CURRICULUM VITAE

Anh-Thu Le (aka Thu A. Le)
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1. Academic experience

- Ph.D. in Physics, Belarusian State University, Minsk, Republic of Belarus, 1994
  Dissertation title: "*Non-relativistic and Relativistic Coulomb Green functions and their application in atomic physics"*
  Advisor: Prof. L. I. Komarov
- B.S. in Physics (*with highest honors*, GPA=5.0/5.0), Belarusian State University, Minsk, Republic of Belarus, 1990

2. Work experience

09/2021 – present: Assistant Professor, Dept. of Physics, University of Connecticut
09/2018 – 08/2021: Assistant Professor, Dept. of Physics, Missouri University of Science & Technology
01/2018 – 08/2018: Research Professor, Dept. of Physics, Kansas State University
08/2014 – 01/2018: Associate Research Professor, Dept. of Physics, Kansas State University
06/2006 – 08/2014: Assistant Research Professor, Dept. of Physics, Kansas State University
09/2003 – 06/2006: Research associate, Dept. of Physics, Kansas State University
09/2001 – 09/2003: Visiting scientist, Dept. of Physics, Kansas State University
09/2000 – 09/2001: Post-doctoral Fellow with Prof. T. T. Gien
Dept. of Physics, Memorial University of Newfoundland, Canada
5/1998 – 5/1999: Guest Scientist with Prof. P. Fulde
Max Planck Institute for Physics of Complex Systems, Dresden, Germany
1/1995 – 9/2000: Research Fellow
Institute of Physics, National Academy of Science & Technology, Hanoi, Vietnam

3. Scholarly contributions

Over 100 papers with over **6,650** citations and ***h*-index=45** (as of 03/2025, according to *Google Scholar*).

Science: 1 (I'm the leading theorist)
Nature Communications: 4 (I'm the leading theorist in two papers)
Phys. Rev. Lett.: 11 (3 as 1st author and 2 as 2nd author)
PNAS (USA): 1
Invited reviews (in J. Phys. B): 2 (1st author and 2nd author)

3.1 Books

1. C. D. Lin, **A.-T. Le**, C. Jin, and H. Wei, *Attosecond and Strong-Field Physics: Principles and Applications*, Cambridge University Press, 2018, ISBN: 9781107197763, 415 pages -- a graduate level textbook; DOI: https://doi.org/10.1017/9781108181839

3.2 Peer-reviewed publications

1. P. H. Tran, V. H. Hoang, and **A.T. Le**, *Quantum pathways interference in laser-induced electron diffraction revealed by a novel semiclassical method*, submitted to Phys. Rev. A; arXiv:2408.12721

2. G. R. Harrison, T. Saule, R. E. Goetz, G. N. Gibson, **A.-T. Le**, and C. A. Trallero-Herrero, *Generation and control of non-local quantum equivalent extreme ultraviolet photons*, submitted to Nature Photonics; arXiv:2305.17263
3. S. Xue, W. Yang, P. Li, Y. Zhang, P. Ding, S.-F. Zhao, H. Du, and **A.T. Le**, *Coherent post-ionization dynamics of molecules based on adiabatic strong-field approximation*, Phys. Rev. A **111**, 013124 (2025); arXiv:2311.11242
4. M. Davino, E. McManus, T. Saule, P.H. Tran, A. F. Ordóñez, G. Gibson, **A.-T. Le**, C. A. Trallero-Herrero, *Symmetries in 3D photoelectron momentum spectroscopy as precursory methods for dichroic and enantiosensitive measurements*, Phys. Rev. Applied **23**, 014022 (2025); arXiv:2406.14705
5. L. He, C. H. Yuen, Y. He, S. Sun, E. Goetz, **A.T. Le**, Y. Deng, C. Xu, P. Lan, P. Lu, and C.D. Lin, *Ultrafast picometer-resolved molecular structure imaging by laser-induced high-order harmonics*, Phys. Rev. Lett. **133**, 023201 (2024).
6. L. He, Y. He, S. Sun, E. Goetz, **A.-T. Le**, X. Zhu, P. Lan, P. Lu, C. D. Lin, *Attosecond probing and control of charge migration in carbon-chain molecule*, Advanced Photonics **5**, 056001 (2023).
7. P Zhang, VH Hoang, C Wang, TT Luu, V Svoboda, **A.-T. Le**, HJ Wörner, *Effects of Autoionizing Resonances on Wave-Packet Dynamics Studied by Time-Resolved Photoelectron Spectroscopy*, Phys. Rev. Lett. **130**, 153201 (2023).
8. Troß, J., Pathak, S., Summers, A., Rompotis, D., Erk, B., Passow, C., Manschwetus, B., Boll, R., Grychtol, P., Bari, S., Kumarappan, V., **Le, A.-T**., Jin, C., Trallero, C., & Rolles, D., *High harmonic generation in mixed XUV and NIR fields at a free-electron laser*, J. Opt., **24**, 025502 (2022).
9. X. Zhao, S. Li, T. Driver, V. H. Hoang, **A. T. Le**, J. P. Cryan, A. Marinelli, and C. D. Lin, *Characterization of single shot attosecond pulses with angular streaking photoelectron spectra*, Physical Review A, **105**, 013111 (2022).
10. S Xue, S. Yue, H. Du, B. Hu, and **A. T. Le**, *Vibronic coherence and quantum beats of O_2^+ based on laser pump-probe dissociation dynamics*, Phys. Rev. A **104**, 013101 (2021)
11. A. Sanchez, K. Amini, S. J. Wang, T. Steinle, B. Belsa, J. Danek, **A.T. Le**, X. Liu, R. Moshammer, T. Pfeiffer, M. Richter, J. Ullrich, S. Grafe, C.D. Lin, and J. Biegert, *Molecular structure retrieval directly from laboratory-frame photoelectron spectra in laser-induced electron diffraction*, Nature Communications **12**, 1520 (2021);
12. B. Belsa, K. Amini, X. Liu, A. Sanchez, T. Steinle, J. Steinmetzer, **A.T. Le**, R. Moshammer, T. Pfeifer, J. Ullrich, R. Moszynski, C.D. Lin, S. Grafe, and J. Biegert, *Laser-induced electron diffraction of the ultrafast umbrella motion in ammonia*, Structural Dynamics **8**, 014301 (2021) .
13. V.-H. Hoang and **A.T. Le**, *Factorization of high-harmonic generation yields in impurity-doped materials*, Phys. Rev. A 102, 023112 (2020); arXiv:1911.11300.
14. C. Jin, S.J. Wang, S.F. Zhao, **A.T. Le**, C.D. Lin, *Robust control of minima of high-order harmonics by fine-tuning the alignment of CO_2 molecules for shaping attosecond pulses and probing molecular alignment*, Phys. Rev. A **102**, 013108 (2020);
15. X. Liu, K. Amini, T. Steinle, A. Sanchez, M. Shaikh, B. Belsa, J. Steinmetzer, **A.T. Le**, R. Moshammer, T. Pfeifer, J. Ullrich, R. Moszynski, C.D. Lin, S. Grafe, J. Biegert, *Imaging an isolated water molecule using a single electron wave packet*, J. Chem. Phys. **151**, 024306 (2019);
16. Y. Malakar, W.L. Pearson, M. Zohrabi, B.Kaderiya, K. Raju, F.Ziaee, S. Xue, **A.T. Le**, I. Ben-Itzhak, D. Rolles, A. Rudenko, *Time-resolved imaging of bound and dissociating nuclear wave packets in strong-field ionized iodomethane*, Phys. Chem. Chem. Phys. **21**, 14090-14102 (2019);
17. K. Amini, M. Sclafani, T. Steinle, **A.T. Le**, A. Sanchez, C. Muller, J. Steinmetzer, L. Yue, J.R.M. Saavedra, M. Hemmer, M. Lewenstein, R. Moshammer, T. Pfeifer, M.G. Pullen, J. Ullrich, B. Wolter, R. Moszynski, F.J.G. de Abajo, C.D. Lin, S. Grafe, and J. Biegert, *Imaging the Renner-Teller effect using laser-induced electron diffraction*, PNAS **116**, 8173-8177 (2019).
18. Lixin He, Pengfei Lan, **A.-T. Le**, Baoning Wang, Bincheng Wang, Xiaosong Zhu, Peixiang Lu, and C. D. Lin, *Real-time observation of molecular spinning with angular high-harmonic spectroscopy*, Phys. Rev. Lett. **121**, 163201 (2018).

