Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

AMO Science with the LCLS x—ray FEL JOHN BOZEK, Stanford Linear Accelerator Center — The Linac Coherent Light Source (LCLS), an x-ray free electron laser (xFEL), is currently under construction at the Stanford Linear Accelerator Center. Scheduled for completion in early 2009, the LCLS will produce the world's brightest beams of x-rays over 1.5 – 15Å in ∼200fs pulses at 120Hz. An experimental system to study the interaction of these intense x-ray pulses with atoms, molecules and clusters has been designed and is being built as a part of the project. A Kirkpatrick-Baez mirror system will be used to focus the x-ray beam to a small spot where it will photoionize atoms or molecules introduced from a skimmed pulsed supersonic nozzle. Five time-of-flight electron spectrometers will be arrayed around the interaction region to measure the energy and angular distributions of ejected electrons. One of three different ion spectrometers will be used to measure the production of charge states and/or momenta of the ions produced. A description of instrument and a brief description of the facility will be presented.

John Bozek
Stanford Linear Accelerator Center

Date submitted: 01 Feb 2007 Electronic form version 1.4