

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

**Characterization of X-Ray FEL Beam Properties at the LCLS
AMO Station With FLASH GMD and Wavefront Sensor** PAVLE JURANIC, ULF JASTROW, SVEA KAPITZKI, DESY, STEFAN MOELLER, JACEK KRZYWINSKI, JOHN BOZEK, SLAC, UWE KROTH, HENDRIK SCHOEPPE, PTB, STEFAN HAU-RIGE, LLNL, BERNHARD FLOETER, KLAUS MANN, LLG, MATTHIAS RICHTER, PTB, ANDREY SOROKIN, KAI TIEDTKE, DESY — As a part of an international effort to measure beam properties of FELs, a protocol for a collaborative set of measurements was set up between groups from the LCLS [1], FLASH [2], Germany, and SCSS in Japan [3], meant to perform tests to evaluate their measurement devices against one another. This report showcases the measurements performed at the LCLS AMO end station using the FLASH Gas Monitor Detector (GMD) [4] and the wavefront sensor developed for the X-ray region by the Laser Laboratory in Goettingen, Germany. Both of these devices were originally designed to operate at photon energies between 10-100 eV, but were redesigned for operation at higher photon energies, and tested for the first time at energies between 800 and 1000 eV at LCLS. This results of these studies are presented here. [1] Linac Coherent Light Source (LCLS) SLAC Design Study Report No. SLAC-R-521, 1998. [2] W. Ackermann *et al*, Nat. Photonics **1** (2007) 336. [3] T. Shintake *et al*, Nat. Photonics **2** (2008) 555. [4] K. Tiedtke *et al*, J. Apl. Phys. **103** (2008) 094511.

Pavle Juranic
DESY

Date submitted: 22 Jan 2010

Electronic form version 1.4