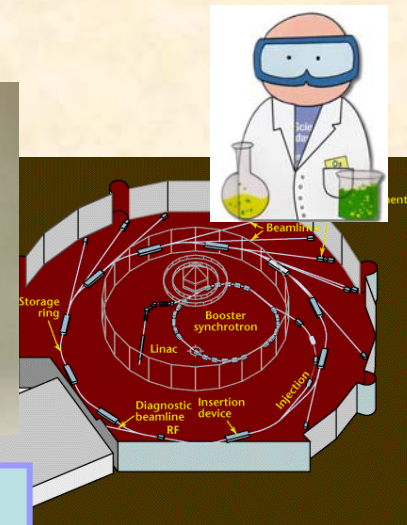


Become a group member

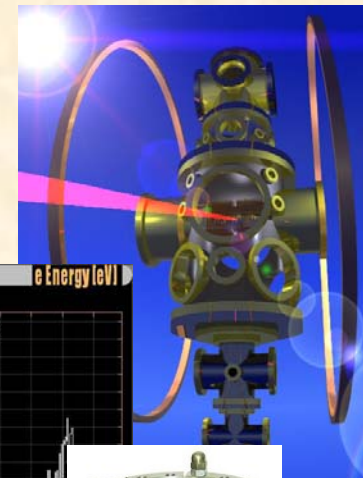
- Intern
- Summer Student
- Bachelor
- Masters
- PhD
- Postdoc
- Visiting Scientist



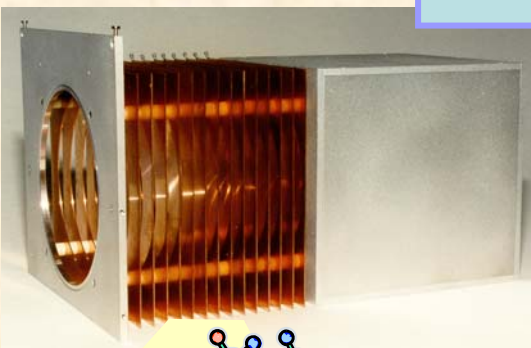
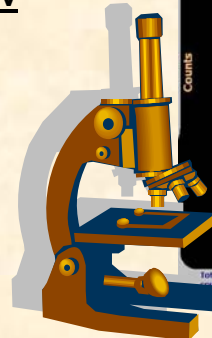
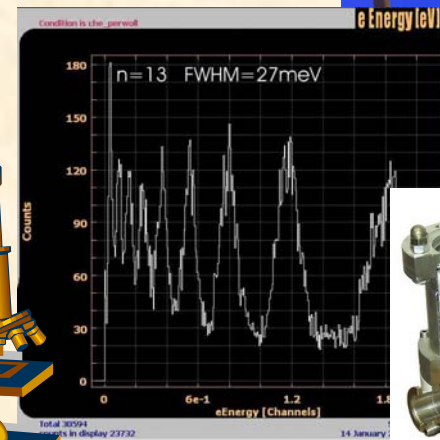
AMOS

Atomic Molecular and Optical Sciences
@ Lawrence Berkeley National Laboratory

do research at:



Contact: Thorsten Weber
Phone: 1 510 486 5588
Email: TWeber@lbl.gov
Web: <http://amo-csd.lbl.gov>



Atomic, Molecular and Optical Sciences at LBNL: Momentum Imaging Spectroscopy

Working Group:

Who:

2 Principal Investigators, 3 Staff Scientists (Retirees), 3 Postdoctoral Students, 3 PhD Students, 3 Master Students

Where:

Lawrence Berkeley National Lab, building 2, labs 102-106 + 458 (Laser lab), with Experiments at the Advanced Light Source

What:

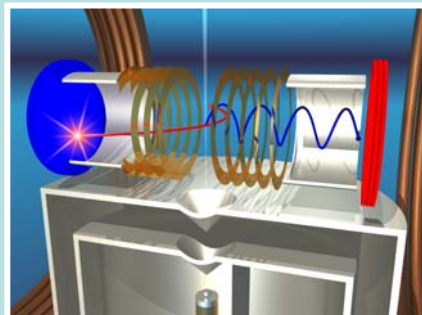
investigation of the dynamics of atoms and molecules and their ionization mechanisms

by probing the momentum phase space, looking for symmetry effects, diffraction and interference effects

with single and double photo ionization by single and many photons from synchrotron radiation and intense laser fields

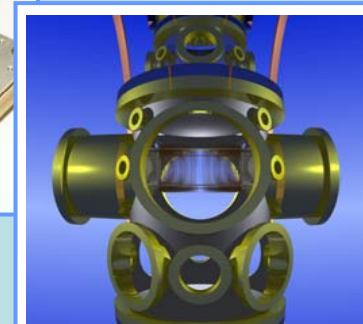
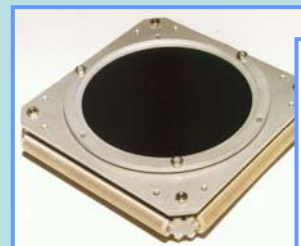
using an imaging system capable to measure the square of the wave-function in momentum space of 3 to 5 particles in coincidence

Experimental Technique:

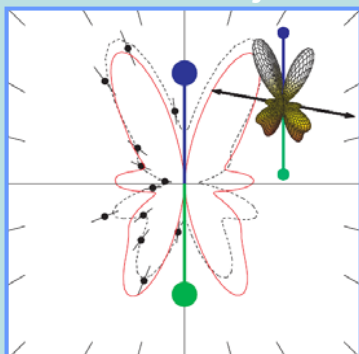


COLTRIMS

- housing: high vacuum chamber
- detection: position and time sensitive detectors
- target: precooled supersonic gas jet
- spectrometer: combined electric and magnetic field
- readout: analog and digital electronics
- analysis: FORTRAN and C based software

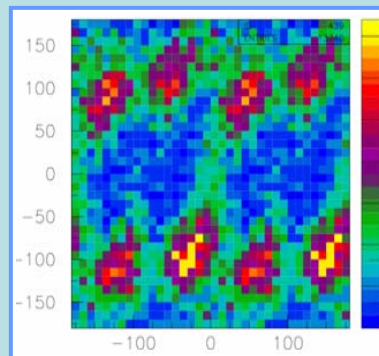


Research Projects:



- Molecular Double Slit in H_2 - interference and decoherence
- D. Akoury et al., *Science*, **949**, (2007), 318

- Break in symmetry of H_2 due to molecular dynamics
- F. Martín, et al., *Science* **315**, (2007), 629



- entangled Photo electron and Auger electron emission in N_2 - core hole localization in a homo nuclear molecule
- M. Schöffler et al., *Science*, **320**, (2008), 920

