corkum, D. M. Villeneuve,  
*Wavelength Scaling of High Harmonic Generation for 267 nm, 400 nm and 800 nm Driving Laser Pulses*,  
J. Phys. Commun. 1, 015009 (2017) [DOI](#) [PDF](#)
45. Claude Marceau, Varun Makhija, Dominique Platzer, A. Yu. Naumov, P. B. Corkum, Albert Stolow, D. M. Villeneuve, Paul Hockett,  
*Molecular Frame Reconstruction Using Time-Domain Photoionization Interferometry*,  
Physical Review Letters 119, 083401 (2017) [DOI](#) [PDF](#)
46. Murat Sivis, Marco Taucer, Giulio Vampa, Kyle Johnston, Andre Staudte, Andrei Yu. Naumov, D. M. Villeneuve, Claus Ropers, P. B. Corkum,  
*Tailored semiconductors for high-harmonic optoelectronics*,  
Science 357, 303-306 (2017) [DOI](#) [PDF](#)
47. G. Vampa, B. G. Ghamsari, S. Siadat Mousavi, T. J. Hammond, A. Olivieri, E. Lisicka-Skrek, A. Yu Naumov, D. M. Villeneuve, A. Staudte, P. Berini, P. B. Corkum,  
*Plasmon-enhanced high-harmonic generation from silicon*,  
Nature Physics 13, 659 (2017) [DOI](#) [PDF](#)

48. D. M. Villeneuve, Paul Hockett, M. J. J. Vrakking, Hiromichi Niikura,  
*Coherent imaging of an attosecond electron wave packet*,  
Science 356, 1150--1153 (2017) [DOI PDF](#)
49. T. J. Hammond, Sylvain Monchocé, Chunmei Zhang, Graham G. Brown, P. B. Corkum, and D. M. Villeneuve,  
*Femtosecond time-domain observation of atmospheric absorption in the near-infrared spectrum*,  
[Phys. Rev. A 94, 063410 \(2016\)](#) 
50. M. Spanner, J. B. Bertrand, and D. M. Villeneuve,  
*In situ attosecond pulse characterization techniques to measure the electromagnetic phase*,  
[Phys. Rev. A 94, 023825 \(2016\)](#) 
51. Yijian Meng, Chunmei Zhang, Claude Marceau, A. Yu. Naumov, P. B. Corkum and D. M. Villeneuve,  
*Interferometric time delay correction for Fourier transform spectroscopy in the extreme ultraviolet*,  
[Journal of Modern Optics, 63, 1661-1667 \(2016\)](#) 
52. T. J. Hammond, Graham G. Brown, Kyung Taec Kim, D. M. Villeneuve and P. B. Corkum,  
*Attosecond pulses measured from the attosecond lighthouse*,  
[Nature Photonics 10, 171–175 \(2016\)](#) 
53. Chunmei Zhang, Graham G. Brown, Kyung Taec Kim, D. M. Villeneuve & P. B. Corkum,  
*Full characterization of an attosecond pulse generated using an infrared driver*,  
[Scientific Reports 6, 26771 \(2016\)](#) 
54. P Hockett, E Frumker, D M Villeneuve and P B Corkum,  
*Time delay in molecular photoionization*,  
[J. Phys. B 49, 095602 \(2016\)](#) 
55. Yijian Meng, Chunmei Zhang, Claude Marceau, A. Yu. Naumov, P. B. Corkum, and D. M. Villeneuve,  
*Octave-spanning hyperspectral coherent diffractive imaging in the extreme ultraviolet range*,  
[Optics Express 23 28960-28969 \(2015\)](#) 
56. Giulio Vampa and D. M. Villeneuve,  
*High-harmonic generation: To the extreme*,  
[Nature Physics 11, 529–530 \(2015\)](#) 
57. A. Yu. Naumov, D. M. Villeneuve, and Hiromichi Niikura,  
*Contribution of multiple electron trajectories to high-harmonic generation in the few-cycle regime*,  
[Phys. Rev. A 91, 063421 \(2015\)](#) 
58. T. J. Hammond, Kyung Taec Kim, Chunmei Zhang, D. M. Villeneuve, and P. B. Corkum,  
*Controlling attosecond angular streaking with second harmonic radiation*,  
[Optics Letters 40, 1768 \(2015\)](#) 
59. Chunmei Zhang, Giulio Vampa, D M Villeneuve and P B Corkum,  
*Attosecond lighthouse driven by sub-two-cycle, 1.8 μm laser pulses*,  
[J. Phys. B: At. Mol. Opt. Phys. 48 061001 \(2015\)](#)
60. M. Meckel, A. Staudte, S. Patchkovskii, D. M. Villeneuve, P. B. Corkum, R. Dörner and M. Spanner,  
*Signatures of the continuum electron phase in molecular strong-field photoelectron holography*,  
[Nature Physics 10, 594–600 \(2014\)](#) 
61. S M Golin, S E Kirkwood, D D Klug, D M Villeneuve, D M Rayner, C A Trallero Herrero and P B Corkum,  
*Strong field processes inside gallium arsenide*,  
[J. Phys. B 47, 204025 \(2014\)](#) 
62. F. Quéré, H. Vincenti, A. Borot, S. Monchocé, T. J. Hammond, Kyung Taec Kim, J.A. Wheeler, Chunmei Zhang, T. Ruchon, T. Auguste, J.F. Hergott, D.M. Villeneuve, P.B. Corkum, and R. Lopez-Martens,  
*Applications of ultrafast wavefront rotation in highly nonlinear optics*,  
[J. Phys. B 47, 124004 \(2014\)](#) 
63. C. T. L. Smeenk, L. Arissian, A. V. Sokolov, M. Spanner, K. F. Lee, A. Staudte, D. M. Villeneuve, and P. B. Corkum,  
*Alignment Dependent Enhancement of the Photoelectron Cutoff for Multiphoton Ionization of Molecules*,  
[Phys. Rev. Lett. 112, 253001 \(2014\)](#) 

64. Iain Wilkinson, Andrey E. Boguslavskiy, Jochen Mikosch, Julien B. Bertrand, Hans Jakob Wörner, David M. Villeneuve, Michael Spanner, Serguei Patchkovskii and Albert Stolow, *Excited state dynamics in SO<sub>2</sub>. I. Bound state relaxation studied by time-resolved photoelectron-photoion coincidence spectroscopy*, [J. Chem. Phys. 140, 204301 \(2014\)](#) 
65. Kyung Taec Kim, D. M. Villeneuve and P. B. Corkum, *Manipulating quantum paths for novel attosecond measurement methods*, [Nature Photonics 8, 187 \(2014\)](#) 
66. Allan S. Johnson, André Staudte, and D. M. Villeneuve, *Semi-Classical Methods in Non-Sequential Double Ionization*, [Chinese J Phys 52, 329 \(2014\)](#) 
67. B. E. Schmidt, A. D. Shiner, M. Giguère, C. Trallero-Herrero, P. Lassonde, N. Thiré, D. M. Villeneuve, J.-C. Kieffer, P. B. Corkum, and F. Légaré, *Intense Few-Cycle Infrared Laser Pulses at the Advanced Laser Light Source*, [Chinese J Phys 52, 537 \(2014\)](#) 
68. Kyung Taec Kim, Chunmei Zhang, Andrew D. Shiner, Bruno E. Schmidt, François Légaré, D. M. Villeneuve and P. B. Corkum, *Petahertz optical oscilloscope*, [Nature Photonics 7, 958–962 \(2013\)](#) 
69. Kyung Taec Kim, Chunmei Zhang, Thierry Ruchon, Jean-François Hergott, Thierry Auguste, D. M. Villeneuve, P. B. Corkum and F. Quéré, *Photonic streaking of attosecond pulse trains*, [Nature Photonics 7, 651 \(2013\)](#) 
70. D. Shafir, H. Soifer, C. Vozzi, A. S. Johnson, A. Hartung, Z. Dube, D. M. Villeneuve, P. B. Corkum, N. Dudovich, and A. Staudte, *Trajectory-Resolved Coulomb Focusing in Tunnel Ionization of Atoms with Intense, Elliptically Polarized Laser Pulses*, [Phys. Rev. Lett. 111, 023005 \(2013\)](#) 
71. J. B. Bertrand, H. J. Wörner, P. Salières, D. M. Villeneuve and P. B. Corkum, *Linked attosecond phase interferometry for molecular frame measurements*, [Nature Physics 9, 174-179 \(2013\)](#) 
72. Kyung Taec Kim, Chunmei Zhang, Andrew D. Shiner, Sean E. Kirkwood, Eugene Frumker, Genevieve Garipey, Andrei Naumov, D. M. Villeneuve and P. B. Corkum, *Manipulation of quantum paths for space–time characterization of attosecond pulses*, [Nature Physics 9, 159-163 \(2013\)](#) 
73. D. Comtois, H.-C. Bandulet, M. Spanner, D. Pavičić, M. Meckel, D. Zeidler, H. Pépin, R. Dörner, J.-C. Kieffer, D.M. Villeneuve, P.B. Corkum & A. Staudte, *Laser-induced orbital projection and diffraction of O<sub>2</sub> with velocity map imaging*, [J. Modern Optics 60, 1395–1408 \(2013\)](#) 
74. A. D. Shiner, C. Trallero-Herrero, N. Kajumba, B. E. Schmidt, J. B. Bertrand, K. T. Kim, H.-C. Bandulet, D. Comtois, J.-C. Kieffer, D. M. Rayner, P. B. Corkum, F. Legaré, and D. M. Villeneuve, *High harmonic cutoff energy scaling and laser intensity measurement with a 1.8 μm laser source*, [J. Modern Optics, 60, 1458–1465 \(2013\)](#) 
75. H. Ruf, C. Handschin, A. Ferré, N. Thiré, J. B. Bertrand, L. Bonnet, R. Cireasa, E. Constant, P. B. Corkum, D. Descamps, B. Fabre, P. Larregaray, E. Mével, S. Petit, B. Pons, D. Staedter, H. J. Wörner, D. M. Villeneuve, Y. Mairesse, P. Halvick, and V. Blanchet, *High-harmonic transient grating spectroscopy of NO<sub>2</sub> electronic relaxation*, [J. Chem. Phys. 137, 224303 \(2012\)](#) 
76. E. Frumker, N. Kajumba, J. B. Bertrand, H. J. Wörner, C. T. Hebeisen, P. Hockett, M. Spanner, S. Patchkovskii, G. G. Paulus, D. M. Villeneuve, A. Naumov, and P. B. Corkum, *Probing Polar Molecules with High Harmonic Spectroscopy*, [Phys. Rev. Lett. 109, 233904 \(2012\)](#) 

