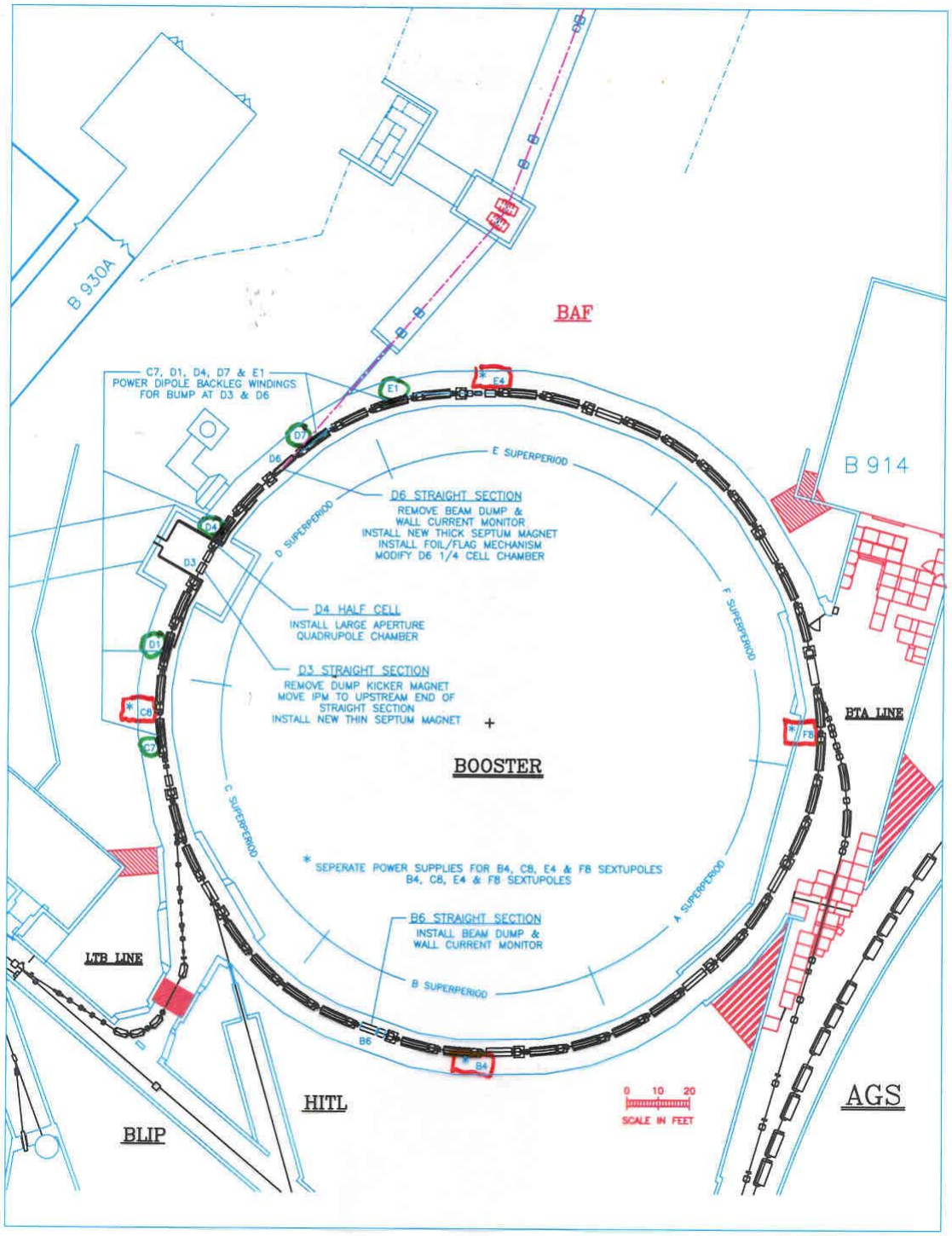


BOOSTER APPLICATIONS FACILITY
MODIFICATIONS FOR EXTRACTION

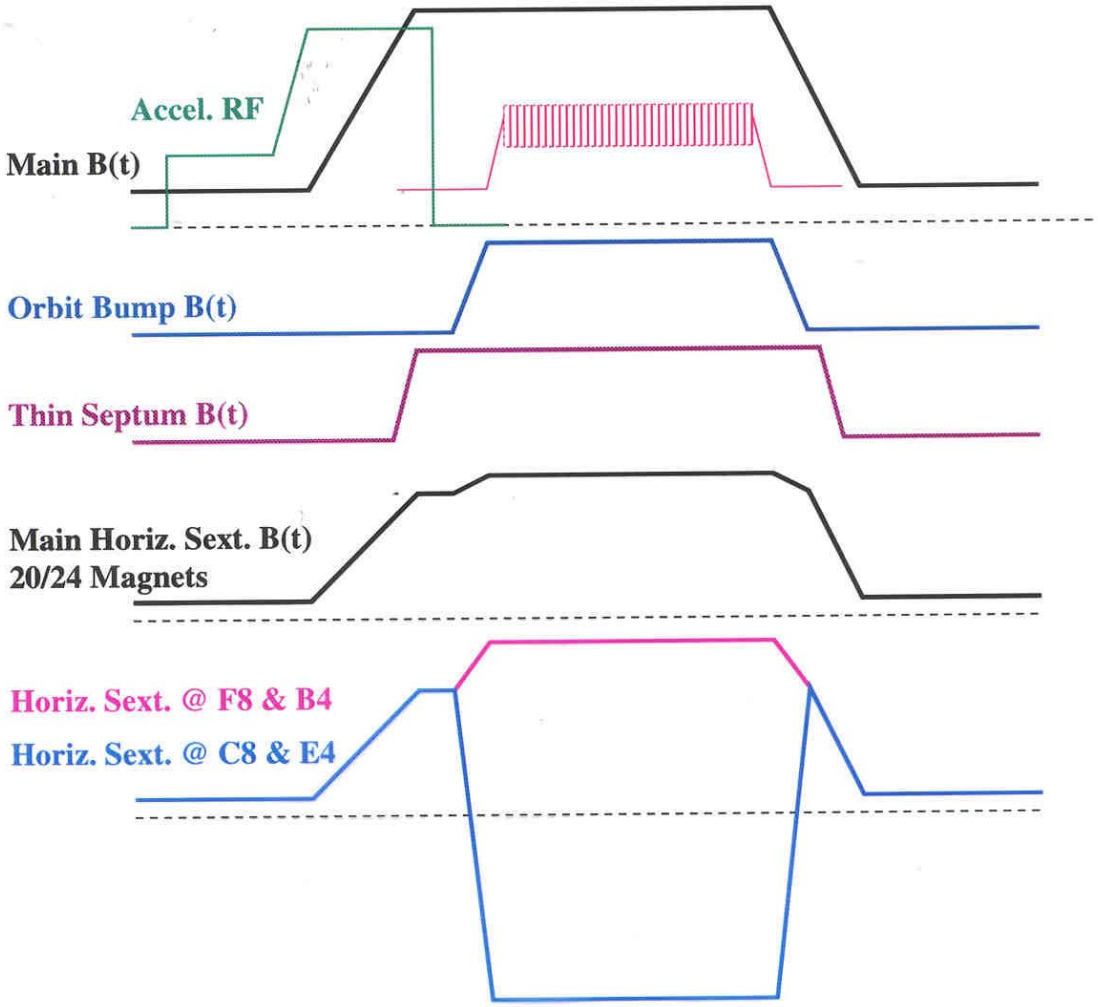
Booster Parameters for BAF

Maximum Booster Rigidity	17 Tm
Acceleration Rates	8.9 T/s up to 7.5 Tm (7.5 Hz)
	1 T/s up to 17 Tm (0.7 Hz)
Spill length	0.5 - 1 second
	(nominally 0.5 sec)

Energy Ranges and Maximum Intensities for BAF

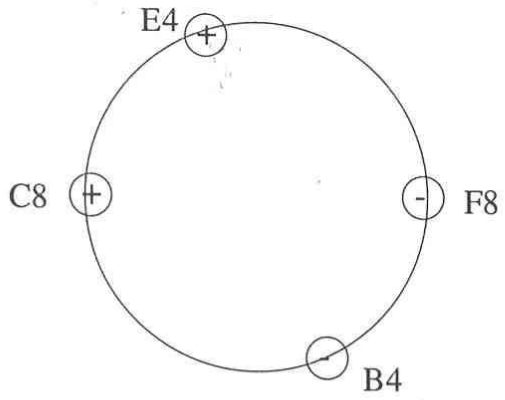
species	*Charge state in Booster*	*K.E. (GeV/nucleon)*	*Max. Intensity (10^9 ions/pulse)*
p	1	0.04~~0.1~~...3.07	100
28 Si	14	0.09...1.23	4
56 Fe	21	0.10...1.10	0.4
63 Cu	22	0.10...1.04	1
197 Au	32	0.04...0.30	2

