

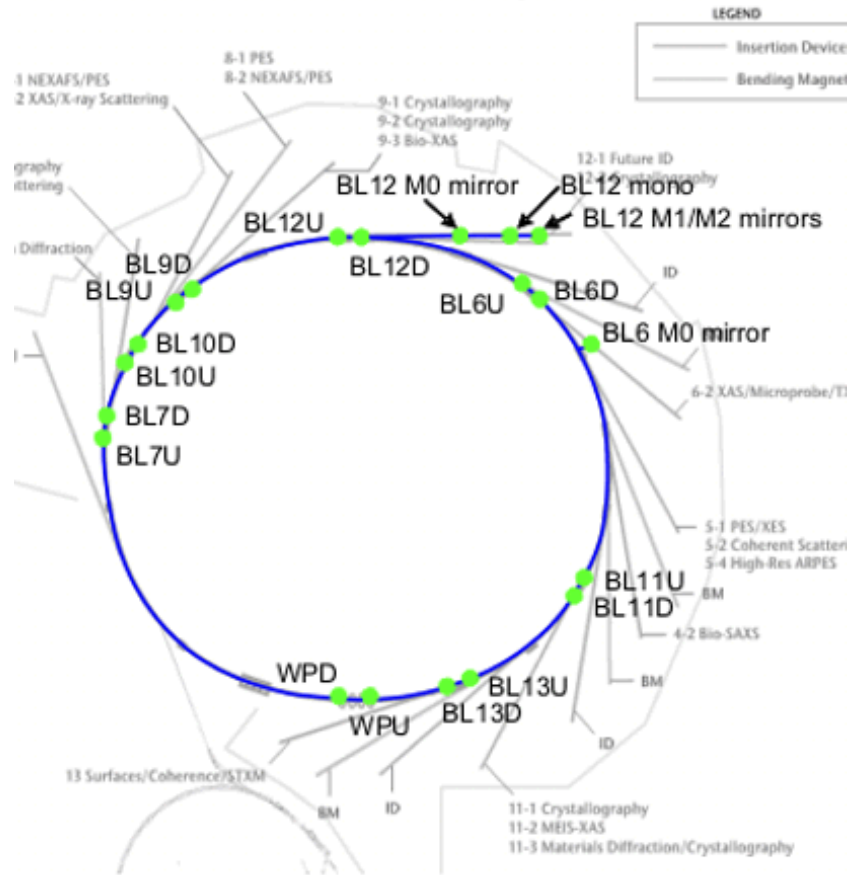
Catherine LeCocq, Robert Ruland *February, 2008*

- Budget Situation
- SSRL / SPEAR
- PEP-II / Babar
- LCLS
- Instrumentation / Calibration