77. E. Frumker, C. T. Hebeisen, N. Kajumba<sup>1</sup>, J. B. Bertrand, H. J. Wörner, M. Spanner, D. M. Villeneuve, A. Naumov, and P. B. Corkum,  
*Oriented Rotational Wave-Packet Dynamics Studies via High Harmonic Generation*,  
[Phys. Rev. Lett. 109, 113901 \(2012\)](#) 
78. J. B. Bertrand, H. J. Wörner, P. Hockett, D. M. Villeneuve, and P. B. Corkum,  
*Revealing the Cooper minimum of N<sub>2</sub> by Molecular Frame High-Harmonic Spectroscopy*,  
[Phys. Rev. Lett. 109, 143001 \(2012\)](#) 
79. M Spanner, S Grafe, S Chelkowski, D Pavicic, M Meckel, D Zeidler, A B Bardon, B Ulrich, A D Bandrauk, D M Villeneuve, R Dörner, P B Corkum and A Staudte,  
*Coulomb asymmetry and sub-cycle electron dynamics in multiphoton multiple ionization of H<sub>2</sub>*,  
[J. Phys. B 45, 194011 \(2012\)](#) 
80. E. Frumker, G. G. Paulus, H. Niikura, A. Naumov, D. M. Villeneuve, and P. B. Corkum,  
*Order-dependent structure of high harmonic wavefronts*,  
[Optics Express 20, 13870 \(2012\)](#) 
81. P. M. Kraus, Y. Arasaki, J. B. Bertrand, S. Patchkovskii, P. B. Corkum, D. M. Villeneuve, K. Takatsuka, and H. J. Wörner,  
*Time-resolved high-harmonic spectroscopy of nonadiabatic dynamics in NO<sub>2</sub>*,  
[Phys. Rev. A 85, 043409 \(2012\)](#) 
82. Bruno E Schmidt, Andrew D Shiner, Mathieu Giguère, Philippe Lassonde, Carlos A Trallero-Herrero, J-C Kieffer, P B Corkum, D M Villeneuve and François Légaré,  
*High harmonic generation with long-wavelength few-cycle laser pulses*,  
[J. Phys. B 45, 074008 \(2012\)](#) 
83. A D Shiner, B E Schmidt, C Trallero-Herrero, P B Corkum, J-C Kieffer, F Légaré and D M Villeneuve,  
*Observation of Cooper minimum in krypton using high harmonic spectroscopy*,  
[J. Phys. B 45, 074010 \(2012\)](#) 
84. A. Rupenyan, J. B. Bertrand, D. M. Villeneuve, and H. J. Wörner,  
*All-Optical Measurement of High-Harmonic Amplitudes and Phases in Aligned Molecules*,  
[Phys. Rev. Lett. 108, 033903 \(2012\)](#) 
85. Cheng Jin, Julien B. Bertrand, R. R. Lucchese, H. J. Wörner, Paul B. Corkum, D. M. Villeneuve, Anh-Thu Le, and C. D. Lin,  
*Intensity dependence of multiple orbital contributions and shape resonance in high-order harmonic generation of aligned N<sub>2</sub> molecules*,  
[Phys. Rev. A 85, 013405 \(2012\)](#) 
86. C. Trallero-Herrero, C. Jin, B. Schmidt, A. Shiner, D. M. Villeneuve, P. B. Corkum, C. D. Lin, F. Legare, and A. T. Le,  
*Generation of broad XUV continuous high harmonic spectra and isolated attosecond pulses with intense mid-infrared lasers*,  
[J. Phys. B 45, 011001 \(2012\)](#) 
87. H. J. Wörner, J. B. Bertrand, B. Fabre, J. Higuette, H. Ruf, A. Dubrouil, S. Patchkovskii, M. Spanner, Y. Mairesse, V. Blanchet, E. Mével, E. Constant, P. B. Corkum, D. M. Villeneuve,  
*Conical Intersection Dynamics in NO<sub>2</sub> Probed by Homodyne High-Harmonic Spectroscopy*,  
[Science 334, 208 \(2011\)](#) 
88. A. Fleischer, H. J. Wörner, L. Arissian, L. R. Liu, M. Meckel, A. Rippert, R. Dörner, D. M. Villeneuve, P. B. Corkum, and A. Staudte,  
*Probing Angular Correlations in Sequential Double Ionization*,  
[Phys. Rev. Lett. 107, 113003 \(2011\)](#) 
89. H. Niikura, H. J. Wörner, D. M. Villeneuve and P. B. Corkum,  
*Probing the Spatial Structure of a Molecular Attosecond Electron Wave Packet Using Shaped Recollision Trajectories*,  
[Phys. Rev. Lett. 107, 093004 \(2011\)](#) 
90. C. T. L. Smeenk, L. Arissian, B. Zhou, A. Mysyrowicz, D. M. Villeneuve, A. Staudte, and P. B. Corkum,  
*Partitioning of the Linear Photon Momentum in Multiphoton Ionization*,  
[Phys. Rev. Lett. 106, 193002 \(2011\)](#) 