19. C. D. Lin, **A.T. Le**, C. Jin, and H. Wei, *Elements of the Quantitative Rescattering Theory*, J. Phys. B **51**, 104001 (2018)
20. S. Xue, H. Du, B. Hu, C. D. Lin, and **A.T. Le**, *Following coherent multichannel nuclear wave packets in pump-probe studies of O_2 with ultrashort laser pulses*, Phys. Rev. A **97**, 043409 (2018)
21. A. Alharbi, A. Boguslavskiy, D. Austin, N. Thire, D. Wood, P. Hawkins, F. McGrath, A. S. Johnson, B. Schmidt, F. Legare, J.P. Marangos, **A.T. Le**, and R. Bhardwaj, *Femtosecond Laser Mass Spectrometry and HHG Spectroscopy of Xylene Isomers*, Scientific Reports **8**, 3789 (2018)
22. X. Wang, **A.-T. Le**, Z. Zhou, H. Wei, and C.D. Lin, *Theory of retrieving orientation-resolved molecular information using time-domain rotational coherence spectroscopy*, Phys. Rev. A **96**, 023424 (2017);
23. V.-H. Hoang, V.-H. Le, C.D. Lin, and **A.T. Le**, *Retrieval of target structure information from laser-induced photoelectrons by few-cycle bicircular laser fields*, Phys. Rev. A **95**, 031402(R) (2017);
24. S. Zigo, **A.-T. Le**, P. Timilsina, and C.A. Trallero-Herrero, *Ionization Study of Isomeric Molecules in Strong-field Laser Pulses*, Scientific Reports **7**, 42149 (2017);
25. V.-H. Hoang, V.-H. Le, S.F. Zhao, and **A.T. Le**, *Influence of permanent dipole and dynamic core-electron polarization on tunneling ionization of polar molecules*, Phys. Rev. A **95**, 023407 (2017);
26. B.P. Wilson, K.D. Fulfer, S. Mondal, X. Ren, J. Tross, E.D. Poliakoff, J. Jose, **A.-T. Le**, R. R. Lucchese, C. Trallero-Herrero, *High-order harmonic generation from SF_6: Deconvolution of macroscopic effect*, J. Chem. Phys. **145**, 224305 (2016);
27. B. Wolter, M. G. Pullen, **A.-T. Le**, M. Baudisch, K. Doblhoff-Dier, A. Senftleben, M. Hemmer, C. D. Schröter, J. Ullrich, T. Pfeifer, R. Moshammer, S. Gräfe, O. Vendrell, C. D. Lin, and J. Biegert, *Ultrafast electron diffraction imaging of bond breaking in di-ionized acetylene*, Science **354**, 308-312 (2016);
28. N.T. Nguyen, R.R. Lucchese, C.D. Lin, and **A.T. Le**, *Probing and extracting structure of vibrating SF6 molecules with inner-shell photoelectrons*, Phys. Rev. A **93**, 063419 (2016);
29. M.G. Pullen, B. Wolter, **A.T. Le**, M. Baudisch, M. Sclafani, H. Pires, C.D. Schroter, J. Ullrich, R. Moshammer, T. Pfeifer, C. D. Lin, and J Biegert, *Influence of orbital symmetry on diffraction imaging with rescattering electron wave packets*, Nature Commun. **7**, 11922 (2016);
30. Y. Ito, C. Wang, **A.T. Le**, M. Okunishi, D. Ding, C.D. Lin, and K. Ueda, *Extracting Conformational Structure Information of Benzene Molecules via Laser-induced Electron Diffraction*, Structural Dynamics **3**, 034303 (2016);
31. X. Wang, **A.T. Le**, C. Yu, R. R. Lucchese, and C. D. Lin, *Retrieving transient conformational molecular structure information from laboratory-frame photoelectron angular distributions*, Sci. Rep. **6**, 23655 (2016);
32. **A.T. Le**, H. Wei, C. Jin, and C.D. Lin, *Strong-field approximation in high-order harmonic generation with mid-infrared lasers*, **PhD Tutorial review paper in** J. Phys. B **49**, 053001 (2016);
33. S.F. Zhao, **A.T. Le**, C. Jin, X. Wang, and C. D. Lin, *An analytical model for calibrating laser intensity in strong-field ionization experiments*, Phys. Rev. A **93**, 023413 (2016);
34. C. Yu, H. Wei, X. Wang, **A.T. Le**, R. Lu, and C.D. Lin, *Reconstruction of two-dimensional molecular structure with laser-induced electron diffraction from laser-aligned polyatomic molecules*, Sci. Rep. **5**, 15753 (2015);
35. M. Pullen, B. Wolter, **A. T. Le**, M. Baudisch, M. Hemmer, A. Senftleben, C. D. Schröter, J. Ullrich, R. Moshammer, C. D. Lin, and J. Biegert, *Imaging aligned polyatomic molecules with laser-induced electron diffraction*, Nature Comm. **6**, 7262 (2015);
36. H. Wei, **A. T. Le**, T. Morishita, C. Yu, and C. D. Lin, *Benchmarking accurate spectral phase retrieval of single attosecond pulses*, Phys. Rev. A **91**, 023407 (2015);
37. C. Jin, G. Wang, **A. T. Le**, and C. D. Lin, *Route to Optimal Generation of keV High-Order Harmonics with Synthesized Two-Color Laser Fields*, Sci. Rep. 4, 7067 (2014);
38. **A. T. Le**, H. Wei, C. Jin, V. N. Tuoc, T. Morishita, and C. D. Lin, *Universality of returning electron wave packet in high-order harmonic generation with mid-infrared laser pulses*, Phys. Rev. Lett. 113, 033001 (2014);