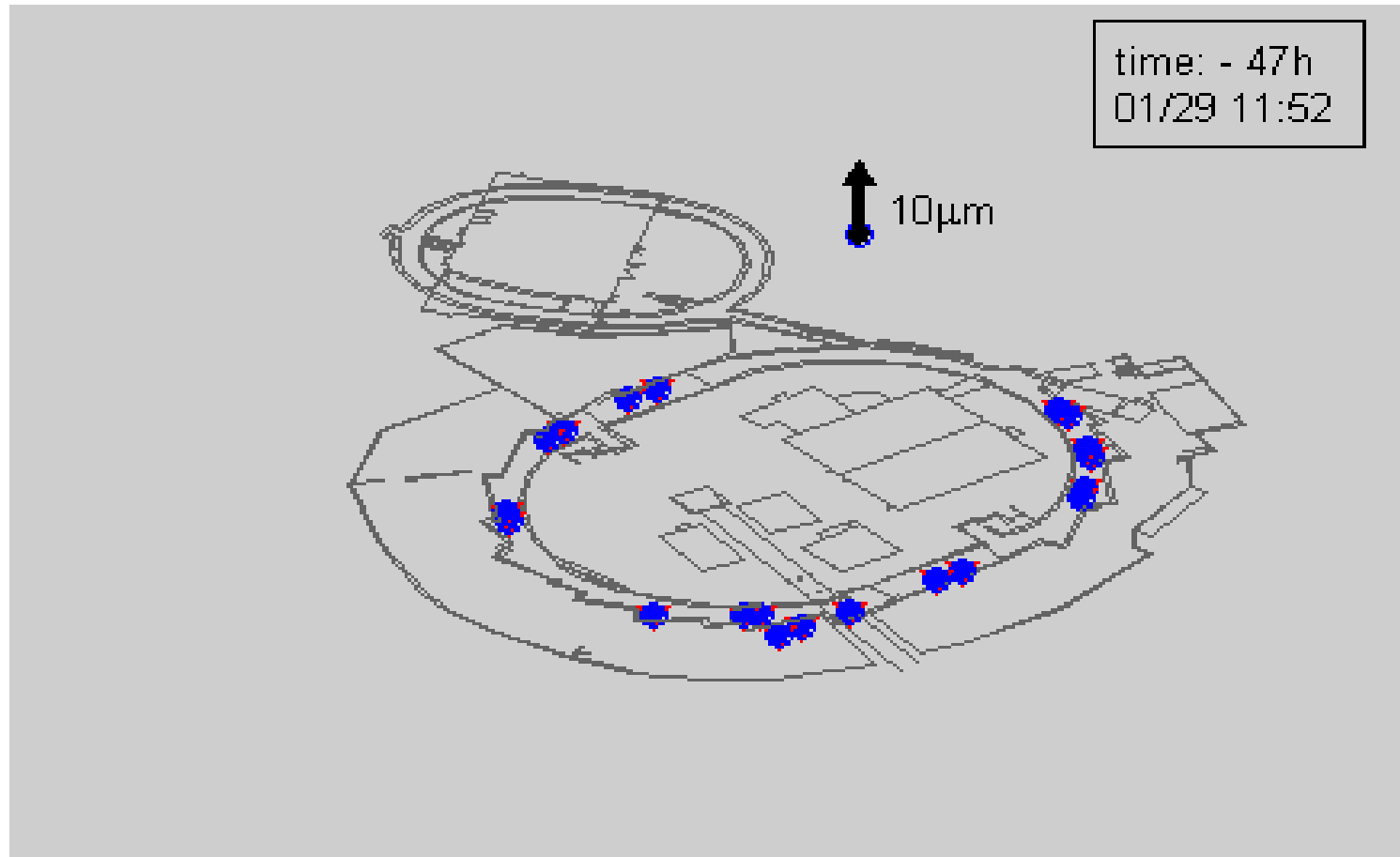
- Ring mapping
- Chicane installation in East pit
- BTS pipe set-up
- HLS installation for floor monitoring
- Insertion devices
 - new undulator for BL12
 - new chamber but temporary ID for BL13
- Beamline work
 - New beamlines: BL12, BL13, BL14
 - Beamline relocation: BL4 and BL5
 - Beamline upgrades: BL2, BL7, BL8, BL9 and BL10

