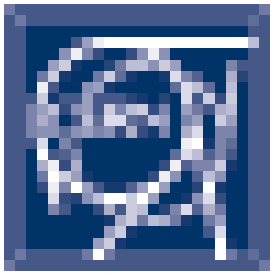

Contribution ID: **7** Type: **invited**

The LCLS LLRF Control System

Tuesday, 11 October 2005 12:20 (20 minutes)

The LINAC Coherent Light Source requires an RF stability of 0.1% rms in amplitude, 100 fs in phase for a 850 ns fill time for the S-band structure, 125 fs in phase for a 100 ns fill time for the X-band structure and 30 ns rise times for the RF gun pulse shaper. This paper describes the design of a new VME/EPICS-based control system for the LCLS low level RF system that will monitor and control the RF phase and amplitude so that these requirements can be met with the use of beam based feedback. The challenges with measurement of RF phase as seen by the beam are also discussed.

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