

Vertical Tune with/without E10 and H10 ?/2

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No. 4

H10 Magnet was not in

Blumberg

Ring so could not try extraction.

FLB STUDIES REPORT

APRIL 10, 1977

1600 = 5:00

BENNETT, BLUMBERG, GILL, KEANE

On at 1830, CBM = $1.5 \cdot 10^{12}$ ppp (detuned).
 FLB at 700 ms on 28.7 GeV/c flat top. Radial
 position $\approx +.4$ mm at E3. Triggered E and H
 superperiod $\lambda/2$ backleg winding bumps at ± 1.24 ms
 (12 ms half sinusoid). Noted beam loss at T1,
 which suggests they cause a V_H shift. Tried to
 measure V_H but data still poor. Switched to
 vertical V measurements. Got

E & H bumps off $V_V = 8.653 \pm .012$

only E bump on $8.644 \pm .024$

only H bump on $8.642 \pm .022$

E and H bumps on about same as above
 as predicted by beam code, no ΔV_V .

Using E10 flag, noted that outer edge of beam
 with backleg bumps on is at $1.82''$ from beam center
 axis — approximately what beam code gives.

Moved E10 septum in. Could only skew it by
 -2.4 mrad instead of desired -4.7 mrad. Noted that
 only $\sim 4\%$ beam loss with down stream end $\sim 1.6''$
 from B.C. axis. Not much different at $\sim 1.5''$.
 We did note that losses were strongly dependent on
 CBM — no loss at $.8 \cdot 10^{12}$, 25% lost at $1.7 \cdot 10^{12}$.
 Beam size is strongly dependent on CBM.

The E10 magnet does not appear to be an
 injection aperture at above CBM at $1.5''$ w.r.t.
 B.C. axis (downstream end). Our desired operating
 position is about $1.6''$.

2215: F Superperiod leak aborted studies.