HLS installation for floor monitoring

SSRL Beam Line Map

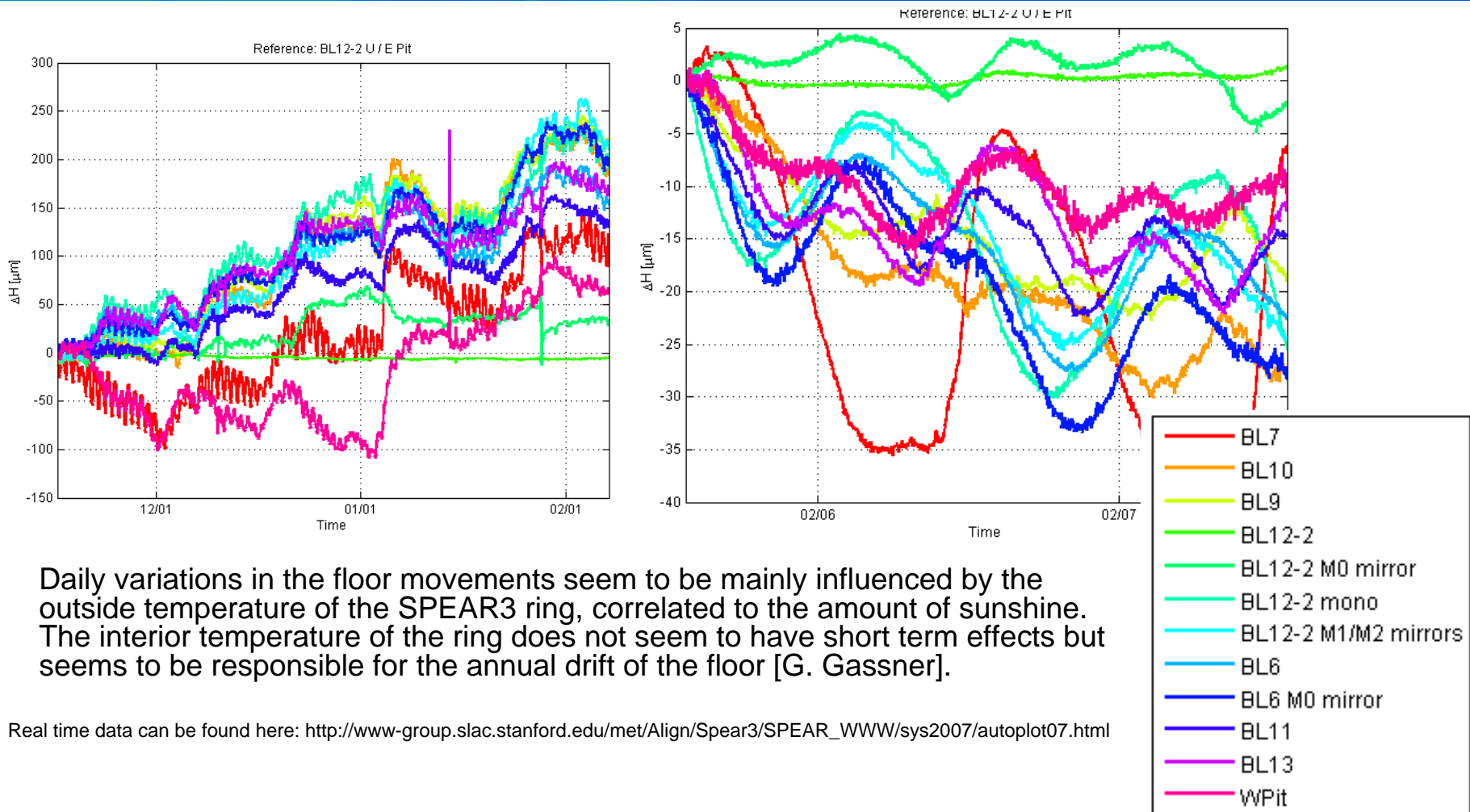


Floor Motion Movie



Real time data can be found here:
http://www-group.slac.stanford.edu/met/Align/Spear3/SPEAR_WWW/sys2007/autoplot07.html

Preliminary Analysis



Daily variations in the floor movements seem to be mainly influenced by the outside temperature of the SPEAR3 ring, correlated to the amount of sunshine. The interior temperature of the ring does not seem to have short term effects but seems to be responsible for the annual drift of the floor [G. Gassner].

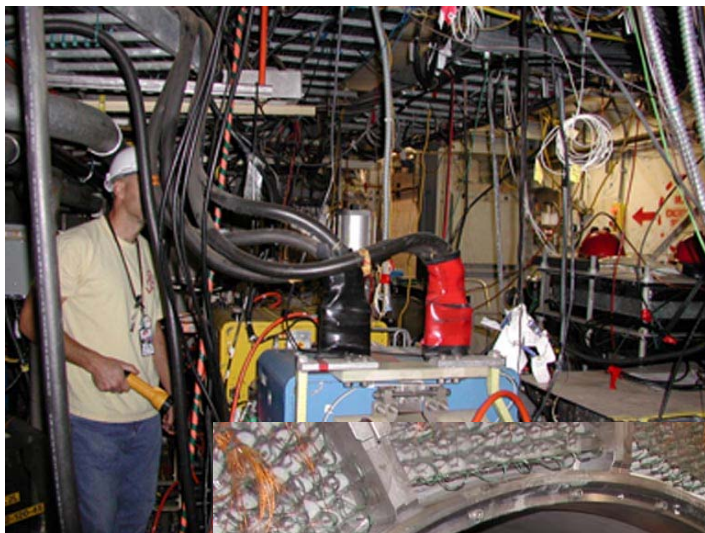
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■ IR2 vacuum chamber upgrades

