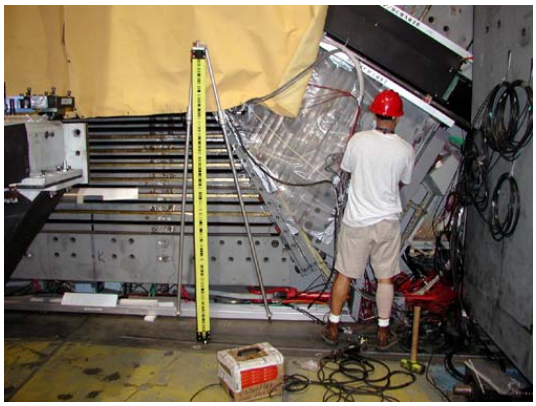
Summer / Fall 2004 Downtime
AEG Week 4 Summary

BaBar Monitoring

- Monday August 23
  - This survey is designed to check the detector after the installation of the brass plates in the lower part of the detector.

  - It is based on the same observation scheme as the one described in week 2. The problems encountered this time:
    - Loss of tooling ball socket J after the 4 TC2002 set-ups and before the optical tooling reading. A new socket, called J2, was installed for future surveys. Its X offset was read and an additional total station set-up was made to determine its position.
    - The tooling ball socket for F1 seems to have some glue in the hole and/or the nearby concrete fillet blocks the cup from sitting down fully: special attention should be made in choosing the appropriate Hubbs cup (it may need a short shank).



The TC2002 data adjustment based on the previous coordinates show no significant movements. The 2 sets of optical tooling data match the adjusted X-coordinates. The level data are set apart right now in order to study the non-repeatability of F1 in the Y direction.

PEPII Quadrupole & Sextupole Survey

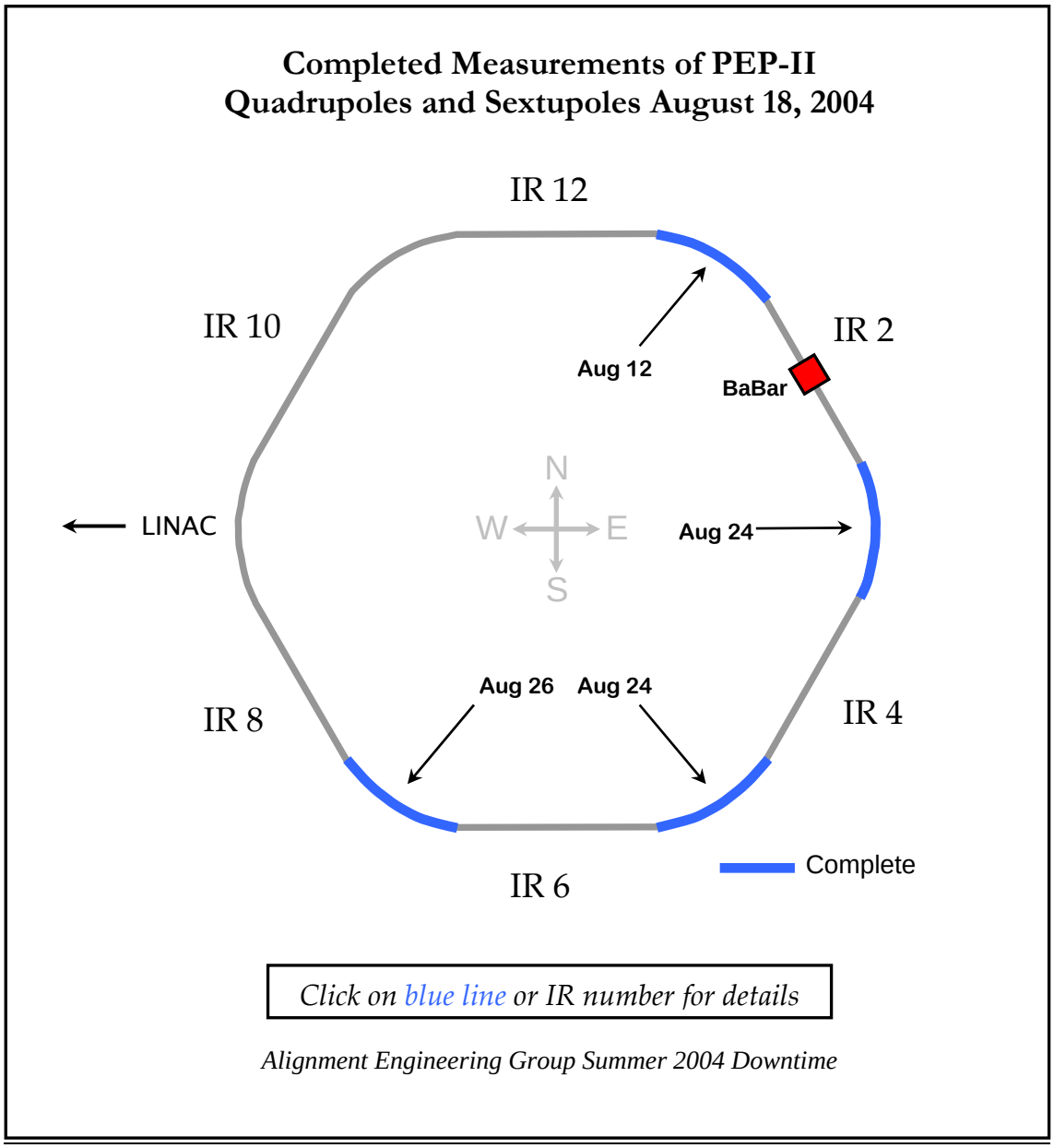
- Monday August 23
  - Continue mapping R3

