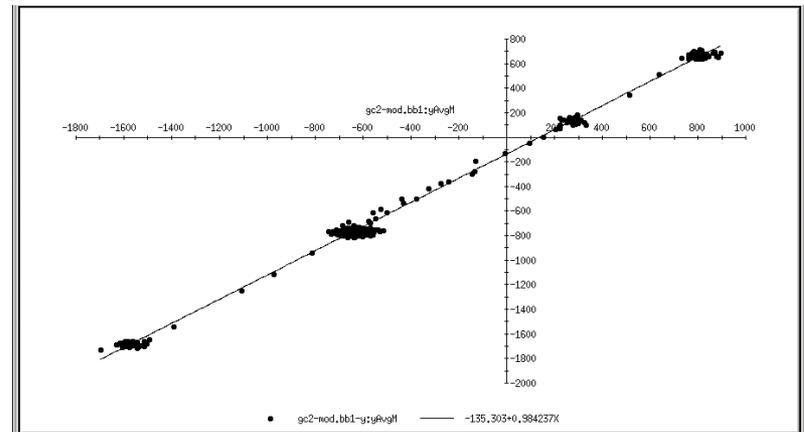


CeC PoP Experiment

July 28, 2020

Current Status

- We found offsets for the electron BPMs corresponding to the hadron beam on axis
- We have measured electron beam emittance with common section solenoid. Normalized emittances are 2.6 mm mrad for each plane (requirement < 5 mm mrad)
- We found laser phase oscillations with 0.25 Hz frequency and working on its elimination
- Power dip damaged oscilloscope (will be replaced)
- Thursday dedicated shift was interrupted by gun vacuum fault



Solenoid BBA for the family

Measurement of Beam Trajectory vs Axes of Solenoids 2 & 6

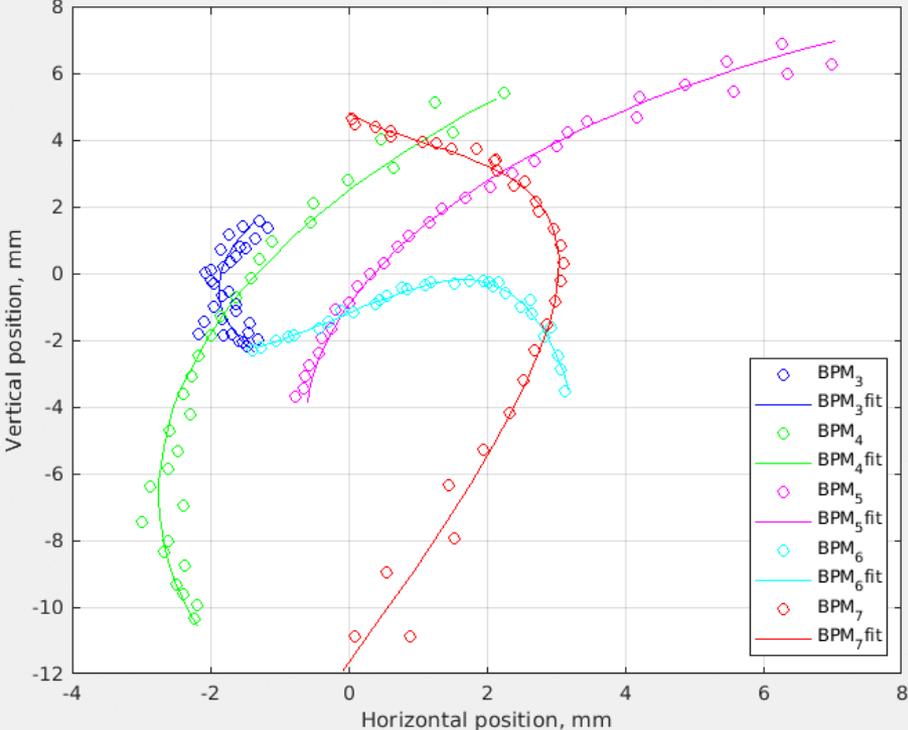
Ekin, MeV	Minimal Current, A	Maximal Current, A	Points
14.0500	0	80	31