91. Cheng Jin, Hans Jakob Wörner, V Tosa, Anh-Thu Le, Julien B Bertrand, R R Lucchese, P B Corkum, D M Villeneuve and C D Lin,  
*Separation of target structure and medium propagation effects in high-harmonic generation*,  
[J. Phys. B 44, 095601 \(2011\)](#) 
92. Bruno E. Schmidt, Andrew D. Shiner, Philippe Lassonde, Jean-Claude Kieffer, Paul B. Corkum, David M. Villeneuve, and François Légaré,  
*CEP stable 1.6 cycle laser pulses at 1.8 μm*,  
[Optics Express 19, 6858 \(2011\)](#) 
93. A. D. Shiner, B. E. Schmidt, C. Trallero-Herrero, H. J. Wörner, S. Patchkovskii, P. B. Corkum, J.-C. Kieffer, F. Légaré, D. M. Villeneuve,  
*Probing collective multi-electron dynamics in xenon with high-harmonic spectroscopy*,  
[Nature Physics 7, 464 \(2011\)](#) 
94. J. B. Bertrand, H. J. Wörner, H.-C. Bandulet, É. Bisson, M. Spanner, J.-C. Kieffer, D. M. Villeneuve, and P. B. Corkum,  
*Ultra-high-Order Wave Mixing in Noncollinear High Harmonic Generation*,  
[Phys. Rev. Lett. 106, 023001 \(2011\)](#) 
95. L. Arissian, C. Smeenk, F. Turner, C. Trallero, A. V. Sokolov, D. M. Villeneuve, A. Staudte, and P. B. Corkum,  
*Direct Test of Laser Tunneling with Electron Momentum Imaging*,  
[Phys. Rev. Lett. 105, 133002 \(2010\)](#) 
96. H. J. Worner, J. B. Bertrand, D. V. Kartashov, P. B. Corkum and D. M. Villeneuve,  
*Following a chemical reaction using high-harmonic spectroscopy*,  
[Nature \(London\) 466, 604 \(2010\)](#) 
97. H. J. Worner, J. B. Bertrand, P. B. Corkum and D. M. Villeneuve,  
*High-Harmonic Homodyne Detection of the Ultrafast Dissociation of Br<sub>2</sub> Molecules*,  
[Phys. Rev. Lett. 105, 103002 \(2010\)](#) 
98. Hiromichi Niikura, Nirit Dudovich, D. M. Villeneuve, and P. B. Corkum,  
*Mapping Molecular Orbital Symmetry on High-Order Harmonic Generation Spectrum Using Two-Color Laser Fields*,  
[Phys. Rev. Lett. 105, 053003 \(2010\)](#) 
99. H. J. Worner, J. B. Bertrand, P. Hockett, P. B. Corkum and D. M. Villeneuve,  
*Controlling the interference of multiple molecular orbitals in high-harmonic generation*,  
[Phys. Rev. Lett. 104, 233904 \(2010\)](#) 
100. D. Shafir, Y. Mairesse, H. J. Worner, K. Rupnik, D. M. Villeneuve, P. B. Corkum and N. Dudovich,  
*Probing the symmetry of atomic wavefunctions from the point of view of strong field-driven electrons*,  
[New J. Phys. 12, 073032 \(2010\)](#) 
101. Bruno E. Schmidt, Pierre Béjot, Mathieu Giguère, Andrew D. Shiner, Carlos Trallero-Herrero, Éric Bisson, Jérôme Kasparian, Jean-Pierre Wolf, David M. Villeneuve, Jean-Claude Kieffer, Paul B. Corkum, and François Légaré,  
*Compression of 1.8 μm laser pulses to sub two optical cycles with bulk material*,  
[Appl. Phys. Lett. 96, 121109 \(2010\)](#) 
102. Y Mairesse, N Dudovich, D Zeidler, M Spanner, D M Villeneuve and P B Corkum,  
*Phase sensitivity of high harmonic transient grating spectroscopy*,  
[J. Phys. B 43, 065401 \(2010\)](#) 
103. H.-C. Bandulet, D. Comtois, E. Bisson, A. Fleischer, H. Pépin, J.-C. Kieffer, P. B. Corkum, and D. M. Villeneuve,  
*Gating attosecond pulse train generation using multicolor laser fields*,  
[Phys. Rev. A 81, 013803 \(2010\)](#) 
104. C. Trallero-Herrero, B.E. Schmidt, A.D. Shiner, P. Lassonde, E. Bisson, J.-C. Kieffer, P.B. Corkum, D.M. Villeneuve, F. Legare,  
*High harmonic generation in ethylene with infrared pulses*,  
[Chemical Physics 366, 33-36 \(2009\)](#) 

105. E. Frumker, G. Paulus, H. Niikura, D. M. Villeneuve and P. B. Corkum, *Frequency resolved high-harmonic wavefront characterization*, [Opt. Lett. 34, 3026 \(2009\)](#).
106. N. Dudovich, J. L. Tate, Y. Mairesse, D. M. Villeneuve, P. B. Corkum, and M. B. Gaarde, *Subcycle spatial mapping of recollision dynamics*, [Phys. Rev. A 80, 011806 \(2009\)](#).
107. H. Akagi, T. Otobe, A. Staudte, A. Shiner, F. Turner, R. Dörner, D. M. Villeneuve, and P. B. Corkum, *Laser Tunnel Ionization from Multiple Orbitals in HCl*, [Science 325, 5946 \(2009\)](#).
108. C. Smeenk, L. Arissian, A. Staudte, D. M. Villeneuve, and P. B. Corkum, *Momentum space tomographic imaging of photoelectrons*, [J. Phys. B 42, 185402 \(2009\)](#).
109. A. D. Shiner, C. Trallero-Herrero, N. Kajumba, H.-C. Bandulet, D. Comtois, F. Légaré, M. Giguère, J.-C. Kieffer, P. B. Corkum, and D. M. Villeneuve, *Wavelength Scaling of High Harmonic Generation Efficiency*, [Phys. Rev. Lett. 103, 073902 \(2009\)](#).
110. Olga Smirnova, Yann Mairesse, Serguei Patchkovskii, Nirit Dudovich, David Villeneuve, Paul Corkum, Misha Yu. Ivanov, *High harmonic interferometry of multi-electron dynamics in molecules*, [Nature 460, 972-977 \(2009\)](#).
111. H. Akagi, L. Arissian, J. B. Bertrand, P. B. Corkum, M. Gertsvolf, D. Pavicic, D. M. Rayner, C. Smeenk, A. Staudte, D. M. Villeneuve, and H. J. Wörner, *An STM for Molecules and Wide Bandgap Crystal*, [Laser Physics 19, 1697 \(2009\)](#).
112. Hans Jakob Wörner, Hiromichi Niikura, Julien B. Bertrand, P. B. Corkum, and D. M. Villeneuve, *Observation of Electronic Structure Minima in High-Harmonic Generation*, [Phys. Rev. Lett. 102, 103901 \(2009\)](#).
113. Olga Smirnova, Serguei Patchkovskii, Yann Mairesse, Nirit Dudovich, David Villeneuve, Paul Corkum and Misha Yu. Ivanov, *Attosecond Circular Dichroism Spectroscopy of Polyatomic Molecules*, [Phys. Rev. Lett. 102, 063601 \(2009\)](#).
114. D. Shafir, Y. Mairesse, D. M. Villeneuve, P. B. Corkum and N. Dudovich, *Atomic wavefunctions probed through strong-field light-matter interaction*, [Nature Physics 5, 412 \(2009\)](#).
115. Mathieu Giguère, Bruno E. Schmidt, Andrew D. Shiner, Marie-Andrée Houle, Heidi C. Bandulet, Gabriel Tempea, David M. Villeneuve, Jean-Claude Kieffer, and François Légaré, *Pulse compression of submillijoule few-optical-cycle infrared laser pulses using chirped mirrors*, [Opt. Lett. 34, 1894 \(2009\)](#).
116. D. M. Villeneuve, *Attosecond Light Sources*, [Physics in Canada 65, 63 \(2009\)](#) 
117. A. Staudte, S. Patchkovskii, D. Pavicic, H. Akagi, O. Smirnova, D. Zeidler, M. Meckel, D. M. Villeneuve, R. Dörner, M. Yu. Ivanov, and P. B. Corkum, *Angular Tunneling Ionization Probability of Fixed-in-Space H2 Molecules in Intense Laser Pulses*, [Phys. Rev. Lett. 102, 033004 \(2009\)](#).
118. H-C Bandulet, D Comtois, A D Shiner, C Trallero-Herrero, N Kajumba, T Ozaki, P B Corkum, D M Villeneuve, J-C Kieffer and F Legare, *High harmonic generation with a spatially filtered optical parametric amplifier*, [J. Phys. B 41, 245602 \(2008\)](#).
119. Y. Mairesse, J. Levesque, N. Dudovich, P. B. Corkum, D. M. Villeneuve, *High harmonic generation from aligned molecules --amplitude and polarization*, [J. Mod. Opt. 55, 2591-2602 \(2008\)](#).