- Tuesday August 24
  - Finish mapping R3 and R5
  - Start mapping R7 and R11

- Wednesday August 25
  - Continue mapping R7 and R11
  - Start mapping R9

- Thursday August 26
  - Finish mapping R7
  - Continue mapping R11

- Friday August 27
  - Start mapping R9 & R11



Sector 20 LCLS Shielding Wall

- Monday August 23
  - Read the upstream wall A: found that it was placed 7/8" too high and 3/8" too close to the tunnel wall. It was moved and ended still 1/4" too high and 1/4" too close. The bolts have not been tightened yet.




- Tuesday August 24


- Thursday August 26
    - The following results were sent:

Pipe	X (in)	Y (in)
Beam Line Pipe 1	0.14	-0.26
Beam Line Pipe 2	0.00	0.08
Beam Line Pipe 3	0.21	-0.00
Beam Line Pipe 4	-0.37	-0.01

Laser Pipe (East) 1	-0.14	0.13
Laser Pipe (East) 2	0.08	0.26
Laser Pipe (East) 3	0.13	0.28
Laser Pipe (East) 4	-0.78	0.31
Laser Pipe (West) 1	0.10	-0.07
Laser Pipe (West) 2	0.08	-0.09
Laser Pipe (West) 3	0.13	0.22
Laser Pipe (West) 4	-0.28	-0.01

These are as-built values with the following convention: the numbering starts from the linac and goes towards the injector room. In other words: 1 is South and 4 is North.