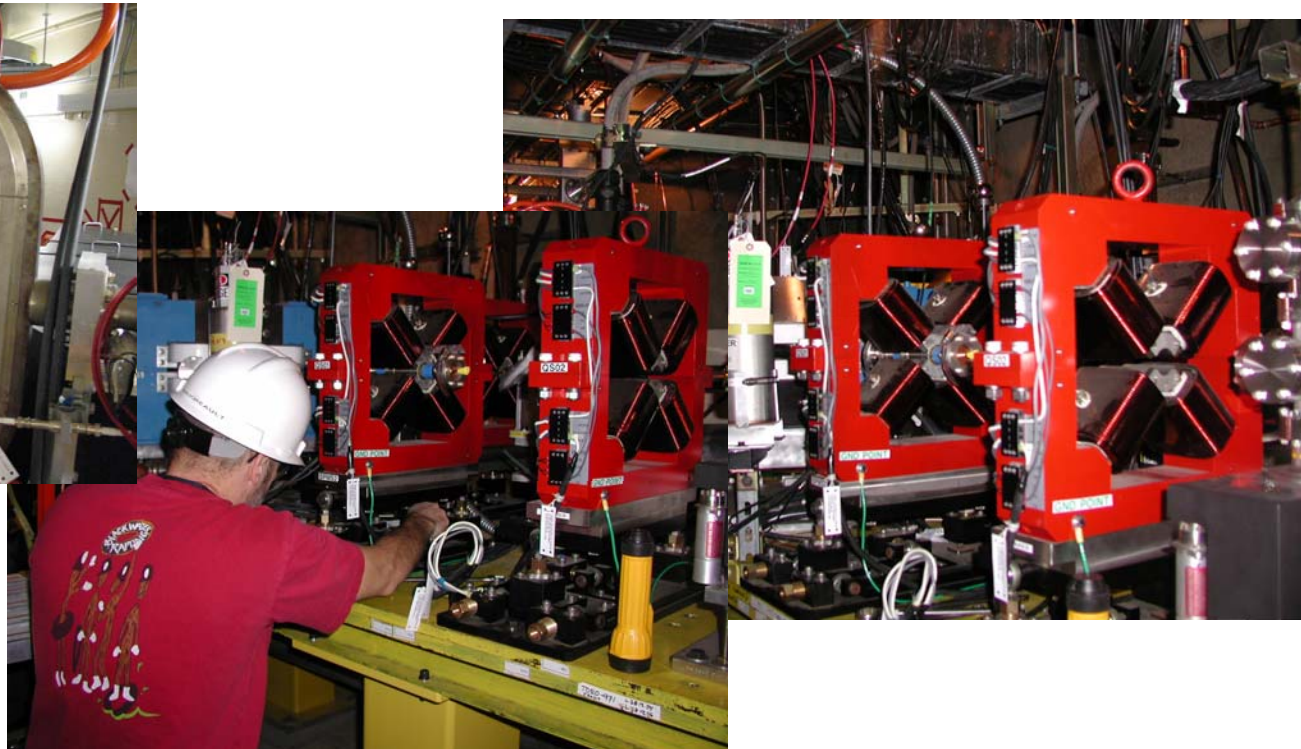
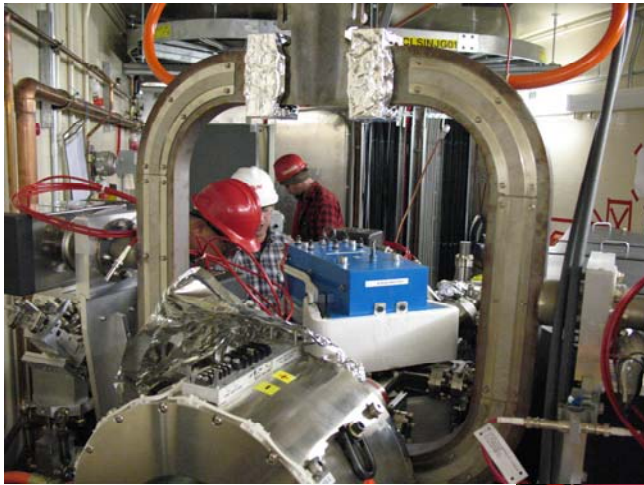