120. S. Baker, J. S. Robinson, M. Lein, C. C. Chirila, R. Torres, H. C. Bandulet, D. Comtois, J. C. Kieffer, D. M. Villeneuve, J. W. G. Tisch, and J. P. Marangos, *Dynamic Two-Center Interference in High-Order Harmonic Generation from Molecules with Attosecond Nuclear Motion*, [Phys. Rev. Lett. 101, 053901 \(2008\)](#)
121. I V Litvinyuk, A S Alnaser, D Comtois, D Ray, A T Hasan, J-C Kieffer and D M Villeneuve, *Wavelength-dependent study of strong-field Coulomb explosion of hydrogen*, [New J. Phys. 10, 083011 \(2008\)](#)
122. M. Meckel, D. Comtois, D. Zeidler, A. Staudte, D. Pavicic, H. C. Bandulet, H. Pépin, J. C. Kieffer, R. Dörner, D. M. Villeneuve, and P. B. Corkum, *Laser-Induced Electron Tunneling and Diffraction*, [Science 320, 1478 \(2008\)](#)
123. Mairesse, Y., Zeidler, D., Dudovich, N., Spanner, M., Levesque, J., Villeneuve, D.M., Corkum, P.B., *High-order harmonic transient grating spectroscopy in a molecular jet*, [Phys. Rev. Lett. 100, 143903 \(2008\)](#)
124. A S Alnaser, D Comtois, A T Hasan, D M Villeneuve, J-C Kieffer and I V Litvinyuk, *Strong-field non-sequential double ionization: wavelength dependence of ion momentum distributions for neon and argon*, [J. Phys. B 41, 031001 \(2008\)](#)
125. Y Mairesse, N Dudovich, J Levesque, M Yu Ivanov, P B Corkum and D M Villeneuve, *Electron wavepacket control with elliptically polarized laser light in high harmonic generation from aligned molecules*, [New J. Phys. 10 025015 \(2008\)](#)
126. A. Staudte, C. Ruiz, M. Schöffler, S. Schössler, D. Zeidler, Th. Weber, M. Meckel, D. M. Villeneuve, P. B. Corkum, A. Becker, and R. Dörner, *Binary and Recoil Collisions in Strong Field Double Ionization of Helium*, [Phys. Rev. Lett. 99, 263002 \(2007\)](#)
127. D. M. Villeneuve, *Attophysics: At a Glance*, [Nature 449, 997 \(2007\)](#)
128. Jérôme Levesque, Yann Mairesse, Nirit Dudovich, Henri Pépin, Jean-Claude Kieffer, P. B. Corkum, and D. M. Villeneuve, *Polarization State of High-Order Harmonic Emission from Aligned Molecules*, [Phys. Rev. Lett. 99, 243001 \(2007\)](#)
129. Domagoj Pavicic, Kevin F. Lee, D. M. Rayner, P. B. Corkum and D. M. Villeneuve, *Direct Measurement of the Angular Dependence of Ionization for N<sub>2</sub>, O<sub>2</sub>, and CO<sub>2</sub> in Intense Laser Fields*, [Phys. Rev. Lett. 98, 243001 \(2007\)](#)
130. J. Levesque, D. Zeidler, J. P. Marangos, P. B. Corkum and D. M. Villeneuve, *High harmonic generation and the role of atomic orbital wave functions*, [Phys. Rev. Lett. 98, 183903 \(2007\)](#)
131. Serguei Patchkovskii, Zengxiu Zhao, Thomas Brabec, and D. M. Villeneuve, *High harmonic generation and molecular orbital tomography in multielectron systems*, [J. Chem. Phys. 126, 114306 \(2007\)](#)
132. A. Staudte, D. Pavicic, S. Chelkowski, D. Zeidler, M. Meckel, H. Niikura, M. Schöffler, S. Schössler, B. Ulrich, P. P. Rajeev, Th. Weber, T. Jahnke, D. M. Villeneuve, A. D. Bandrauk, C. L. Cocke, P. B. Corkum, and R. Dörner, *Attosecond Stroboscopic of Two-Surface Population Dynamics in Dissociating H<sub>2</sub><sup>+</sup>*, [Phys. Rev. Lett. 98, 073003 \(2007\)](#)
133. Y. Mairesse, N. Dudovich, J. Levesque, D. Kartashov, D. M. Villeneuve, P. B. Corkum and T. Augustine, *Transient phase masks in high-harmonic generation*, [Optics Letters 32, 436 \(2007\)](#)

134. N. Dudovich, J. Levesque, O. Smirnova, D. Zeidler, D. Comtois, M. Yu. Ivanov, D. M. Villeneuve and P. B. Corkum,  
*Attosecond Temporal Gating with Elliptically Polarized Light*,  
[Phys. Rev. Lett. 97, 253903 \(2006\)](#)
135. N. Dudovich, O. Smirnova, J. Levesque, Y. Mairesse, M. Yu. Ivanov, D. M. Villeneuve and P. B. Corkum,  
*Measuring and controlling the birth of attosecond XUV pulses*,  
[Nature Physics 2, 781 \(2006\)](#)
136. N. Dudovich, O. Smirnova, J. Levesque, Y. Mairesse, M. Yu. Ivanov, P. B. Corkum and D. M. Villeneuve,  
*Observing the Birth of Attosecond Pulses*,  
[Acta Phys. Hung. B 26, 359 \(2006\)](#)
137. Kevin F. Lee, D. M. Villeneuve, P. B. Corkum, Albert Stolow, and Jonathan G. Underwood,  
*Field-Free Three-Dimensional Alignment of Polyatomic Molecules*,  
[Phys. Rev. Lett. 97, 173001 \(2006\)](#)
138. Kevin F Lee, F Légaré, D M Villeneuve and P B Corkum,  
*Measured field-free alignment of deuterium by few-cycle pulses*  
[J. Phys. B 39, 4081 \(2006\)](#)
139. B. F. Mansour, H. Anis, D. Zeidler, P. B. Corkum and D. M. Villeneuve,  
*Generation of 11 fs pulses by using hollow-core gas-filled fibers at a 100 kHz repetition rate*,  
[Opt. Lett. 31, 3185 \(2006\)](#)
140. Serguei Patchkovskii, Zengxiu Zhao, Thomas Brabec, and D. M. Villeneuve,  
*High Harmonic Generation and Molecular Orbital Tomography in Multielectron Systems: Beyond the Single Active Electron Approximation*,  
[Phys. Rev. Lett. 97, 123003 \(2006\)](#)
141. Hiromichi Niikura, D. M. Villeneuve, and P. B. Corkum,  
*Controlling vibrational wave packets with intense, few-cycle laser pulses*,  
[Phys. Rev. A 73, 021402\(R\) \(2006\)](#)
142. F. Legare, K. F. Lee, A. D. Bandrauk, D. M. Villeneuve and P. B. Corkum,  
*Laser Coulomb explosion imaging for probing ultra-fast molecular dynamics*,  
[J. Phys. B 39, S503 \(2006\)](#)
143. Kevin F. Lee, E. A. Shapiro, D. M. Villeneuve and P. B. Corkum,  
*Coherent creation and annihilation of rotational wave packets in incoherent ensembles*,  
[Phys. Rev. A 73, 033403 \(2006\)](#)
144. Cathie Ventalon, James M. Fraser, Jean-Pierre Likforman, D. M. Villeneuve, P. B. Corkum, and Manuel Joffre,  
*Generation and complete characterization of intense mid-infrared ultrashort pulses*,  
[J. Opt. Soc. Am. B 23, 332 \(2006\)](#)
145. D Zeidler, A B Bardon, A Staudte, D M Villeneuve, R Doerner and P B Corkum,  
*Alignment independence of the instantaneous ionization rate for nitrogen molecules*,  
[J. Phys. B 39, L159–L166 \(2006\)](#)
146. J. Levesque, J. Itatani, D. Zeidler, H. Pepin, J-C. Kieffer, P. B. Corkum and D. M. Villeneuve,  
*Probing the electronic structure of molecules with high harmonics*,  
[J. Mod. Optics 53, 183-192 \(2006\)](#)
147. A Scrinzi, M Yu Ivanov, R Kienberger and D M Villeneuve,  
*Attosecond Physics*,  
[J. Phys. B 39, R1-R37 \(2006\)](#)
148. D. Oron, Y. Silberberg, N Dudovich and D M Villeneuve,  
*Efficient polarization gating of high-order harmonic generation by polarization-shaped ultrashort pulses*,  
[Phys. Rev. A 72, 063816 \(2005\)](#)
149. F. Légaré, Kevin F. Lee, I. V. Litvinyuk, P. W. Dooley, A. D. Bandrauk, D. M. Villeneuve, and P. B. Corkum,

