

Stanford



Kirk Larsen

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Bio

BIO

I am an associate staff scientist in the Laser Science Department of the Linac Coherent Light Source (LCLS) at SLAC National Accelerator Laboratory. I work on developing tunable few-cycle UV light sources using soliton dynamics and resonant dispersive wave emission in hollow core fibers. I am involved in photoinjector research for LCLS-II, focusing on temporal x-ray pulse shaping to support the extension of attosecond capabilities to high repetition rate. I also work on developing plasma based attosecond XUV light sources at FACET-II.

EDUCATION AND CERTIFICATIONS

- BS, University of Oregon (2014)
- PhD, University of California, Berkeley (2020)

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=O9o-7K0AAAAJ&hl=en&oi=ao>

Publications

PUBLICATIONS

- **Strongly coupled intermediate electronic states in one-color two-photon single valence ionization of O₂.** *The Journal of chemical physics*
Larsen, K. A., Bello, R. Y., Lucchese, R. R., McCurdy, C. W., Slaughter, D. S., Weber, T.
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- **Step-by-step state-selective tracking of fragmentation dynamics of water dications by momentum imaging.** *Nature communications*
Severt, T., Streeter, Z. L., Iskandar, W., Larsen, K. A., Gatton, A., Trabert, D., Jochim, B., Griffin, B., Champenois, E. G., Brister, M. M., Reedy, D., Call, D., Strom, et al
2022; 13 (1): 5146
- **Mechanisms and dynamics of the NH₂⁺ + H⁺ and NH₃⁺ + H⁺ + H fragmentation channels upon single-photon double ionization of NH₃** *JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS*
Larsen, K. A., Rescigno, T. N., Streeter, Z. L., Iskandar, W., Heck, S., Gatton, A., Champenois, E. G., Severt, T., Strom, R., Jochim, B., Reedy, D., Call, D., Moshhammer, et al
2020; 53 (24)
- **Role of dipole-forbidden autoionizing resonances in nonresonant one-color two-photon single ionization of N-2** *PHYSICAL REVIEW A*
Larsen, K. A., Bello, R. Y., Lucchese, R. R., Rescigno, T. N., McCurdy, C., Slaughter, D. S., Weber, T.
2020; 102 (6)
- **Photoelectron and fragmentation dynamics of the H⁺** *PHYSICAL REVIEW RESEARCH*
Larsen, K. A., Rescigno, T. N., Severt, T., Streeter, Z. L., Iskandar, W., Heck, S., Gatton, A., Champenois, E. G., Strom, R., Jochim, B., Reedy, D., Call, D., Moshhammer, et al

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- **Distinguishing resonance symmetries with energy-resolved photoion angular distributions from ion-pair formation in O-2 following two-photon absorption of a 9.3 eV femtosecond pulse** *JOURNAL OF CHEMICAL PHYSICS*
Larsen, K. A., Lucchese, R. R., Slaughter, D. S., Weber, T.
2020; 153 (2): 021103
- **Angle-resolved nonresonant two-photon single ionization of argon using 9.3-eV photons produced via high-order harmonic generation** *PHYSICAL REVIEW A*
Larsen, K. A., Slaughter, D. S., Weber, T.
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- **Symmetry breaking in the body-fixed electron emission pattern due to electron-retroaction in the photodissociation of H-2(+) and D-2(+) close to threshold** *PHYSICAL REVIEW RESEARCH*
Heck, S., Gatton, A., Larsen, K. A., Iskandar, W., Champenois, E. G., Strom, R., Landers, A., Reedy, D., Dailey, C., Williams, J. B., Severt, T., Jochim, B., Ben-Itzhak, et al
2019; 1 (3)
- **Tracing intermolecular Coulombic decay of carbon-dioxide dimers and oxygen dimers after valence photoionization** *PHYSICAL REVIEW A*
Iskandar, W., Gatton, A. S., Gaire, B., Sturm, F. P., Larsen, K. A., Champenois, E. G., Shivaram, N., Moradmand, A., Williams, J. B., Berry, B., Severt, T., Ben-Itzhak, I., Metz, et al
2019; 99 (4)
- **Ultrafast photodissociation dynamics and nonadiabatic coupling between excited electronic states of methanol probed by time-resolved photoelectron spectroscopy** *JOURNAL OF CHEMICAL PHYSICS*
Champenois, E. G., Greenman, L., Shivaram, N., Cryan, J. P., Larsen, K. A., Rescigno, T. N., McCurdy, C., Belkacem, A., Slaughter, D. S.
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- **Ultrafast photodissociation dynamics and nonadiabatic coupling between excited electronic states of methanol probed by time-resolved photoelectron spectroscopy.** *The Journal of chemical physics*
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2019; 150 (11): 114301
- **Resonance signatures in the body-frame valence photoionization of CF4** *PHYSICAL CHEMISTRY CHEMICAL PHYSICS*
Larsen, K. A., Trevisan, C. S., Lucchese, R. R., Heck, S., Iskandar, W., Champenois, E., Gatton, A., Moshhammer, R., Strom, R., Severt, T., Jochim, B., Reedy, D., Weller, et al
2018; 20 (32): 21075-21084
- **VUV and XUV reflectance of optically coated mirrors for selection of high harmonics** *OPTICS EXPRESS*
Larsen, K. A., Cryan, J. P., Shivaram, N., Champenois, E. G., Wright, T. W., Ray, D., Kostko, O., Ahmed, M., Belkacem, A., Slaughter, D. S.
2016; 24 (16): 18209-18216