39. C. Jin, G. Wang, H. Wei, **A. T. Le**, and C. D. Lin, *Waveforms for Optimal Sub-keV High-Order Harmonics with Synthesized Two- or Three-Color Laser Fields*, Nature Communications **5**, 4003 (2014).
40. X. Ren, V. Makhija, **A. T. Le**, J. Tross, S. Mondal, C. Jin, V. Kumarappan, and C. Trallero-Herrero, *Measuring angle-dependent photoionization cross section from aligned nitrogen using high harmonic generation*, Phys. Rev. A **88**, 043421 (2013);
41. **A. T. Le**, R. R. Lucchese, and C. D. Lin, *High-harmonic generation from molecular isomers with mid-infrared intense laser pulses*, Phys. Rev. A **88**, 021402(R) (2013);
42. **A. T. Le**, R. R. Lucchese, and C. D. Lin, *Quantitative rescattering theory of high harmonic generation from polyatomic molecules*, Phys. Rev. A **87**, 063406 (2013);
43. M. C. H. Wong, **A. T. Le**, A. F. Alharbi, A. E. Boguslavskiy, R. R. Lucchese, J.-P. Brichta, C. D. Lin, and V. R. Bhardwaj, *High Harmonic Spectroscopy of Cooper Minimum in Molecules*, Phys. Rev. Lett. **110**, 033006 (2013);
44. J. Xu, C. I. Blaga, A. D. DiChiara, E. Sistrunk, K Zhang, Z. Chen, **A. T. Le**, T. Morishita, C. D. Lin, P. Agostini, and L. F. DiMauro, "*Laser-induced electron diffraction for probing rare gas atoms",* Phys. Rev. Lett. **109**, 233002 (2012);
45. **A. T. Le**, T. Morishita, R. R. Lucchese, and C. D. Lin, "*Theory of high harmonic generation for probing time-resolved large-amplitude molecular vibrations with few-cycle intense lasers*", Phys. Rev. Lett. **109**, 203004 (2012);
46. C. D. Lin, C. Jin, **A. T. Le**, and R. R. Lucchese, "*Probing molecular frame photoelectron angular distributions via high-order harmonic generation from aligned molecules"*, J. Phys. B **45**, 194010 (2012);
47. G. Wang, C. Jin, **A. T. Le**, and C. D. Lin, "*On the conditions of extracting photoionization cross sections from laser-induced high-order harmonic spectra*", Phys. Rev. A **86**, 015401 (2012);
48. C. Jin, J. B. Bertrand, R. R. Lucchese, H. J. Worner, P. B. Corkum, D. M. Villeneuve, **A. T. Le**, and C. D. Lin, "*Intensity dependence of multiple-orbital contributions and shape resonance in high-order harmonic generation of aligned N_2 molecules*", Phys. Rev. A **85**, 013405 (2012);
49. 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);
50. G. Wang, C. Jin, **A. T. Le**, and C. D. Lin, "*Influence of gas pressure on high-order harmonic generation of Ar and Ne*", Phys. Rev. A. **84**, 053404 (2011);
51. H. Li, D. Ray, S. De, I. Znakovskaya, W. Cao, G. Laurent, Z. Wang, M. F. Kling, **A. T. Le**, and C. L. Cocke, "*Orientation dependence of the ionization of CO and NO in an intense femtosecond two-color laser field*", Phys. Rev. A **84**, 043429 (2011);
52. C. Jin, **A. T. Le**, C. Trallero-Herrero, and C. D. Lin, "*Generation of isolated attosecond pulses in the far field by spatial filtering with an intense few-cycle mid-infrared laser*", Phys. Rev. A **84**, 043411 (2011);
53. **A. T. Le** and C. D. Lin, *Polarization states of high harmonic generation from aligned molecules*, J. Mod. Optics **58**, 1158-1165 (2011);
54. C. Jin, **A. T. Le**, and C. D. Lin, *Analysis of effects of macroscopic propagation and multiple molecular orbitals on the minimum in high-order harmonic generation of aligned CO_2,* Phys. Rev. A **83**, 053409 (2011);
55. C. Jin, H. J. Woerner, V. Tosa, **A. T. Le**, J. 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*, Fast Track Comm., J. Phys. B **44**, 095601 (2011);
56. S. F. Zhao, C. Jin, R. R. Lucchese, **A. T. Le**, and C. D. Lin, *High-order harmonic generation of gas-phase H_2O molecules*, Phys. Rev. A **83**, 033409 (2011);

