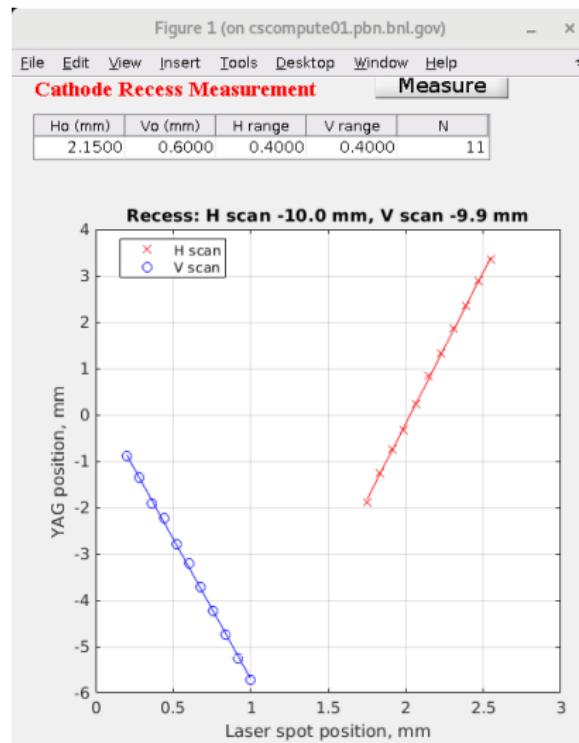


# RHIC Time Meeting

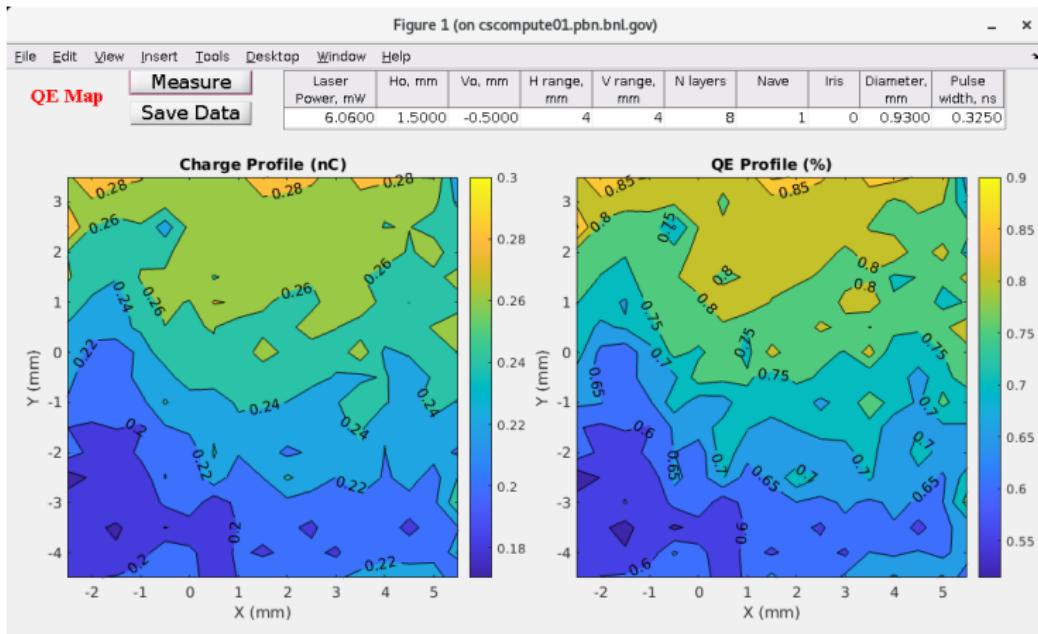
CeC Team

12/30/2025

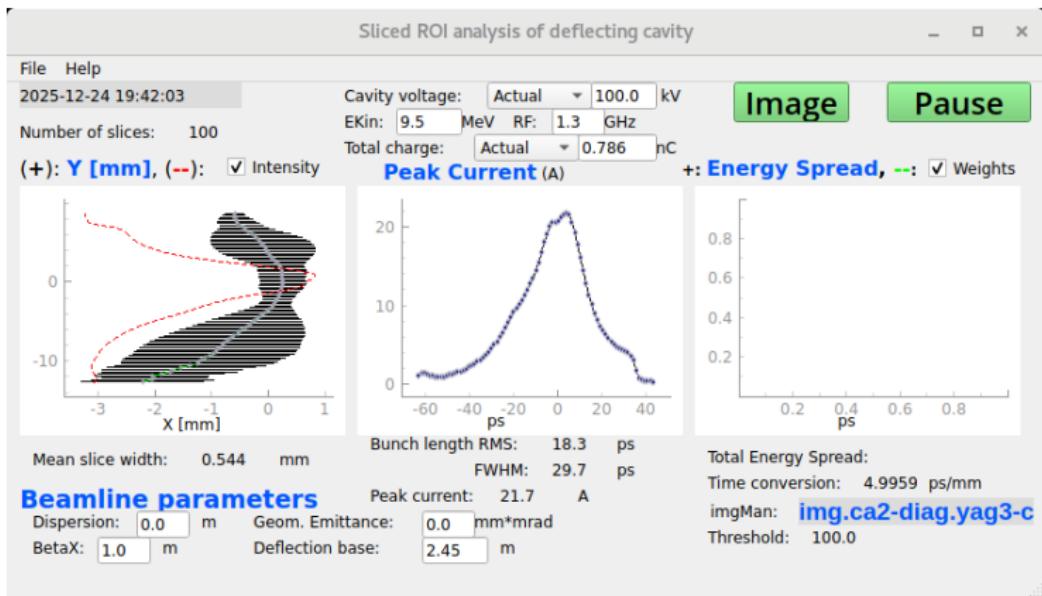
- Restore CeC operation with the new cathode.
  - Cathode recess measured
  - QE at the operation spot is 0.77%
  - QE map measured
- All KPPs are satisfied
