

ATF Week Summary

6/12/00 – 6/17/00

During 2 weeks shut down

- Laser wire maintenance
- e^+ compton chamber maintenance
- cavity BPM electronics installation
- SR optic table vibration counter-measure

6/12(Mon)

17:40 – Beam on with “MAY27_0335”

20:40 – DR storage, 5×10^9 at EXT with intensity unstable

DR η_y corr. Δu on coupling = 0.0063

22:15 – DR Skew corr. By H steer kick

Δu on coupling = 0.012
reset this corr.

23:24 – EXT η corr.

6/13(Tue)

4:00 – emittance meas. By wires

$$\epsilon_y = 7.6 \times 10^{-11}$$

η_y corr. again

$$\epsilon_x = 1.58 \times 10^{-9}$$

$$\epsilon_y = 6.24 \times 10^{-11} \quad \text{at } 5 \times 10^9 \text{ EXT intensity}$$

9:10 – e^+ study

Test of New optics : small beam size at compton chamber

Change polarity of QD5X, QD6X

Tune & meas. η , orbit, B.G.

6/14(Wed)

5:00 – DR Access for cavity BPM set up

6:00 – Linac tuning to improve intensity jitter => no improve

DR skew corr. on coupling => $\Delta u = 0.002$

9:00 – Linac orbit tuning => improve intensity jitter

EXT η_x , η_y tuning by QF4X & ZV1X, ZV2X

$$\epsilon_y = 3.1 \times 10^{-11} \text{ at } 8 \times 10^9 \text{ in DR}$$

13:30 – study of EXT Line(wake at EXT bellows)

vertical bump vs. emittance

V_c vs. emittance => was wrong side dependence on V_c
small wake effect?

20:00 – SR monitor study & cavity BPM study

SR : more counter-measure of vibration

BPM : response study & electronics tuning

6/15(Thu)

1:30 – EXT skew corr. study

η meas. At wire

tilt meas.

$$\epsilon_x = 2.1 \times 10^{-9}$$

$$\epsilon_y = 4.1 \times 10^{-11} \quad \text{at } 7.3 \times 10^9 \text{ intensity}$$

4 x 4 beam matrix analysis by “SAD”

⊗ intrinsic emittance was imaginary

⊗ set skew, any how

$\epsilon_y = 6 \times 10^{-11}$ increased

7:00 – coupling corr. by H steer

SR size 12 → 11 μm reduction

However $\epsilon_y = 6.4 \times 10^{-11}$ by wire

reset it ($\epsilon_y = 4.6 \times 10^{-11}$)

(skew)

9:00 – reset DR V steers to 6/14

$\epsilon_y = 2.9 \times 10^{-11}$

· Test of dispersion free bump

⊗ η_y not closed

· ϵ_y vs. Vc meas.

18:44 – ϵ_y vs. septum vacuum

4.0×10^{-6} Pa at septum : $\epsilon_y = 4.8 \times 10^{-11}$

I.P.off ⇒ 1.0×10^{-5} pa : $\epsilon_y = 6.0 \times 10^{-11}$

Beam size increase at MW3X, MW4X

Ring was expand(today was hot)

19:25 – cavity BPM study

6/16(Fri)

1:00 – Skew tuning on coupling ⇒ $\Delta v = 0.001$

ϵ meas. $\epsilon_x = 1.7 \times 10^{-9}$

$\epsilon_y = 1.8 \times 10^{-11}$ (Bmag = 2.6)

5:20 – Laser wire B.G. study

change collimeter $\phi 5 \rightarrow \phi 3.5$

B.G. half reduced

14:30 – Tuning for more int. jitter stabilize → no improvement

DR Bend mag. intlk

18:10 – EXT orbit vs. QFIX data taking

18:30 – EXT kicker study

β at 2nd kicker vs. X orbit jitter

22:55 – Mod. #5 capacitor trouble

23:45 – β_{SR} meas.

6/17(Sat)

3:00 – e^+ study

3:30 – Beam stop