57. C. Jin, **A. T. Le**, and C. D. Lin, *Medium propagation effects in high harmonic generation of Ar and N_2*, Phys. Rev. A **83**, 023411 (2011);
58. D. Ray, Z. Chen, S. De, W. Cao, I. V. Litvinyuk, **A. T. Le**, C. D. Lin, M. F. Kling, and C. L. Cocke, *Momentum spectra of electrons rescattered from rare gas targets following their extraction by one- and two-color femtosecond laser pulses*, Phys. Rev. A **83**, 013410 (2011);
59. S. F. Zhao, J. Xu, C. Jin, **A. T. Le**, and C. D. Lin, *Effect of orbital symmetry on the orientation dependence of strong field tunneling ionization of nonlinear polyatomic molecules*, J. Phys. B **44**, 035601 (2011);
60. S. F. Zhao, C. Jin, **A. T. Le**, and C. D. Lin, *Effect of improved molecular potential on strong field tunneling ionization of molecules*, Phys. Rev. A **82**, 035402 (2010).
61. J. Xu, Z. J. Chen, **A. T. Le** and C. D. Lin, *Self-imaging of molecules from diffraction spectra by laser-induced rescattering electrons*, Phys. Rev. A **82**, 033403 (2010).
62. **A. T. Le**, R.R. Lucchese, and C.D. Lin, *Polarization and ellipticity of high-order harmonics from aligned molecules generated by linearly polarized intense laser pulses*, Phys. Rev. A **82**, 023814 (2010).
63. C. D. Lin, **A. T. Le**, Z. Chen, T. Morishita, and R. R. Lucchese, *Strong field rescattering physics - self-imaging of a molecule by its own electrons*, **Topical Review** in J. Phys. B **43**, 122001 (2010).
64. S. F. Zhao, C. Jin, **A. T. Le**, T. F. Jiang, and C. D. Lin, *Determination of structure parameters in strong field tunneling ionization theory of molecules*, Phys. Rev. A **81**, 033423 (2010).
65. C. Jin, **A. T. Le**, S.F. Zhao, R.R. Lucchese, and C.D. Lin, *Theoretical study of photoelectron angular distributions in single-photon ionization of aligned N_2 and CO_2*, Phys. Rev. A **81**, 033421 (2010).
66. S. F. Zhao, C. Jin, **A. T. Le**, T. F. Jiang, and C. D. Lin, *Analysis of Angular Dependence of Strong Field Tunneling Ionization for CO_2*, Phys. Rev. A **80**, 051402(R) (2009).
67. **A. T. Le**, R. R. Lucchese, and C. D. Lin, *Uncovering multiple orbitals influence in high harmonic generation from aligned N_2*, Fast Track Comm., J. Phys. B **42**, 211001 (2009).
68. **A. T. Le**, R. R. Lucchese, S. Tonzani, T. Morishita, and C. D. Lin, *Quantitative Rescattering Theory for high-order harmonic generation from molecules*, Phys. Rev. A **80**, 013401 (2009).
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70. C. Jin, **A. T. Le**, and C. D. Lin, *Retrieval of Target Photo-Recombination Cross Sections from High-Order Harmonics Generated in a Macroscopic Medium*, Phys. Rev. A **79**, 053413 (2009).
71. Z. Chen, **A. T. Le**, T. Morishita and C. D. Lin, *Quantitative rescattering theory for laser-induced high-energy plateau photoelectron spectra*, Phys. Rev. A **79**, 033409 (2009);
72. S. Micheau, Z. Chen, T. Morishita, **A. T. Le**, and C.D. Lin, *Robust carrier-envelope phase retrieval of few-cycle laser pulses from high-energy photoelectron spectra in above-threshold ionization of atoms*, J. Phys. B **42**, 065402 (2009).
73. Z. Chen, **A. T. Le**, T. Morishita, and C. D. Lin, *Origin of plateau and species dependence of laser-induced high-energy photoelectron spectra*, Fast Track Comm., J. Phys. B 42, 061001 (2009).
74. S. Micheau, Z. Chen, **A. T. Le**, J. Rauschenberger, M. F. Kling, and C. D. Lin, *Accurate retrieval of target structures and laser parameters of few-cycle pulses from photoelectron momentum spectra*, Phys. Rev. Lett. **102**, 073001 (2009).
75. S. Micheau, Z. Chen, **A. T. Le**, and C.D. Lin, *Quantitative rescattering theory for nonsequential double ionization of atoms by intense laser pulses*, Phys. Rev. A **79**, 013417 (2009).
76. S. Minemoto, T. Umegaki, Y. Oguchi, T. Morishita, **A. T. Le**, S. Watanabe, and H. Sakai, *Retrieval of atomic structure from high-order harmonic spectra*, Phys. Rev. A **78**, 061402(R) (2008).
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80. D. Ray, B. Ulrich, I. Bocharova, C. Maharajan, P. Ranitovic, B. Gramkow, M. Magrakvelidze, S. De, I. V. Litvinyuk, **A. T. Le**, T. Morishita, C. D. Lin, G. G. Paulus, and C. L. Cocke, *Large-angle electron diffraction structure in laser-induced rescattering from rare gases*, Phys. Rev. Lett. **100,** 143002 (2008).