Measure

	Xoffs, mm	Yoffs, mm
BPM 3	2.9900	0.2900
BPM 4	16.8150	-4.9470
BPM 5	15.1800	-4.8770
BPM 6	3.5800	3.7000
BPM 7	10.8480	8.8720

	Sol X0, mm	Sol Y0, mm	Sol X ang, mrad	Sol Y ang, mrad
Solenoid 2	-0.3670	-1.5120	-5.7190	-1.5790
Solenoid 6	11.5590	-4.5620	-6.6900	-2.5960

Solenoids 2 and 6 scan from 0 to 80 A



Measurement of Beam Trajectory vs Axes of Solenoids 3, 4, & 5

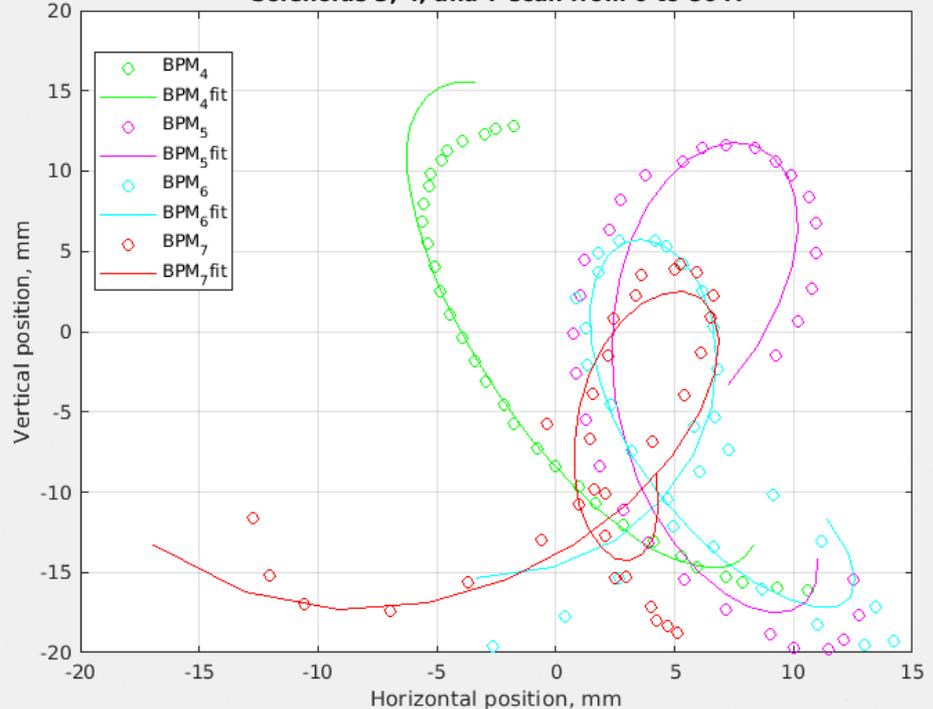
Ekin, MeV	Minimal Current, A	Maximal Current, A	Points
14.0500	0	80	31

Measure

	Xoffs, mm	Yoffs, mm
BPM 4	-44.7860	45.7750
BPM 5	-4.0870	67.7610
BPM 6	-67.2800	91.3560
BPM 7	-35.5390	122.0500

	Sol X0, mm	Sol Y0, mm	Sol X ang, mrad	Sol Y ang, mrad
Solenoid 3	4.8100	-31.4970	24.9010	-12.2310
Solenoid 4	-18.6960	62.1850	-13.7920	-44.9270
Solenoid 5	-70.8560	80.4860	7.6430	20.4190

Solenoids 3, 4, and 7 scan from 0 to 80 A



Near Future Plans

- Align orbit of the hadrons and electrons in the common section
- Continue work on beam (setting PCA lattice and hadron imprint observation)