  - Peak current 20 - 21 A
  - Slice emittance 1 - 1.5  $\mu\text{m}$
  - Slice energy spread 1.5e-4
- Operation tool development
  - Adjust orbit local bump
  - Beam charge feedback
  - Orbit feedback



**(a) Recess**



(a) QE map



(a) Peak current

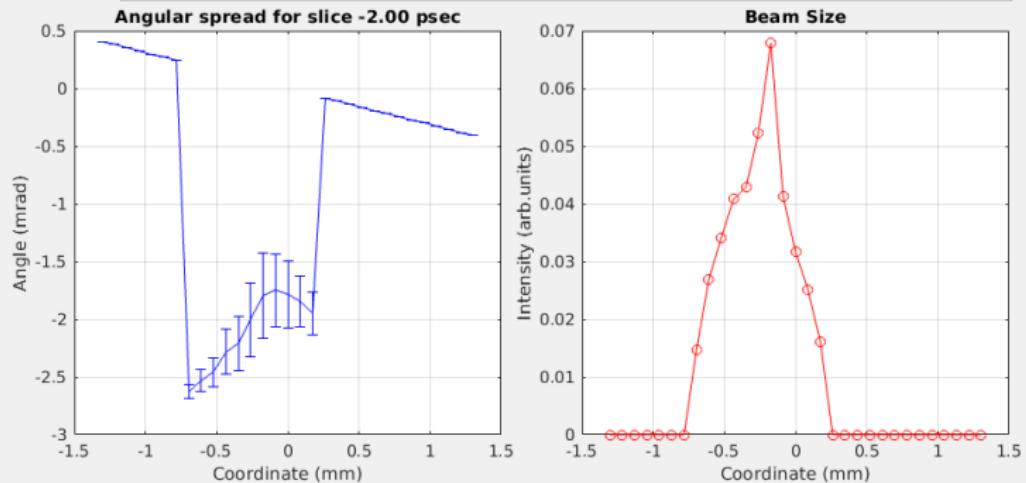
Figure 2 (on cscompute01.pbn.bnl.gov)