- R3-R4-R5 mapping and moves
- R4 RF stations
- R10 for e-cloud chamber for ILC
- BaBar/IR2 mapping

Mapping IR2 / Babar

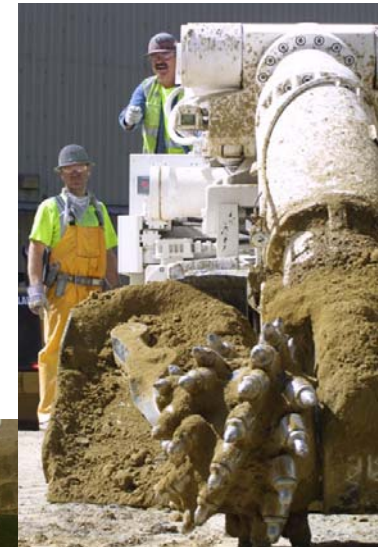


- Injector, bunch compressor system installed in existing tunnels
- Systems commissioned, work very well



■ Down beam systems are installed in new tunnels and housings:

- Linac-to-Undulator Hall
- Undulator Hall
- E-beam dump
- Front End Enclosure
- Near Experimental Hall
- X-beam Transport
- Far Experimental Hall





LCLS: present and coming activities

- Started implementation of tunnel reference network in LTU, will soon have access to Undulator Hall, beam dump and FEE
- Presently, tunnel floors are being coated, will soon start laying-out component positions

in parallel

- Support for Civil Engineering / Construction
 - Coordinate systems
 - QC of sensitive areas
- Support undulator fiducialization
- Support girder assembly / internal alignment
 - Very tight alignment tolerances, e.g. 40microns vertical relative
 - combination of height gauges, optical tooling, laser tracker and final alignment on large volume Coordinate Measurement Machine (CMM)

■ LCLS Stretched Wire System

- All 140 monitors received, electronics and cabling on order: ready for preassembly on girders in May

■ LCLS HLS

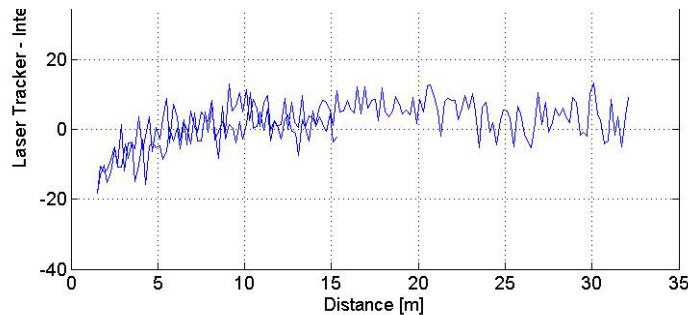
- 80 out of 116 capacitive sensors received, being calibrated
- 40 ultra sound sensors received, being calibrated
- Piping material, cabling ready for preassembly

■ Laser Scanner

- Upgraded to ZF Imager 5600
continue to be happy customers

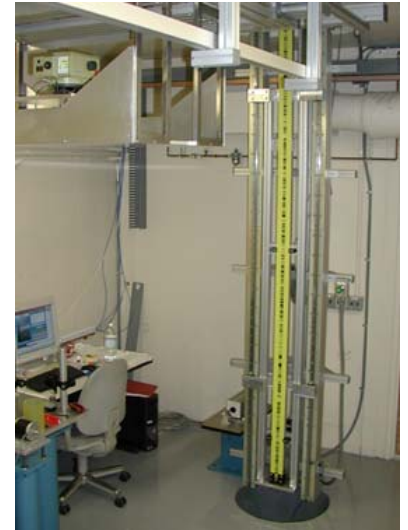


■ Acquired another Laser Tracker, Faro Xi V2



- 400m long portable stretched wire, see poster by G. Gassner, C. LeCocq
- Re-engineered Linac Laser Alignment system, see poster by C. LeCocq, R. Pushor, B. Fuss, G. Gassner

- Vertical Level Rod Comparator
 - is recognized as a national resource, National Geodetic Survey (NGS) requires contractors to have their equipment certified
- Laser Tracker horizontal angle measurement system test bench
 - First results, test bench internal accuracy 0.2 arcsec
 - More details in separate talk



End of Presentation