- Imaging the time-dependent structure of a molecule as it undergoes dynamics,*  
[Phys. Rev. A. 72, 052717 \(2005\).](#)
150. D. M. Villeneuve,  
*Toward Creating a Rutherford Atom,*  
[Science 307, 1730 \(2005\)](#)
151. D. M. Villeneuve, Hiromichi Niikura, Nenad Milosevic, Thomas Brabec and P. B. Corkum,  
*A molecular-scale photocathode - using a molecule's own electrons to image itself,*  
[Nuclear Instruments and Methods B 241, 69-72 \(2005\)](#)
152. D. Zeidler, A. Staudte, A. B. Bardon, D. M. Villeneuve, R. Dörner, and P. B. Corkum,  
*Controlling Attosecond Double Ionization Dynamics via Molecular Alignment,*  
[Phys. Rev. Lett. 95, 203003 \(2005\)](#)
153. D Comtois, D Zeidler, H Pepin, J C Kieffer, D M Villeneuve and P B Corkum,  
*Observation of Coulomb focusing in tunnelling ionization of noble gases,*  
[J. Phys. B 38, 1923-1933 \(2005\).](#)
154. J. Itatani, D. Zeidler, J. Levesque, M. Spanner, D. M. Villeneuve, and P. B. Corkum,  
*Controlling High Harmonic Generation with Molecular Wave Packets,*  
[Phys. Rev. Lett. 94, 123902 \(2005\)](#)
155. Hiromichi Niikura, D. M. Villeneuve and P. B. Corkum,  
*Mapping Attosecond Electron Wave Packet Motion,*  
[Phys. Rev. Lett. 94, 083003 \(2005\)](#)
156. F. Légaré, K. F. Lee, I. V. Litvinyuk, P. W. Dooley, S. S. Wesolowski, P. R. Bunker, P. Dombi, F. Krausz, A. D. Bandrauk, D. M. Villeneuve, and P. B. Corkum,  
*Laser Coulomb-explosion imaging of small molecules,*  
[Phys. Rev. A 71, 013415 \(2005\)](#)
157. I. V. Litvinyuk, F. Légaré, P. W. Dooley, D. M. Villeneuve, P. B. Corkum, J. Zanghellini, A. Pegarkov, C. Fabian, and T. Brabec;  
*Shakeup Excitation during Optical Tunnel Ionization;*  
[Phys. Rev. Lett. 94, 033003 \(2005\)](#)
158. J. Itatani, J. Levesque, D. Zeidler, H. Niikura, P. B. Corkum and D. M. Villeneuve,  
*Tomographic Imaging of Molecular Orbitals with High-Harmonic Generation,*  
*Laser Physics 15, 525 (2005)*
159. H. Niikura, F. Légaré, D. M. Villeneuve, and P. B. Corkum,  
*Attosecond dynamics using sublaser-cycle electron pulses,*  
[J. Modern Optics 52, 453-64 \(2005\)](#)
160. J. Itatani, J. Levesque, D. Zeidler, H. Niikura, H. Pépin, J. C. Kieffer, P. B. Corkum and D. M. Villeneuve,  
*Tomographic imaging of molecular orbitals,*  
[Nature \(London\) 432, 867-871 \(2004\).](#)
161. Kevin F. Lee, D. M. Villeneuve, P. B. Corkum, and E. A. Shapiro,  
*Phase Control of Rotational Wave Packets and Quantum Information,*  
[Phys. Rev. Lett. 93, 233601 \(2004\)](#)
162. H. Niikura, F. Legaré, J. Itatani, M. Yu. Ivanov, D. M. Villeneuve and P. B. Corkum,  
*Attosecond Science and Technology,*  
*Physics in Canada 60, 269-272 (2004).*
163. M. Weckenbrock, D. Zeidler, A. Staudte, Th. Weber, M. Schoffler, M. Meckel, S. Kammer, M. Smolarski, O. Jagutzki, V. R. Bhardwaj, D. M. Rayner, D. M. Villeneuve, P. B. Corkum, and R. Doerner;  
*Fully Differential Rates for Femtosecond Multiphoton Double Ionization of Neon;*  
[Phys. Rev. Lett. 92, 213002 \(2004\)](#)
164. H. Niikura, D M Villeneuve and P B Corkum;  
*Stopping a vibrational wave packet with laser-induced forces;*  
[Phys. Rev. Lett. 92, 133002 \(2004\)](#)
165. Kevin F Lee, I V Litvinyuk, P W Dooley, Michael Spanner, D M Villeneuve and P B Corkum;  
*Two-pulse alignment of molecules;*  
*J. Phys. B: At. Mol. Opt. Phys. 37, L43-L48 (2004)*

166. F. Légaré, I. V. Litvinyuk, P. W. Dooley, F. Quéré, A. D. Bandrauk, D. M. Villeneuve, and P. B. Corkum;  
*Time-Resolved Double Ionization with Few Cycle Laser Pulses*;  
Phys. Rev. Lett. 91, 093002/1-4 (2003)
167. P. W. Dooley, I. V. Litvinyuk, Kevin F. Lee, D. M. Rayner, M. Spanner, D. M. Villeneuve and P. B. Corkum,  
*Direct Imaging of Rotational Wave Packet Dynamics of Diatomic Molecules*,  
Phys. Rev. A 68, 023406 (2003)
168. M. Weckenbrock, A. Becker, A. Staudte, S. Kammer, M. Smolarski, V.R. Bhardwaj, D.M. Rayner, D.M. Villeneuve, P.B. Corkum, and R. Doerner;  
*Electron-electron momentum exchange in strong-field double ionization*;  
Phys. Rev. Lett. 91, 123004/1-4 (2003)
169. I V Litvinyuk, K F Lee, P W Dooley, D M Rayner, D M Villeneuve and P B Corkum;  
*Alignment-dependent strong field ionization of molecules*;  
Phys. Rev. Lett. 90, 233003/1-4 (2003)
170. H Niikura, P B Corkum and D M Villeneuve;  
*Controlling vibrational wave packet motion with intense modulated laser fields*;  
Phys. Rev. Lett. 90, 203601/1-4 (2003)
171. Hiromichi Niikura, F Légaré, R. Hasbani, Misha Yu Ivanov, D. M. Villeneuve and P. B. Corkum;  
*Probing molecular dynamics with attosecond resolution using correlated wave packet pairs*;  
Nature 421, 826 (2003);
172. *Sub-laser-cycle electron pulses for probing molecular dynamics*,  
Hiromichi Niikura, F Légaré, R Hasbani, A D Bandrauk, Misha Yu Ivanov, D M Villeneuve and P B Corkum,  
Nature 417, 917-922 (2002).
173. *High energy subpicosecond pulse generation from 3 to 20 mm*,  
J.M. Fraser, I.W. Cheung, F. Légaré, D. M. Villeneuve, J.-P. Likforman, M. Joffre, P. B. Corkum,  
Appl. Phys. B 74, S153-6 (2002)
174. *Using frequency domain manipulation of stretched femtosecond laser pulses to create fast rise and fall times on picosecond pulses*,  
D M Villeneuve, S A Aseyev, A Avery and P B Corkum,  
Appl. Phys. B 74 S157-61 (2002)
175. *Adaptive compression of intense 250 nm bandwidth laser pulses*,  
F L Légaré, J M Fraser, D M Villeneuve and P B Corkum,  
Appl. Phys. B 74 S279-82 (2002)
176. *Intense-field laser ionization rates in atoms and molecules*;  
S.M. Hankin, D.M. Villeneuve, P.B. Corkum, and D.M. Rayner;  
[Phys. Rev. A 64, 13405 \(2001\)](#)
177. *Few cycle dynamics of multiphoton double ionization*;  
V R Bhardwaj, S A Aseyev, M Mehendale, G L Yudin, D M Villeneuve, D M Rayner, M Yu Ivanov and P B Corkum;  
Phys. Rev. Lett. 86, 3522 (2001).
178. *The production and spectroscopy of triply charged diatomic ions with femtosecond pulses: Application to  $Cl_2^{3+}$* ,  
R. J. Verver, D. R. Matusek, J. S. Wright, G. Gibson, R. Bhardwaj, S. Aseyev, D. M. Villeneuve, P. B. Corkum, and M. Yu. Ivanov,  
J. Phys. Chem. A 105 (11) 2435-2443 (2001)
179. *Quantum Interference Effects in Double ionization and fragmentation of  $C_6H_6$*   
V. R. Bhardwaj, D. M. Rayner, D. M. Villeneuve and P. B. Corkum,  
Phys. Rev. Lett. 87, 253003. (2001)
180. *Conversion of high-power 15-fs visible pulses to the mid infrared*;  
J-P Likforman, M Mehendale, D M Villeneuve, M Joffre and P B Corkum;  
Optics Letters 26, 99 (2001).