81. V. H. Le, N. T. Nguyen, C. Jin, **A. T. Le**, and C. D. Lin, *Retrieval of interatomic separations of molecules from laser-induced high-order harmonic spectra*, J. Phys. B **41**, 085603 (2008).
82. **A. T. Le**, R. D. Picca, P.D. Fainstein, D. A. Telnov, M. Lein, and C.D. Lin, *Theory of high-order harmonic generation from molecules by intense laser pulses*, Fast Track Comm., J. Phys. B **41**, 081002 (2008).
83. T. Morishita, **A. T. Le**, Z. Chen, and C. D. Lin, *Potential for ultrafast dynamic chemical imaging with few-cycle infrared lasers*, New Journal of Physics **10**, 025011 (2008).
84. T. Morishita, **A. T. Le**, Z. Chen, and C. D. Lin, *Accurate retrieval of structural information from laser-induced photoelectron and high-harmonic spectra by few-cycle laser pulses*, Phys. Rev. Lett. **100,** 013903 (2008).
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86. V. H. Le, **A. T. Le**, R. H. Xie, and C. D. Lin, *Theoretical analysis of dynamic chemical imaging with lasers using high-order harmonic generation*, Phys. Rev. A **76**, 013414 (2007).
87. **A. T. Le**, X.-M. Tong, and C. D. Lin, *Alignment dependence of high-order harmonic generation from CO_2*, J. Mod. Optics **54**, 967 (2007).
88. Z. Chen, T. Morishita, **A. T. Le**, M. Wickenhauser, X. M. Tong, and C. D. Lin, *Analysis of two-dimensional photoelectron momentum spectra and the effect of the long-range Coulomb potential in single ionization of atoms by intense lasers*, Phys. Rev. A **74**, 053405 (2006).
89. P. Barragan, **A. T. Le**, and C. D. Lin, *Hyperspherical close-coupling calculations for electron capture cross sections in low energy Ne^{10+} + H(1s) collisions*, Phys. Rev. A **74**, 012720 (2006);
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91. **A. T. Le**, T. Morishita, X.-M. Tong, and C. D. Lin, *Signature of chaos in high-lying doubly-excited states of helium atom*, Phys. Rev. A **72**, 032511 (2005).
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93. **A. T. Le**, M. W. J. Bromley, and C. D. Lin, *Positronium formation in positron-Li and positron-Na collisions at low energies*, Phys. Rev. A **71**, 032713 (2005).
94. **A. T. Le** and C. D. Lin, *Muon transfer from muonic hydrogen to atomic oxygen and nitrogen*, Phys. Rev. A **71**, 022507 (2005).
95. T. G. Lee, M. Hesse, **A. T. Le**, and C. D. Lin, *Charge transfer in slow collisions of O^{8+} and Ar^{8+} ions with H(1s) below 2 keV/amu*, Phys. Rev. A **70**, 012702 (2004);
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98. C. N. Liu, **A. T. Le**, and C. D. Lin, *Charge transfer in slow collisions of C^{4+} with H below 1 keV/amu*, Phys. Rev. A **68**, 062702 (2003);
99. T. G. Lee, **A. T. Le**, and C. D. Lin, *Charge transfer and excitation in slow 20 eV-2 keV H^{+}+D(1s) collisions*, J. Phys. B **36**, 4081 (2003);
100. **A. T. Le**, C. N. Liu, and C. D. Lin, *Charge transfer in slow collisions between H^{+} with Na*, Phys. Rev. A **68**, 012705 (2003);
101. **A. T. Le**, M. Hesse, T. G. Lee, and C. D. Lin, *Hyperspherical close coupling calculations for charge transfer cross sections in Si^{4+}+H(D) and Be^{4+}+H collisions at low energies*, J. Phys. B **36**, 3281 (2003);
102. C. N. Liu, **A. T. Le**, T. Morishita, B. D. Esry, and C. D. Lin, *Hyperspherical close coupling calculations for charge transfer cross sections in He^{2+}+H(1s) collisions at low energies*, Phys. Rev. A **67**, 052705 (2003);
103. **Le Anh Thu** and L. I. Komarov, *Operator method in solving non-linear equations of the Hartree-Fock type*, J. Phys.: Cond. Matt. **10**, 11679 (1998).
104. **Le Anh Thu**, L. V. Hoang, L. I. Komarov, and T. S. Romanova, *Relativistic dynamical polarizability of Hydrogen-like atoms*, J. Phys. B: At. Mol. Opt. Phys **29**, 2897 (1996).
105. **Le Anh Thu**, L. V. Hoang, L. I. Komarov, and T. S. Romanova, *Operator representation of the Dirac Coulomb Green function and relativistic polarizability of Hydrogen-like atoms*, J. Phys. B: At. Mol. Opt. Phys. **27**, 4083 (1994).
106. L. V. Hoang, T. Viloria, and **Le Anh Thu**, *On the five-dimensional Hydrogen-like atom*, J. Phys. A: Math. Gen. **24**, 3021 (1991).
107. **Le Anh Thu** and L.V. Hoang, *On the Coulomb-Green function in five-dimensional space*, Izv. Akad. Nauk BSSR (ser. Fiz.-Mat. Nauk) **11**, N6, 44-49 (1991) (in Russian).

