

Igor V. Litvinyuk

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Email i.litvinyuk@griffith.edu.au**Present Appointment**

Position Title: Associate Professor

School/Department/Centre: Centre for Quantum Dynamics, School of Natural Sciences

Commencement Date: 3/06/2009

Employment History

Position Title: Assistant Professor

Organisation: Kansas State University, Manhattan, Kansas, USA

Commencement Date: 5/01/2004

End Date: 30/05/2009

Position Title: Visiting Fellow

Organisation: National Research Council of Canada, Ottawa, Ontario, Canada

Commencement Date: 1/01/2001

End Date: 31/12/2003

Position Title: Postdoctoral Fellow

Organisation: University of British Columbia, Vancouver, B.C., Canada

Commencement Date: 1/02/1998

End Date: 31/12/2000

Position Title: Teaching Assistant

Organisation: Florida State University, Tallahassee, Florida, USA

Commencement Date: 1/09/1992

End Date: 19/12/1997

Position Title: Research Engineer

Organisation: Institute of Physics, Ukrainian Academy of Sciences, Kiev, Ukraine

Commencement Date: 1/07/1989

End Date: 30/07/1992

Qualifications

Name of Qualification: Doctor of Philosophy (Ph.D.) in Chemical Physics

Institution: Florida State University, Tallahassee, Florida, USA

Year Awarded: 1997

Name of Qualification: Master of Science (M.S.) in Physics

Institution: Moscow Institute of Physics and Technology, Moscow, Russian Federation

Year Awarded: 1989

Grants

ARC Discovery

DP11010101894 **Ultrafast Molecular Imaging with Few-Cycle Laser Pulses**

Robert Sang – co-PI, Francois Legare and Klaus Bartschat – PIs

Year: 2011-2013

Amount of Grant: 2011 - \$90,000, 2012 - \$70,000, 2012 - \$70,000, total – \$230,000

DOE Grant No. DE-FG02-06ER15829: **“Developing Laser-Induced Re-Collision electron Self-Diffraction for Ultra-Fast Imaging of Transient Molecular Structure”**

I.V. Litvinyuk – sole CI

Year: Sep 2006 – Aug 2009

Amount of Grant: 2006/07 - \$150,000 USD, 2007/08 - \$150,000 USD, 2008/09 - \$127,000 USD, Total - \$427,000 USD

Host Institution: Kansas State University

Granting Agency: U.S. Department of Energy

DOE Grant No. DE-FG02-86ER13491: **“Structure and Dynamics of Atoms, Ions, Molecules and Surfaces”**

I.Ben-Itzhak and C.L. Cocke – co-CIs

I.V. Litvinyuk – one of eight PIs

Year: Jan 2007 – Dec 2009

Amount of Grant: 2007 - \$2,500,000 USD, 2008 - \$2,500,000 USD, 2009 - \$2,500,000 USD, Total - \$7,500,000 USD

Host Institution: Kansas State University

Granting Agency: U.S. Department of Energy

Publications (10 most recent listed) 50 refereed journal articles, 1900+ citations, h-index = 23 (Web of Science)

- [1] D.Kielinski, R.T. Sang and **I.V. Litvinyuk**, “Benchmarking strong-field ionisation with atomic hydrogen, *J.Phys. B* **47**, 204003 (2014). {Invited Review}.
- [2] H.Xu, Tian-Yu Xu, Feng He, D. Kielinski, R.T. Sang and **I.V. Litvinyuk**, “Effect of nuclear mass of carrier-envelope-phase-controlled electron localization in disassociating molecules”, *Phys. Rev. A* **89**, 041403(R) (2014).
- [3] N.G. Kling, D. Paul, A. Gura, G. Laurent, S. De, H. Li, Z. Wang, B. Ahn, C.H. Kim, T.K. Kim, **I.V. Litvinyuk**, C.L. Cocke, I. Ben-Itzhak, D. Kim and M.F. Kling. “Thick-lens velocity-map imaging spectrometer with high resolution for high-energy charged particles”. *Journal of Instrumentation* **9**, P05005 (2014)
- [4] I. Znakovskaya, M. Spanner, S. De, H. Li, D. Ray, P. Corkum, **I.V. Litvinyuk**, C.L. Cocke and M.F. Kling. **Transition between mechanisms of laser-induced field-free molecular orientation.***Physical Review Letters* 112, 113005 (2014).
- [5] M.G. Pullen, W.C. Wallace, D.E. Laban, A.J. Palmer, G.F. Hanne, A.N. Grum-Grzhimailo, K. Bartschat, I. Ivanov, A. Kheifets, D. Wells, H.M. Quiney, X.M. Tong, **I.V. Litvinyuk**, R.T. Sang, and D. Kielinski, “Laser intensity determination at the 1% level”, *Phys. Rev A* **87**, 053411(2013).
- [6] H. Xu, J.P. Maclean, D. Laban, W. Wallace, D. Kielinski, R.T. Sang and **I.V. Litvinyuk**, “Carrier-Envelope-Phase Dependent Dissociation of Hydrogen”, *New J. Phys.* **15** 023034 (2013).
- [7] W.C. Wallace, M.G. Pullen, D.E. Laban, O. Ghafur, A.J. Palmer, G.F. Hanne, K. Bartschat, A.N. Grum-Grzhimailo, H.M. Quiney, **I.V. Litvinyuk**, R.T. Sang, and D. Kielinski, “Carrier-envelope phase effects in above threshold ionization of atomic hydrogen”, *New J. Phys.* **15** 033002 (2013).
- [8] D.E. Laban, A.J. Palmer, W.C. Wallace, N.S. Gaffney, R.P.M.J.W. Notermans, T.T.J. Clevis, M.G. Pullen, D. Jiang, H.M. Quiney, **I.V. Litvinyuk**, D. Kielinski and R.T. Sang, “Extreme ultraviolet interferometer using high-order harmonic generation from successive sources”, *Phys. Rev Lett* **109**, 263902. (2012).
- [9] I. Bocharova, R. Karimi, E. F. Penka, J.-P. Brichta, P. Lassonde, X. Fu, J.-C. Kieffer, A. D. Bandrauk, **I. Litvinyuk**, J. Sanderson, and F. Légaré, “Charge Resonance Enhanced Ionization of CO₂ Probed by Laser Coulomb Explosion Imaging”, *Phys. Rev. Lett.* **107**, 063201 (2011).
- [10] M.G. Pullen, W.C. Wallace, D.E. Laban, A.J. Palmer, G.F. Hanne, A.N. Grum-Grzhimailo, B. Abeln, K. Bartschat, D. Weflen, I. Ivanov, A. Kheifets, H.M. Quiney, **I.V. Litvinyuk**, R.T. Sang, and D. Kielinski, “Experimental ionization of atomic hydrogen with few-cycle pulses”, *Opt. Lett.* **36**, 3660 (2011).