181. *Second harmonic generation spectroscopy of chemically modified Si(111) surfaces*,  
S. A. Mitchell, M. Mehendale, D. M. Villeneuve and R. Boukherroub,  
Surface Science 448, 367 (2001).
182. *Nonadiabatic multielectron dynamics in strong field molecular ionization*;  
M Lezius, V Blanchet, D M Rayner, D M Villeneuve, Albert Stolow and Misha Yu Ivanov;  
Phys. Rev. Lett. 86, 51 (2001).
183. *Method for single-shot measurement of the carrier envelope phase of a few-cycle laser pulse*;  
M Mehendale, S A Mitchell, J\_P Likforman, D M Villeneuve and P B Corkum;  
Optics Letters 25, 1672 (2000).
184. *Forced molecular rotation in an optical centrifuge*;  
D M Villeneuve, S A Aseyev, P Dietrich, M Spanner, M Yu Ivanov and P B Corkum;  
Phys. Rev. Lett. 85, 542 (2000).
185. *Nonlinear ionization of organic molecules in high intensity laser fields*;  
S M Hankin, D M Villeneuve, P B Corkum and D M Rayner;  
Phys. Rev. Lett. 84, 5082 (2000).
186. *Measurement of the frequency and spectral width of the Langmuir wave spectrum driven by stimulated Raman scattering*;  
K L Baker, R P Drake, K G Estabrook, B Sleaford, M K Prasad, B La Fontaine and D M Villeneuve;  
Physics of Plasmas 6, 4284-4292 (1999).
187. *Influence of laser parameters and material properties on micro drilling with femtosecond laser pulses*;  
X Zhu, A Naumov, D M Villeneuve and P B Corkum;  
Appl. Phys. A 69, 367-371 (1999).
188. *Experimental Study of Drilling sub-10 micron Holes in Thin Metal Foils with Femtosecond Laser Pulses*;  
X Zhu, D M Villeneuve, A Yu Naumov, S K Nikumb and P B Corkum;  
Applied Surface Science 152, 138-148 (1999).
189. *Molecular Science with Strong Laser Fields*;  
P B Corkum, C Ellert, M Mehendale, P Deitrich, S Hankin, S Aseyev, D Rayner and D M Villeneuve;  
Faraday Discuss. 113, 000 (1999).
190. *Space charge and plasma effects in zero kinetic energy (ZEKE) photoelectron spectroscopy*;  
D. M. Villeneuve, Ingo Fischer, Z. Zavriyev and Albert Stolow;  
J. Chem. Phys. 107, 5310 (1997).
191. *Wave Packet Isotope Separation*;  
I. Sh. Averbukh, Marc J. J. Vrakking, D. M. Villeneuve and Albert Stolow;  
Phys. Rev. Lett. 77, 3518 (1996).
192. *Nonadiabatic wave packet dynamics: Predissociation of IBr*;  
Marc J J Vrakking, D M Villeneuve and Albert Stolow;  
J. Chem. Phys. 105, 5647 (1996).
193. *Observation of Fractional Revivals in Molecular Wavepackets*;  
M J J Vrakking, D M Villeneuve and A Stolow;  
Phys. Rev. A54, R37 (1996).
194. *Enhanced Ionization of Diatomic Molecules in Strong Laser Fields: A Classical Model*;  
D M Villeneuve, M Yu Ivanov and P B Corkum;  
Phys. Rev. A54, 736 (1996).
195. *Femtosecond time-resolved zero-kinetic-energy photoelectron and photoionization spectroscopy studies of I<sub>2</sub> wavepacket dynamics*;  
I Fischer, M J J Vrakking, D M Villeneuve and A Stolow;  
Chem. Phys. 207, 331 (1996).
196. *Collisional enhancement of Rydberg lifetimes observed in vibrational wave packet experiments*;

- Marc J J Vrakking, Ingo Fischer, D M Villeneuve and Albert Stolow;  
J Chem Phys 103, 4538 (1995).
197. *Spectroscopy and gain dynamics issues in inhomogeneous x-ray laser plasmas;*  
M Nantel, J C Kieffer, G D Enright, D M Villeneuve, J Dunn, A S Wan, R S Walling, H Scott, A  
Osterheld and O Peyrusse;  
J Phys B 28, 2765 (1995).
198. *Femtosecond wave-packet dynamics studied by time-resolved zero-kinetic energy  
photoelectron spectroscopy;*  
Ingo Fischer, D M Villeneuve, Marc J J Vrakking and Albert Stolow;  
J Chem Phys 102, 5566 (1995).
199. *Ponderomotive effects in zero kinetic energy photoelectron spectroscopy with intense  
femtosecond pulses;*  
A Zavriyev, Ingo Fischer, D M Villeneuve and Albert Stolow;  
Chem Phys Lett 234, 281 (1995).
200. *High power tunable femtosecond visible and infrared light from a synchronized  
Ti:sapphire/Nd:YAG laser system by difference frequency mixing;*  
D M Villeneuve, Ingo Fischer and Albert Stolow;  
Optics Commun 114, 141 (1995).
201. *Thomson scattering measurements of ion-acoustic waves driven by ion-acoustic decay  
instabilities;*  
K Mizuno, B Sleaford, K Narihara, R P Drake, K Estabrook and D M Villeneuve;  
Physics of Plasmas 2, 1364 (1995).
202. *Optimization of x-ray laser gain in neonlike germanium plasmas;*  
D M Villeneuve, G D Enright, J Dunn, B La Fontaine, H A Baldis, J C Kieffer and M Nantel;  
Can. J. Phys. 72, 793-801 (1994).
203. *Characterization of laser-produced plasmas by ultraviolet Thomson scattering;*  
B La Fontaine, H A Baldis, D M Villeneuve, J Dunn, G D Enright, J C Kieffer, H Pépin, M D  
Rosen, D L Matthews and S Maxon;  
Phys. Plasmas 1, 2329 (1994).
204. *Dynamics of Ne-like populations in the germanium x-ray laser;*  
M Nantel, J C Kieffer, B La Fontaine, H Pépin, G D Enright, D M Villeneuve, J Dunn, H A Baldis  
and O Peyrusse;  
Phys. Fluids B 5, 4465-72 (1993).
205. *Stimulated Brillouin scattering in picosecond time scales: experiments and modeling;*  
H A Baldis, D M Villeneuve, B La Fontaine, G D Enright, C Labaune, S Baton, P Mounaix, D  
Pesme, M Casanova and W Rozmus;  
Phys. Fluids B 5, 3319-27 (1993).
206. *Observation of plasma waves by Thomson scattering: saturation of stimulated Raman  
scattering;*  
D M Villeneuve, K L Baker, R P Drake, B Sleaford, B La Fontaine, Kent Estabrook and M K  
Prasad;  
Phys. Rev. Lett. 71, 368 (1993).
207. *Stimulated Brillouin sidescattering from line-focus laser-produced plasmas;*  
D M Villeneuve;  
Phys. Fluids B 5, 1924 (1993).
208. *Electron temperature inhomogeneities along an x-ray laser plasma;*  
B La Fontaine, J Dunn, H A Baldis, J D Enright, D M Villeneuve, J C Kieffer, M Nantel and H  
Pépin;  
Phys. Rev. E. 47, 583 (1993).
209. *Laser plasma sources for proximity printing or projection x-ray lithography;*  
M Chaker, B La Fontaine, C Y Côté, J C Kieffer, H Pépin, M H Talon, G D Enright and D M  
Villeneuve;  
J. Vac. Sci Technol. B 10, 3239 (1992).
210. *Test of the Landau cutoff of stimulated Raman scattering spectra as an electron-  
temperature diagnostic in laser produced plasmas;*