3.3 Book Chapters & Conference Proceedings

1. X Liu, K Amini, T Steinle, A Sanchez, M Shaikh, B Belsa, J Steinmetzer, **A.T. Le**, R Moshammer, T Pfeifer, J Ullrich, CD Lin, S Gräfe, J Biegert, *Imaging an isolated water molecule with an attosecond electron wave packet*, Journal of Physics: Conference Series **1412**, 072047 (2020).
2. K Amini, T Steinle, M Sclafani, M Shaikh, A Sanchez, X Liu, **A.T. Le**, J Steinmetzer, T Pfeiffer, R Moshammer, J Ullrich, M Lewenstein, R Moszynski, JG de Abajo, CD Lin, S Gräfe, J Biegert, *Ultrafast imaging of the Renner-Teller effect in a field-dressed molecule*, Journal of Physics: Conference Series **1412**, 092001 (2020)
3. **A.T. Le**, M. Centurion, and C. D. Lin, *Elements of structure retrieval in ultrafast electron and laser-induced electron diffraction from aligned polyatomic molecules*, Book Chapter in ***Attosecond molecular dynamics***, eds. by F. Lepine and M. Vrakking, Royal Society of Chemistry, pp. 462-493 (2018).
4. S.F. Zhao, **A.-T. Le,** J. Cheng, X. Wang, X.X. Zhou, C.D. Lin, *The possibility for alibrating laser intensity in strong-field-ionization experiments*, Journal of Physics: Conference Series **875**, 032008 (2017).
5. M. G Pullen, B. Wolter, **A.-T.Le**, M. Baudisch, M. Hemmer, A. Senftleben, M Sclafani, C.D. Schroeter, J. Ullrich, R. Moshammer, C.D. Lin, J. Biegert, *Polyatomic molecular structure retrieval using laser-induced electron diffraction*, Journal of Physics: Conference Series **635**, 072051 (2015).
6. T. Umegaki, T. Morishita, S. Minemoto, Y. Oguchi, A.-T. Le, S. Watanabe, H. Sakai, *Accurate retrieval of atomic structures from high-order harmonic spectra*, Journal of Physics: Conference Series **194**, 112005 (2009).
7. C. D. Lin, **A. T. Le** and Z. Chen, *Theory of Dynamic Imaging of Molecules with intense infrared laser pulses*, in *"**Quantum Dynamic Imaging: Theoretical and Numerical Methods**"*, eds.: A. D. Bandrauk and M Y Ivanov, Springer, pp. 89-106 (2011).

8. M. W. J. Bromley, J. Mitroy, S. A. Novikov, **A. T. Le**, and C. D. Lin, *Positron-atom bound states and interactions*, in ***Photonic, Electronic and Atomic Collisions***, pp. 407-414, eds.: P.D.Fainstein *et al* (World Scientific, Singapore, 2006).
9. C. D. Lin, **A. T. Le**, T. G. Lee, and C. N. Liu, *New and old theoretical tools for evaluating cross sections for ion-atom collisions*, AIP Conf. Proc. **771**, 229-238 (2005).

3.4 Other publications

1. V. Makhija, X. Ren, D. Gockel, **A.T. Le**, and V. Kumarappan, *Orientation Resolution through Rotational Coherence Spectroscopy*, arXiv:1611.06476
2. **A.-T. Le** and C. D. Lin, *Ultrafast optics: Imaging a Chemical Reaction*, Nature Photonics **4**, 671 (2010).
3. **A.-T. Le**, R. D. Picca, P. D. Fainstein, D. A. Telnov, M. Lein, and C. D. Lin, *Ultrafast self-imaging of molecules under intense laser pulses*, Euro Physics News, V. 39, Number 4, p. 19 (2008)