Resonant Extraction Process in the Booster



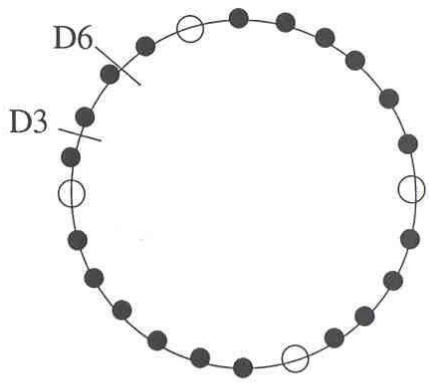
Sextupole Locations At 13/3

Driven Harmonics



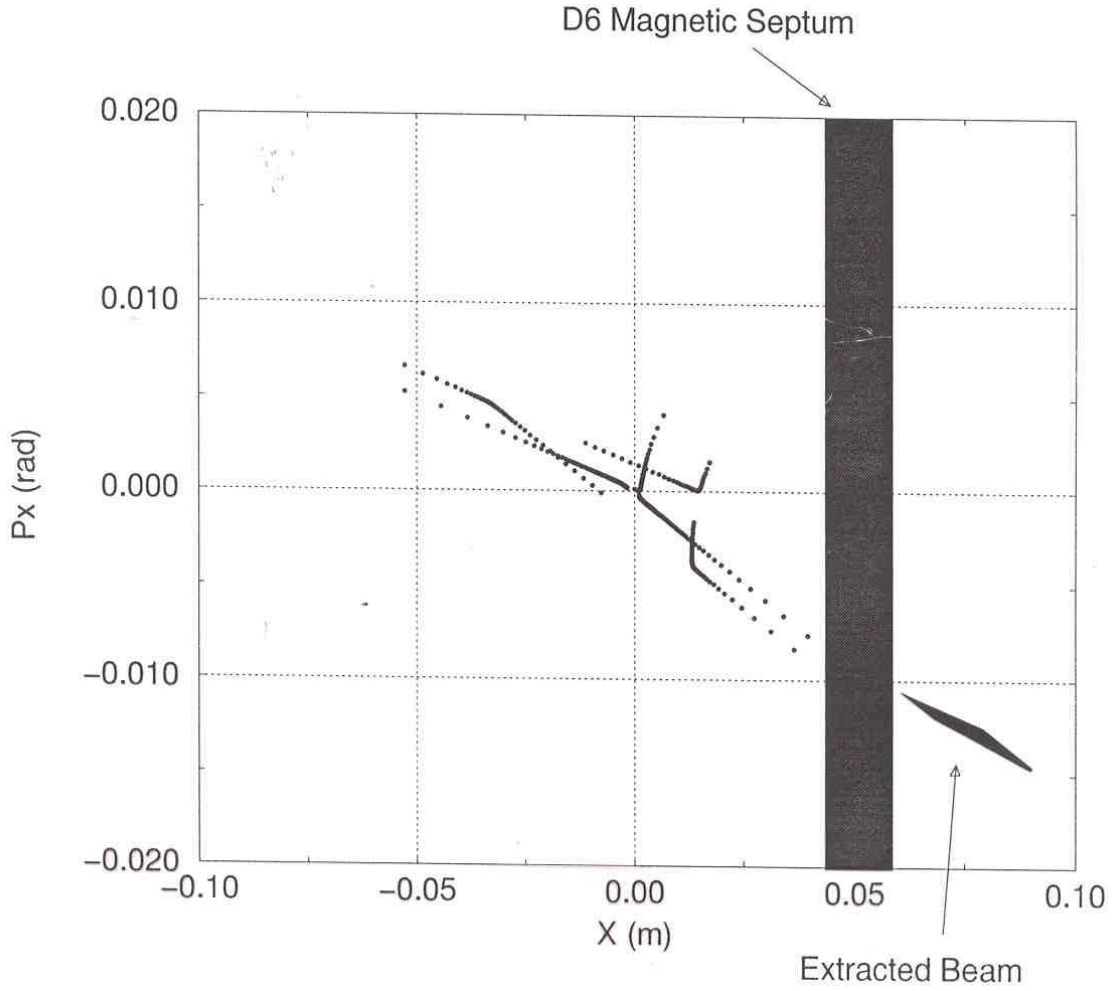
All odd harmonics.