- The distance from the linac floor to the klystron gallery floor was measured by a Disto to be 10.70 meters

South Damping Rings

Summary of Original Job Request:

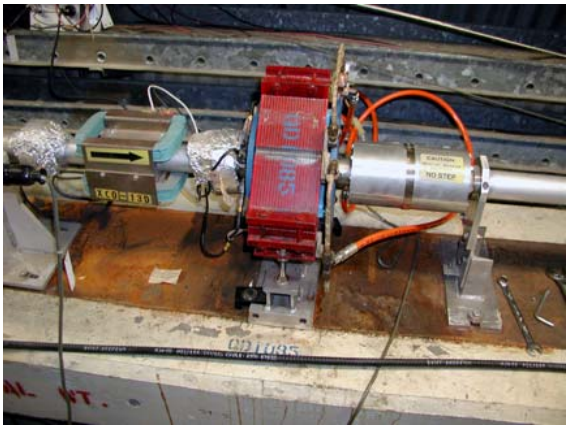
QD1085 DS10QU7
SLTR QF1085: ready for alignment. On downtime schedule, job #D-MMR-080.
All four coils removed, support stand was not adjusted.

DS13QU2
SLTR QD 1355: ready for alignment. Not scheduled.
All four coils removed, magnet support stand was removed.

DS02BD1
SLTR Bend 291 (dipole): Not scheduled.
Need to read magnet position and possibly move. Magnet support removed, coils removed.
Vacuum chamber has been dimpled. Need alignment to read magnet, once we know how much we need to move magnet, Mechanical Engineer will determine if moving in direction needed would damage vac. chamber further

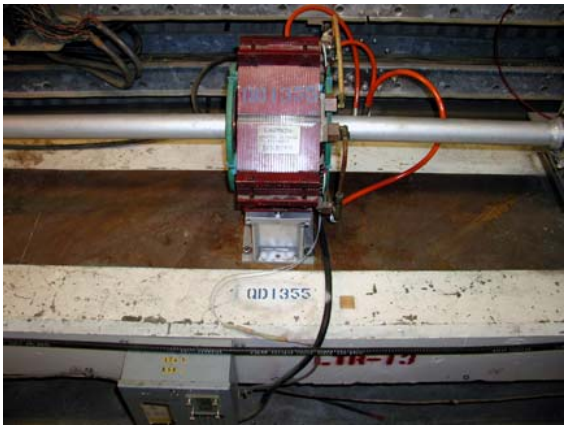
DN07BD5
NRTL Bend 790 (dipole): ready for alignment. Not scheduled.
Magnet support stand not adjusted, coils replaced. Very difficult location to access.

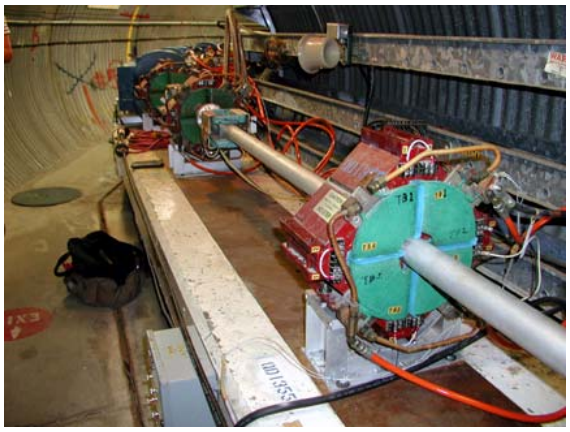
- Friday August 27
    - QD1085



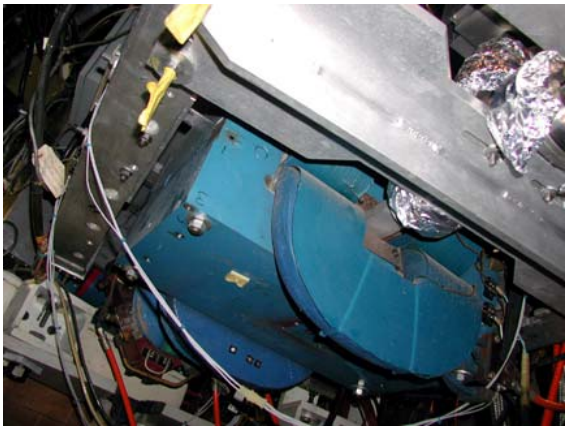
This quad was set using optical tooling methods and was left off ideal in X 8 mils US and 12 mils DS, for lack of proper movers.