3.5 Representative presentations

- *Accurate semiclassical method for constructing photoelectron momentum distribution for atoms in intense few-cycle laser pulses*, ***Talk*** at DAMOP 2024, Fort Worth, TX, June 04, 2024.
- *Novel strong-field techniques for probing ultrafast processes in atoms and molecules*, ***Invited talk*** at 47th Vietnam Conference on Theoretical Physics (VCTP-47), Tuy Hoa, Vietnam, August 02, 2022
- *Strong-field spectroscopies with ultrafast laser pulses*, ***Invited talk*** at Department of Chemistry, Wayne State University, October 20, 2021
- *Strong-field spectroscopies with ultrafast laser pulses*, ***Invited talk*** at Department of Chemistry, Missouri University of Science and Technology, October 18, 2021
- *Quantitative Rescattering Model for High-Harmonic Generation in Doped Materials*, ***Invited Talk***, LPHYS'19, Gyeongju, South Korea, July 8-12, 2019.
- *Dynamic Imaging of Chemical Reactions with Few-Cycle Intense Laser Pulses*, ***Invited Talk***, ICCSE-4 Conference, Ho Chi Minh city, Vietnam, July 24-27, 2019
- *High-harmonic generation in doped solids: a perspective from atomic and molecular strong-field physics*, ***Seminar***, Ton Duc Thang University, Ho Chi Minh city, Vietnam, July 23, 2019
- *High-harmonic generation in doped solids: a perspective from atomic and molecular strong-field physics*, ***Seminar***, Hanoi University of Technology, Hanoi, Vietnam, July 15, 2019
- *Probing coherent multichannel nuclear wave packets with ultrashort laser pulses*, ***Invited Talk,*** Workshop on "Trends in Attosecond and Strong-field Physics", Aarhus University, Denmark, Jan. 31, 2019.
- *Probing spatial and spectroscopic structure information with femtosecond intense laser fields*, ***Invited talk***, ACS Meeting, Symposium on Strong Field Chemistry, Boston August 21, 2018.
- *Ultrafast imaging with laser-induced electron diffraction*, ***Invited talk***, Workshop on Trends in Ultrafast Laser Science, August 16-18, 2017, Boulder, Colorado.
- *Rescattering physics and ultrafast molecular imaging*, ***Colloquium***, Department of Physics, Kansas State University, Feb. 16, 2017
- *Imaging polyatomic molecules with ultrafast laser-induced electron diffraction*, ***Invited talk***, Ultrafast Nonlinear Imaging and Spectroscopy conference, SPIE Optics and Photonics, San Diego, August 28, 2016.
- *Strong field and attosecond physics: progress and opportunities*, ***Invited talk***, Ton Duc Thang University, Vietnam, June 23, 2016.
- *Retrieval of two-dimensional molecular structure with laser-induced electron diffraction from laser-aligned polyatomic molecules*, Talk at ATTO15, July 10, 2015, Saint-Sauveur, Quebec, Canada.
- *High harmonic generation with intense mid-infrared laser pulses*, ***Invited talk,*** IWAQD10 Workshop, University of Electro-Communications, Tokyo, Japan, Jan. 23, 2014.

- *Imaging molecular structure with ultrafast intense laser pulses*, ***Colloquium,*** Department of Physics, Kansas State University, Nov. 11, 2013
- *Theoretical treatment of high harmonic generation from dynamically evolving systems*, ***Invited talk,*** University of Pedagogy, Ho Chi Minh city, Vietnam, June 17, 2013.
- *Ultrafast intense laser-matter interaction: progress, challenge, and opportunities*, ***Invited talk,*** Institute of Physics, Hanoi, Vietnam, May 28, 2013.
- *Imaging chemical reaction with ultrafast intense laser pulses*, ***Invited talk***, Hanoi University of Science and Technology, Vietnam, May 20, 2013.
- *Theoretical treatment of high harmonic generation from dynamically evolving system*, ***Invited talk***, Workshop on Intense Fields and Attosecond Science, Aarhus University, Sept. 6, 2012.
- *High harmonic generation: from microscopic to macroscopic world*, ***Invited talk***, OSA's 95th Annual Meeting *Frontiers in Optics & Laser Science XXVII*, San Jose, CA, Oct 19, 2011.
- *Accurate macroscopic simulation of high harmonic generation*, ***Invited talk***, RIKEN Advanced Institute, Japan, July 14, 2011.
- *Towards ultrafast dynamic chemical imaging by intense laser pulses*, ***Invited talk***, Argonne National Laboratory, Oct. 15, 2010.
- *Extraction of Fixed-in-Space photoionization cross section and phase with high-order harmonic generation from aligned molecules*, ***Invited talk*** at 41st DAMOP meeting, Houston, May 29, 2010.
- *Influence of multiple orbitals on high harmonic generation from aligned molecules*, Talk at Workshop on Super Intense Laser-Atom Physics, Zion National Park, USA, Sept. 23, 2009.
- *Probing Fixed-in-Space molecular structures with high harmonic generation,* ***Invited talk*** at the Second Intl. Conference on Attosecond Physics, Manhattan, Kansas, July 30, 2009.
- *Quantitative rescattering theory for high-order harmonic generation from aligned molecules*, Talk at 40th DAMOP meeting, Charlottesville, Virginia, May 22, 2009.
- *Dynamic imaging with high harmonic generation by few-cycle laser pulses*, Talk at Dept. of Chemistry, Kansas State University, March 24, 2009.
- *Accurate retrieval of atomic and molecular structure from high-order harmonic spectra*, Talk at 39th DAMOP meeting, State College, Pennsylvania, May 29, 2008.
- *Accurate retrieval of atomic and molecular structure from high harmonic generation and electron momentum spectra*, Talk at Dept. of Chemistry, Northwestern University, Evanston, Aug. 17, 2007.
- *Evidence of two-center interference in high-order harmonic generation from CO_2*, Talk at 37th DAMOP meeting, Knoxville, Tennessee, May 19, 2006.
- *Antihydrogen formation in low energy collisions of antiproton with excited positronium*, Talk at 35th DAMOP meeting, Tucson, AZ, May 28, 2004.
- *Hyperspherical close coupling method: recent applications to ion-atom and positron-atom collisions,* Talk at 34th DAMOP meeting, Boulder, CO, May 21, 2003.

4. Research Grants and Contracts

- Current grant: "Towards imaging time-resolved non-equilibrium molecular structures with ultrafast intense laser pulses", DOE, under **Award Number DE-SC0023192,** $425,000.00, 08/2022 – 08/2025

Previous grants

- Chemical Sciences, Geosciences and Biosciences Division, Office of Basic Energy Sciences, Office of Science, U. S. Department of Energy under **Grant No. DE-FG02-86ER13491**
  From 2006-2018, renewable every three years, PI: I. Ben-Itzhak (director of J.R. Macdonald Laboratory); I was senior personnel.
- National Science Foundation under **Award No. IIA-1430493**
  From 2015-2017; PI: I. Ben-Itzhak (director of J.R. Macdonald Laboratory); I was senior personnel.

