No. 4

H10 Magnet was not in Ring so could not try extraction. Blumberg

FIELD STUDIES REPORT APRIL 10, 197[illegible]

1600 = [illegible]

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On at 1830, CBM = 1.5 10^{12} ppp (detuned). Fired at 700 ms on 28.7 GeV/c flattop. Radial position ≈ +.4 mm at E3. Triggered E and H superperiod λ/2 backleg winding bumps at ±[illegible] ms (12 ms half sinusoid). Noted beam loss at [illegible] which suggests they cause a ν_H shift. Tried to measure ν_H but data still poor. Switched to vertical ν measurements. Got

E & H bumps off	ν_V = 8.653 ± .012
only E bump on	8.644 ± .024
only H bump on	8.642 ± .022
E and H bumps on	about same as above

as predicted by beam code, no $\Delta\nu_V$.

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 ~4% beam loss with down stream end ~1.6" from B.C. axis. Not much different at ~1.5". We did note that losses were <u>strongly</u> dependent on CBM — no loss at .8 10^{12}, 25% lost at 1.7 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.