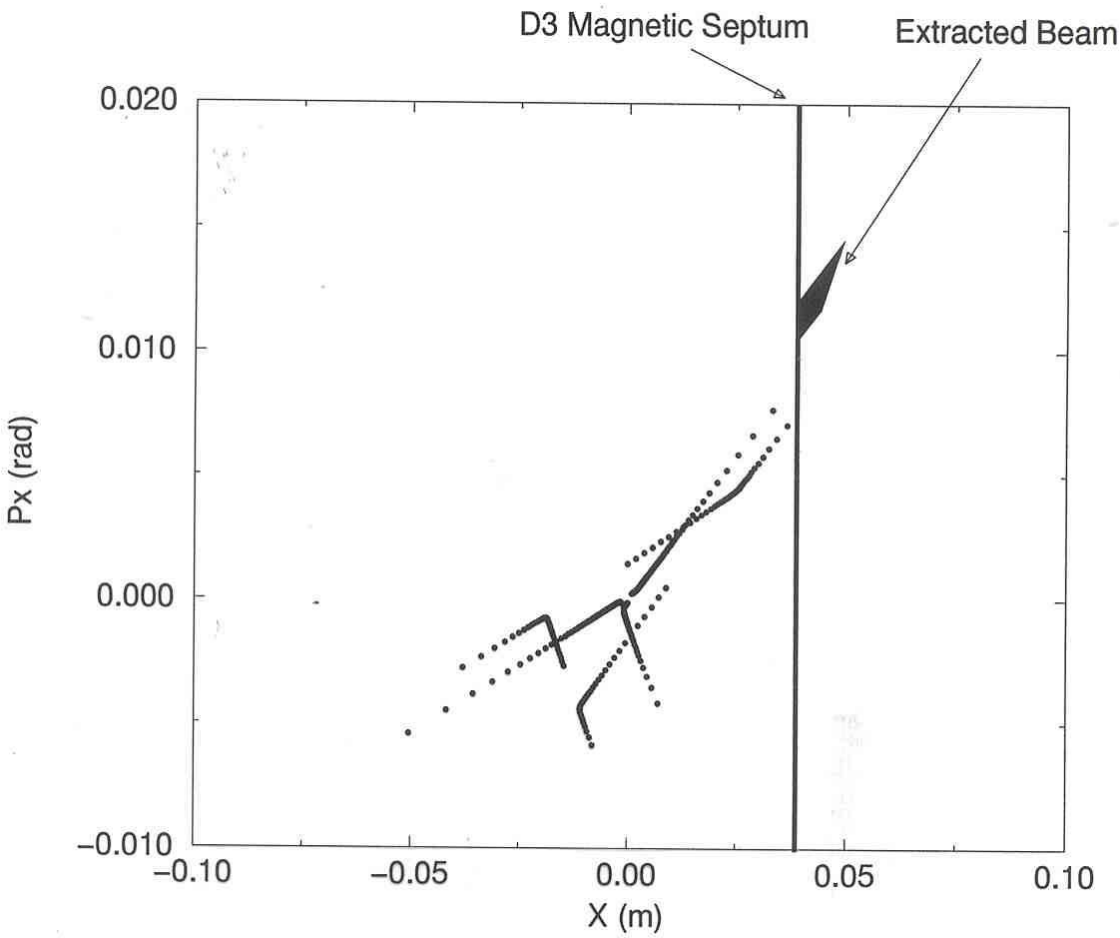
Chromaticity String Harmonics



All even harmonics.

Using different currents in B4/E4 from that in C8/F8 will allow control of the orientation of the separatrix, if needed.


D6 Magnetic Septum
0.020
0.010
0.000
−0.010
−0.020
Px (rad)
−0.10
−0.05
0.00
0.05
0.10
X (m)
Extracted Beam


D3 Magnetic Septum
Extracted Beam
0.020
0.010
0.000
−0.010
Px (rad)
−0.10
−0.05
0.00
0.05
0.10
X (m)