5. Teaching

At University of Connecticut

- Phys-4140/6140 -- *Principles of Lasers*, Spring 2023, Spring 2025
- Phys-6120 *Molecular Physics*, Fall 2024
- Phys-1402Q *General Physics with Calculus II*, Fall 2023, Spring 2024
- Phys 6110 – *Atomic Physics*, Fall 2022
- Phys 1230 -- *General Physics Problems*, Spring 2022

At Missouri University of Science and Technology

- Physics 5001: *Introduction to Atomic, Molecular, and Optical Physics* (Graduate level), Fall 2020
- Physics 6010: *Seminar*, Spring 2020, Spring & Fall 2019, Fall 2018
- Physics 2135 (recitation) *Engineering Physics II*, Spring 2021 and 2020, Spring & Fall 2019, Fall 2018

At Kansas State University

- PHYS *850 Theory of Atomic Structure and Atomic Interactions* – Spring 2018.
- PHYS *707 Topics in Physics* (*Molecular structures and spectroscopy: learning with Gaussian/Gamess quantum chemistry software*) – Fall 2016.
- *Engineering Physics* (Studio) Fall 2011 (38 students) at Kansas State University.
- *Descriptive Physics* (Studio) Spring 2011 (10 students) at Kansas State University.
- *General Physics 1* (recitation) Spring 2003 (43 students) at Kansas State University.
- *General Physics 2* (recitation) Fall 2002 (45 students) at Kansas State University.
- *Descriptive Physics* (recitation) Spring 2002 (43 students) at Kansas State University.

6. Department and University Service

At UConn

- AMO seminar coordinator (Jan 2022 – August 2024)

At Missouri University of Science and Technology

- Organizer of Department Colloquium Series (Fall 2018, Spring & Fall 2019, and Spring 2020)
- Chair of Schearer Prize Competition (Fall 2018)
- Committee member of Schearer Prize Competition (Fall 2019)
- Committee member of the University Library and Learning Resources Committee (LLRC) (2020 –2021)

7. Professional Service and Society Memberships

- Reviewer for DOE AMOS program (2023 & 2024), NSF AMO theory program (2021), DOE Early Career program (2020 & 2021), DOE BES SBIR/STTR program (2018), NASA postdoctoral program
- Referee for *Nature Communications*, *Light: Science & Applications*, *Physical Review Letters*, *Physical Review A*, *Journal of Physics A*, *Journal of Physics B*, *New Journal of Physics*, *Optics Letters*, *Optics Express*, *Journal of Electron Spectroscopy and Related Phenomena*, *Physics Letters A*, *Physica Scripta*, *Optics Communications*, *Applied Optics*, *Photonics*
- Co-chair of the Theoretical Atomic, Molecular, and Optical Physics Community (TAMOC), June 2020 – June 2022; https://sites.google.com/site/tamocphysics/community/tamoc-chairs?authuser=0
- Chair of Focus Session J03: "*Imaging and novel spectroscopy techniques*", DAMOP meeting, Milwaukee, WI, May 27-31, 2019; Website: http://meetings.aps.org/Meeting/DAMOP19/Session/J03

- Organizing committee member, 2nd Intl. Conference on Attosecond Physics, Manhattan, Kansas, July 28 –Aug 1, 2009.
- Member of the American Physical Society (2002 – now)
- Member of the American Chemical Society (2018 - now)

8. Other activities

- Member of PhD Defense Committees for
  - Mr. Michael Davino, UConn, 08/01/2024
  - Mr. Jean-Nicolas Vigneau, Université Paris-Saclay, 05/21/2024
  - Mr. Ravi Wickramathilake, UConn, 03/28/2024
  - Mr. Brandin Davis, UConn, 04/17/2023
  - Mr. Sujan Bastola, Missouri University of Science and Technology, 06/23/2022
  - Mr. Jorgen J. Rorstad, Aarhus University, Feb. 2019
  - Mr. Adam Etches, Aarhus University, Sept. 2012
  - Ms. Misty Ostergaard, Kansas State University, 2016.
- Served in various occasions as a member of departmental examination committee, and PhD exam committee.

9. Research Mentoring

At University of Connecticut

- Mr. Doan-An Trieu, visiting graduate student (March 2024-June 2024)
- Mr. Hao Truong, Graduate Research Assistant (08/2023- now)
- Mr. Phi-Hung Tran, Graduate Research Assistant (09/2021- now)
- Dr. Esteban Goetz, Postdoc (February 2022 – now)

At Missouri University of Science and Technology

- Dr. Van-Hung Hoang, Postdoc, Missouri S&T (02/015/2019- 06/27/2021)
- Mr. Phi-Hung Tran, Graduate Research Assistant, Missouri S&T (09/2019- 08/2021)
- Undergraduate research students: Zach Driemeyer, Joshua Maechler, Reagan Dugan, Aaron Silvus, Kenneth Distefano (FIRE student)
- High School student: Sudatta Hor (Rolla High School)

At Kansas State University

- Mr. Shan Xue, visiting graduate student from Lanzhou University, China (11/12/2016-2018).
- Mr. Van-Hung Hoang, graduate student, Ho Chi Minh City University of Pedagogy, Vietnam (PhD defense 12/2017).
- Dr. Ty Nguyen, visiting scientist from Ho Chi Minh City University of Pedagogy (03/14/2015-03/14/2017).
- Mr. Van-Hung Hoang, visiting graduate student from Ho Chi Minh City University of Pedagogy, Vietnam (03/01/2016-12/23/2016).
- Mr. Darren Woodson, NSF REU undergraduate student (summer 2016).