    - QD1355 (optical tooling set-up)



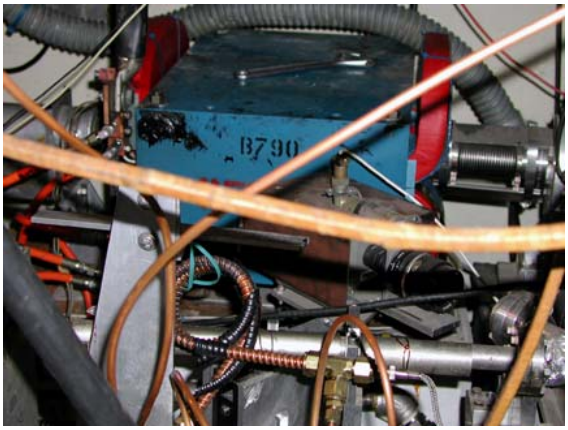


    - Bend 291 (TC2002 set-up)



This bend was measured and values were given for future work.

- Bend 790 (TC2002 set-up)



LER Vacuum Chamber

- Friday August 27

SPEAR3 BL0 SLM

- Monday August 23
  - Read the cold finger after the installation of the bellows: found it 150 mils out in X (towards SPEAR). It cannot be moved because of the bellows, so this final position was accepted and recorded.

SPEAR3 BL6-2

- Thursday August 26
  - Align mono and mirror

- Friday August 27
  - Align slits and check mirror

Linac Laser Alignment System

- Monday August 23
  - The baffle activation late last Friday did not bring any positive conclusion. With only one key, only one baffle at a time could be activated and the presence of one baffle did not seem to change the image of a target.

- 2-9 has its panel missing so it could not be activated and thus prevented any attempt to start a recording, as the reference line is established from the laser position to 2-9 with a check on 21-9.
- The visual inspection of targets failed. It was later found that 2 targets were in after the electrical panel replacement.

- Tuesday August 24
  - A decision was made and relayed by Tom Graul that all sector 2 panels will not be replaced because of potential electrical hazards. We requested to have the ability to manually activate 2-9 from the klystron gallery.
  - A first attempt at using the program "imdetect" showed that:
    - There is a factor 10 between the position recorded in the database and the positions read on the magnescale.
    - There is no easy way to repeat a displacement with the mouse alone. So it seemed difficult to "fake" the 2-9 position to start a new recording with the automatic image detection and the right relation to 2-9 as it was made in 1999.

- Wednesday August 25
  - Tom Graul arranged for the installation of the air solenoid in 2-9: a temporary power cord (see the enhanced picture above) is attached directly to the solenoid and can be plugged into any of the regular electrical outlets on the other side of the panel in order to move the target into the "in" position. The target was tested and produced the following image in the "blue room".

- Thursday August 26
- Friday August 27
    - Contact Bill Herrmannsfeldt for insight on use of baffles.

Miscellaneous

- Tuesday August 24
    - SSRL Vacuum: install slits into tank for BL6-2

- Wednesday August 25
    - SSRL Vacuum: install slits into tank for BL6-2

- LCLS Preparation: Generate elevations for floor and ceiling of the PEP tunnel and SLC tunnel at the intersection locations where the LCLS tunnel will pass over them:
  - SLC ceiling 68.7 m, floor 65.5m
  - PEPII ceiling 68.4 m, floor 65.2m

  The values for the SLC are based on GS52YY1 and checked with the floor rivet: RSFF1371. The values for PEPII are based on BH3AQUQ and checked with the wall monument: 226A.

- Thursday August 26
  - E166

    The collimator PC7.7 was set using both the adjustments at the base of the pedestals and the ones on the top.

    A new table was set in elevation (pitched to match the γ line) with the constraints of the future lead shielding and the presence of the flanges under the table top.

- Friday August 27
  - Outside wire set-up testing for LCLS