- B La Fontaine, D M Villeneuve, H A Baldis, R P Drake and K Estabrook;  
Phys. Rev. Lett. 68, 484-7 (1992).
211. *Dynamic compaction of high-temperature superconducting  $YBa_2Cu_3O_x$  powders by laser driven shocks;*  
P Darquey, J C Kieffer, J Gauthier, H Pépin, M Chaker, B Champagne, D Villeneuve and H Baldis;  
J Appl Phys 70, 3980-2 (1991).
212. *Coexistence of stimulated Raman and Brillouin scattering in laser-produced plasmas;*  
H A Baldis, D M Villeneuve, C Labaune, D Pesme, W Rozmus, W L Kruer and P E Young;  
Phys. Fluids B 3, 2341 (1991).
213. *X-ray laser gain measurements in a collisionally excited germanium plasma;*  
G D Enright, D M Villeneuve, J Dunn, H A Baldis, J C Kieffer, H Pépin, M Chaker and P R Herman;  
J. Opt. Soc. Am. B 8 (10), 2047--52 (1991).
214. *Collective Thomson scattering in a laser produced plasma resolved in time, space, frequency and/or wavenumber;*  
D M Villeneuve, H A Baldis, J E Bernard and R Benesch;  
J. Opt. Soc. Am. B 8, 895-902 (1991).
215. *Novel line focus geometry applied to x-ray lasers;*  
D M Villeneuve, G D Enright, H A Baldis and J-C Kieffer;  
Optics Commun. 81, 54-58 (1991).
216. *Large scale structures in line-focused plasma;*  
J-C Kieffer, M Chaker, H Pépin, H A Baldis, G D Enright, B Lafontaine and D M Villeneuve;  
Phys. Fluids B 3, 463-467 (1991).
217. *Effects of irradiation non-uniformity on x-ray laser physics;*  
J-C Kieffer, M Chaker, H Pépin, M Nantel, H A Baldis, J Dunn, G D Enright and D M Villeneuve;  
Optics Commun. 84, 208-213 (1991).
218. *Backward and forward stimulated Raman scattering from thin foil targets with a 0.26  $\mu$ m laser;*  
C Labaune, H A Baldis, E Fabre, F Briand, D M Villeneuve and K Estabrook;  
Phys Fluids B 2, 166--170 (1990).
219. *Monochromatic x-ray imaging of a laser produced plasma;*  
Jean-Claude Kieffer, M Chaker, H Pépin, D M Villeneuve, J E Bernard and H A Baldis;  
Applied Optics 28(20), 4333--4336 (1989).
220. *Observation of laser-induced anisotropic changes in the frequency and damping of ion acoustic waves in a laser plasma;*  
J E Bernard, H A Baldis, D M Villeneuve, A B Langdon and W Rozmus;  
Phys Rev A 39, 2549--2560 (1989).
221. *On the nonlinear evolution of absolute stimulated Raman scattering;*  
W Rozmus, H A Baldis and D M Villeneuve;  
Comments on Plasma Physics and Controlled Fusion 12, 1-13 (1988).
222. *Observation of forward Raman scattering enhanced by backward Raman scattering in a laser plasma;*  
D M Villeneuve and H A Baldis;  
Phys Fluids 31, 1790 (1988).
223. *Time resolved Thomson scattering measurements of the electron and ion temperatures in a high intensity laser plasma interaction;*  
J E Bernard, H A Baldis, D M Villeneuve and Kent Estabrook;  
Phys Fluids 30, 3616 (1987).
224. *Measurement of plasma wave frequency from absolute stimulated Raman scattering near the quarter-critical surface in a laser plasma;*  
D M Villeneuve, J E Bernard and H A Baldis,  
Phys Fluids 30, 3832 (1987).
225. *Suppression of stimulated Raman scattering by the seeding of stimulated Brillouin scattering in a laser plasma;*

- D M Villeneuve, H A Baldis and J E Bernard;  
Phys Rev Lett 59, 1585-8 (1987).
226. *Observation of laser--induced anisotropy in ion acoustic waves in a plasma;*  
J E Bernard, H A Baldis, D M Villeneuve and A B Langdon;  
Phys Rev Lett 58, 1644 (1987).
227. *Plasma waves in laser fusion plasma;*  
H A Baldis, D M Villeneuve and C J Walsh;  
Can J Phys 64, 961 (1986).
228. *Observation of plasma waves from absolute stimulated Raman scattering;*  
D M Villeneuve, C J Walsh and H A Baldis;  
Phys Fluids 28, 1591 (1985).
229. *The production of 3/2-omega light by the two-plasmon decay instability;*  
D M Villeneuve, H A Baldis, C J Walsh;  
Phys Fluids 28, 1454 (1985).
230. *The filamentation instability at short wavelengths;*  
R Bingham, R Short, E Williams, D Villeneuve and M C Richardson;  
Plasma Physics and Controlled Fusion Research 26, 1077 (1984).
231. *Electron plasma wave production by stimulated Raman scattering: competition with stimulated Brillouin scattering;*  
C J Walsh, D M Villeneuve, H A Baldis;  
Phys Rev Lett 53, 1445 (1984).
232. *Production of hot electrons by two-plasmon decay instability in UV laser plasmas;*  
D M Villeneuve, R L Keck, B B Afeyan, W Seka, E A Williams;  
Phys Fluids 27, 721 (1984).
233. *Thermal transport measurements in 1.05 micron laser irradiation of spherical targets;*  
B Yaakobi, J Delettrez, L M Goldman, R L McCrory, R Marjoribanks, M C Richardson, D Shvarts, S Skupsky, J M Soures, C Verdon, D M Villeneuve, T Boehly, R Hutchison, S Letzring;  
Phys Fluids 27, 516 (1984).
234. *Spectrally discriminating time-resolved and space resolved x-ray plasma diagnostics;*  
M C Richardson, R S Marjoribanks, S A Letzring, J M Forsyth, D M Villeneuve;  
IEEE J Quantum Electronics 19, 1861 (1983).
235. *Features of lateral energy transport in CO<sub>2</sub> laser irradiated microdisk plasmas;*  
D M Villeneuve, G D Enright, M C Richardson;  
Phys Rev A 27, 2656 (1983).
236. *X-ray spectroscopy measurements of laser compressed argon filled shells;*  
B Yaakobi, D M Villeneuve, M C Richardson, J M Soures, R Hutchison, S Letzring;  
Optics Comm 43, 343 (1982).
237. *Time resolved x-ray spectrometry of UV laser produced plasmas;*  
R S Marjoribanks, M C Richardson, J Delettrez, S Letzring, W Seka, D M Villeneuve;  
Optics Comm 44, 113 (1982).
238. *Energy partition in CO<sub>2</sub> laser irradiated microballoons;*  
D M Villeneuve, G D Enright, M D J Burgess, R Fedosejevs, M C Richardson;  
Phys Rev Lett 47, 515 (1981).
239. *A device for measuring angles in spherical coordinates;*  
D M Villeneuve;  
Rev Sci Instrum 51, 1268 (1980).
240. *A calorimetric system for recording plasma blowoff and scattered laser light distributions from laser plasmas;*  
D M Villeneuve, M C Richardson;  
Rev Sci Instrum 51, 306 (1980).
241. *Anomalous energy transport to rear surface of microdisks at high laser irradiances;*  
N A Ebrahim, C Joshi, D M Villeneuve, N H Burnett, M C Richardson;  
Phys Rev Lett 43, 1995 (1979).

242. *Energy absorption in plasmas produced by intense 10 um laser radiation;*  
D M Villeneuve, G D Enright, M C Richardson, N R Isenor;  
J App Phys 50(6), 3921-3927 (1979).

### **Book Chapters (n = 7)**

D. M. Villeneuve, *Attosecond Imaging of Molecular Orbitals*, in Fundamentals of Picoscience, ed. Klaus D. Sattler, CRC Press 2013, p. 373-390, Print ISBN: 978-1-4665-0509-4, eBook ISBN: 978-1-4665-0510-0.

D. M. Villeneuve, J. B. Bertrand, P. B. Corkum, N. Dudovich, J. Itatani, J. C. Kieffer, F. Légaré, J. Levesque, Y. Mairesse, H. Niikura, B. E. Schmidt, A. D. Shiner, H. J. Wörner,  
*Studying the Electronic Structure of Molecules with High Harmonic Spectroscopy*,  
Attosecond Physics, Springer Series in Optical Sciences, Volume 177, p. 159-190  
(2013) doi:10.1007/978-3-642-37623-8\_10

Hirromichi Niikura, V.R. Bhardwaj, F. Légaré, I.V. Litvinyuk, P.W. Dooley, D.M. Rayner, M. Yu Ivanov,  
P.B. Corkum, D.M. Villeneuve,  
*Ionization of Small Molecules by Strong Laser Fields*,  
Strong Field Laser Physics, Springer Series in Optical Sciences, Volume 134, pp 185-208 (2009)

Hirromichi Niikura, D. M. Villeneuve, P. B. Corkum,  
*Mapping attosecond electron wave packet motion*,  
Ultrafast Phenomena XIV, Springer Series in Chemical Physics, Volume 79, pp 155 (2005)

I. Fischer, M. J. J. Vrakking, D. M. Villeneuve, A. Stolow,  
*Wavepacket Dynamics via Femtosecond Time-Resolved Photoelectron and Photoionization Spectroscopy*,  
in Ultrafast Phenomena X (1996)

François Légaré, Kevin F. Lee, I.V. Litvinyuk, P.W. Dooley ...  
*Laser Coulomb explosion imaging for probing molecular structure and dynamics*,  
in Ultrafast Phenomena XIV (2005)

Centrifugal Dissociation of a Molecule Using the Optical Centrifuge,  
D. M. Villeneuve, S. A. Aseyev, P. Dietrich, M. Spanner... in Ultrafast Phenomena XII (2001)

### **Invited Talks**

- Symposium for Wolf Prize Laureates, Technion, Israel, 13-14 June 2022  
Photonics North Conference, 21 May – 2 June 2021 (Keynote)  
Symposium on Recollision Physics, Montebello QC, 7-11 May 2018  
Photonics North Conference, Montreal QC, 5-7 June 2018 (declined)  
Attosecond and Free Electron Laser Science, London UK, 2-4 July 2018.  
Frontiers in Theoretical and Applied Physics, Sharjah UAE, 22-25 February 2017 (Keynote 60-minute)  
Frontiers in Theoretical and Applied Physics, Sharjah UAE, 22-25 February 2017 (Invited 30-minute)  
Coherent X-ray Imaging Conference, Oxford UK, 6-7 April 2017  
Symposium on Molecules and Laser Fields, St Sauveur QC, 4-6 February 2016.  
Canada-Israel Workshop on Quantum and Photonic Technologies, Ottawa, 1-3 March 2016.  
Symposium on Molecules and Laser Fields, Orford QC, 4-7 May 2016.  
High-intensity laser interactions with fundamental quantum systems, Singapore, 10-13 May 2016.  
Waseda University, Tokyo, Colloquium, 17 May 2016.  
International Conference on X-ray Lasers, Nara Japan, 22-27 May 2016.  
41st International Nathiagali Summer College, Islamabad Pakistan, 18-23 July 2016 (keynote, declined).  
Brazil Physical Society annual meeting, Natal Brazil, 2-7 September 2016.  
Symposium on Attosecond Photonics, Shanghai China, 16 November 2015 (plenary).  
Atom 2015, Dresden Germany, 23 November 2015 (Declined).

Quantum Dynamics in Tailored Intense Fields, Hannover Germany, 30 November 2015 (declined).  
Optics Frontiers CROF, Athens Greece, 13 July 2015  
International Conference on Laser Ablation, Cairns Australia, 31 August 2015  
Conference on Lasers and Electrooptics Pacific Rim (CLEO-PR), Busan Korea, August 2015  
Gwangju Institute of Technology, Gwangju Korea, 24 August 2015  
International Conference on Current Developments in Atomic, Molecular, Nano and Optical Physics (CDAMOP 2015), Delhi India, March 2015 (Declined)  
International Congress of Pacific Basin Societies (Pacifichem 2015), Honolulu USA, December 2015  
International Conference on Multiphoton Processes, Shanghai China, 7 December 2014 (declined)  
Strong Field Physics and Ultrafast Phenomena, Zhangjiajie China, 31 October 2014  
Extreme and Quantum Photonics Summer School, University of Ottawa, 23 June 2014  
Free Electron Lasers and Attosecond Light Sources Conference, London UK, 1 July 2014  
Gordon Research Conference on Multiphoton Processes, June 2014  
Australian National University, Canberra, 28 January 2014  
Swinburne University, Melbourne Australia, 3 February 2014  
Griffith University, Brisbane Australia, 5 February 2014  
Ottawa-Carleton Institute of Physics Symposium, Ottawa, 16 December 2013.  
Sea Leang Chin Symposium, Laval University, Quebec, May 2013.  
MOLEC Conference, Oxford UK, 10-13 September 2012 (plenary).  
Super Intense Laser Atom Physics Conference, Suzhou China, 24-26 September 2012.  
Laser Physics Conference, Calgary AB, 23-27 July 2012 (declined).  
Laval Symposium on Ultrafast Laser Science, Quebec QC, 19-20 July 2012 (declined).  
Optical Engineering and Science Conference, Tel Aviv, Israel, 9 March 2011.  
Physics and Chemistry Colloquium, Technion, Haifa, Israel, 7 March 2011.  
Physics Colloquium, Weizmann Institute, Israel, 6 March 2011.  
Extreme Photonics Summer School, Ottawa Canada, 26-30 June 2011.  
International Conference on Attosecond Physics, Sapporo Japan, 6-8 July 2011.  
International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics, Delhi India, 14-16 December 2011.  
CLEO Europe, Munich Germany, 22-27 May 2011.  
Femtochemistry Conference, Madrid Spain, 10-15 July 2011 (declined)  
Canadian Association of Physicists, Toronto ON, 7-11 June 2010 (declined)  
Advanced Laser Light Source User Workshop, Mont Gabriel QC, 19-22 February 2010  
Second Workshop on High Harmonic Seeding for present and future short wavelength Free-Electron Lasers (FELs), Lund, Sweden, 5-7 May 2010  
CECAM Advances in Strong Field and Attosecond Physics, London UK, 23-25 June 2010  
International Conference on Vacuum Ultraviolet and X-ray Physics, Vancouver BC, 11-16 July 2010 (invited/plenary)  
International Conference on Raman Spectroscopy, Boston MA, 8-13 August 2010 (plenary)  
Laser Physics, Barcelona, Spain, 13 July 2009  
Gordon Conference on Quantum Control, Massachusetts, 3 August 2009.  
Ultrafast Dynamic Imaging of Matter, Ischia, Italy, 30 April 2009  
Institut de Ciències Fotòniques, Barcelona, Spain, 15 December 2008.  
Commissariat à l'Énergie Atomique, Saclay, France, 15 September 2008.  
Imperial College, London, England, 19 September 2008.  
National University of Defense Technology, Changsha, China, university-wide seminar, 7 May 2008  
National University of Defense Technology, Changsha, China, departmental seminar, 8 May 2008  
Novel Light Sources and Applications, 402nd Wilhelm und Else Heraeus Seminar, Obergurgl, Austria, 3-9 February 2008

Laser Physics Conference, Trondheim Norway, 30 June – 4 July 2008 (declined).  
FOM Annual Meeting Physics@Veldhoven, Veldhoven NL, 23-24 January 2007.  
University of Ottawa, Physics Department Colloquium, 15 February 2007.  
American Physical Society, Annual Meeting, Tutorial Session, Denver CO, 4 March 2007.  
Temple University, Chemistry and Physics Department joint colloquium, Philadelphia PA, 23 April 2007.  
German Physical Society summer school, Bonn, Germany, 20-25 May 2007.  
Canadian Association of Physicists, annual congress, Saskatoon SK, 17-20 June 2007.  
Attosecond Physics Workshop, Dresden Germany, 1-4 Aug 2007  
Gordon Conference on X-ray Sources, Colby Sawyer College, 5-10 August 2007.  
Laser Physics Conference, Leon Mexico, 20-24 August 2007 (declined)  
ICONO Conference, Minsk, Belarus, 28 May – 1 June 2007 (declined)  
Argonne National Laboratory, Chemistry Division, Chicago, 12 November 2007.  
Kansas State University, 14 November 2007, Departmental seminar  
Kansas State University, 15 November 2007, AMO group seminar  
Marie Curie Transfer of Knowledge workshop “High temporal and spectral resolution at short wavelengths”, FORTH-IESL, Heraklion, Crete, Greece, 30 November 2007.  
Gordon Research Conference on Photoions, Photoionization and Photodetachment, Buellton, California, 29 January – 3 February 2006.  
Dynamic Molecular Imaging, Far Hills, Quebec, 14-18 February 2006.  
American Physical Society March Meeting, Division of Chemical Physics, 13-17 March 2006, Baltimore.  
Ultrafast Dynamic Imaging, Imperial College London, 9-11 April 2006.  
Rutherford Appleton Laboratory Specialist Seminar, Oxford UK, 13 April 2006.  
APS DAMOP (Division of Atomic, Molecular and Optical Physics), Knoxville Tennessee, 16-20 May 2006.  
CLEO/QELS, Long Beach, California, May 21-26, 2006.  
Gordon Research Conference on Multiphoton Processes, Tilton, NH, 11-16 June 2006.  
International Conference on Atomic Physics, Innsbruck, Austria, 16-21 July 2006 (declined).  
Laser Physics Conference, Lausanne, Switzerland, 24-28 July 2006 (declined)  
Departmental seminar, ETH Zurich, Switzerland, 11 September 2006.  
Gordon Research Conference on Electron Spectroscopy and Dynamics, 10-15 September 2006, Les Diablerets, Switzerland.  
International Conference on the Interaction of Atoms, Molecules and Plasmas with Intense Ultrashort Laser Pulses, Szeged, Hungary, 1-5 October 2006.  
High Field Attosecond Physics Conference (HIFAT), “Imaging of Molecular Orbitals Using High Harmonic Generation”, Obergurgl, Austria, 10-15 January 2005.  
Advanced Laser Light Source Winter Workshop, “Using High Harmonic Generation to Image Molecular Orbitals”, Far Hills, Quebec, 9-12 February 2005.  
Sigma Xi Society, “Making Molecular Movies”, Ottawa, 12 May 2005.  
American Physical Society, Division of Atomic, Molecular and Optical Physics, 19 May 2005. XTRA Summer School, Porquerolles, France, 25-28 May 2005.  
Gordon Conference on Quantum Control of Light and Matter, Colby College, Maine, 31 July – 5 August 2005.  
International Conference on Multiphoton Processes (ICOMP), Orford, Quebec, 9-14 October 2005.