File Edit View Insert Tools Desktop Window Help

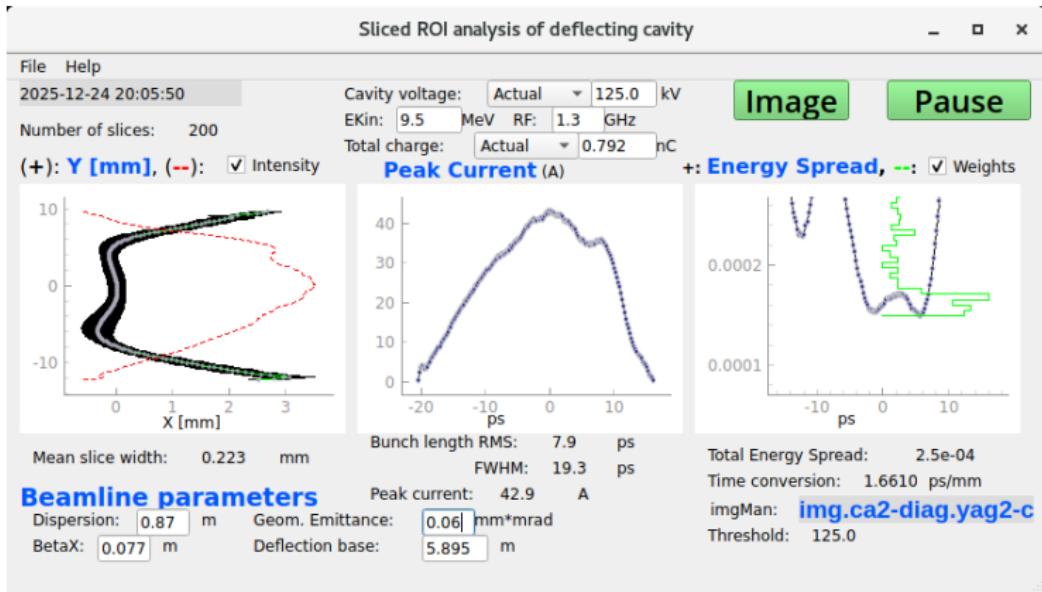
**Slice Emittance Scan**

Min Trim Current, A	Max Trim Current, A	Trim Stpts	Ekin, MeV	T, psec	Nslice	Resolution, mm	Qmin, pC	Qmax, pC
-0.8000	-0.6000	31	9.4890	10	11	0.0200	750	850

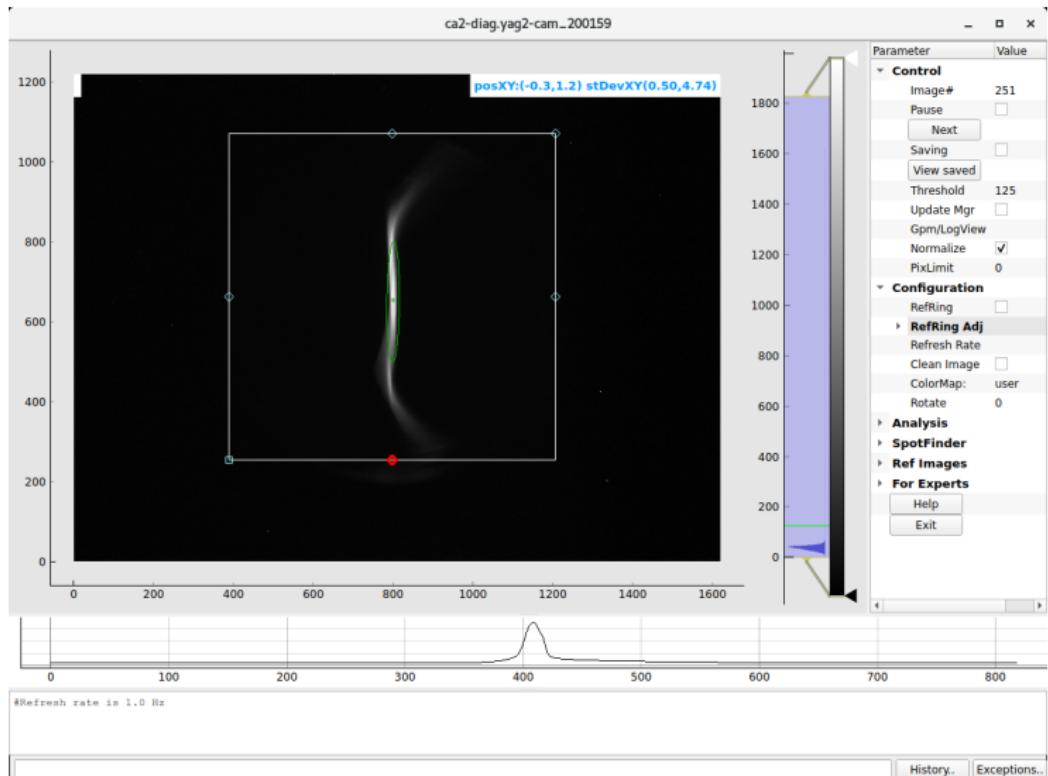
Slice	T, psec	Tilt, mrad/mm	Size, mm	Divergence, mrad	Slice Emittance, mm mrad	Normalized, mm mrad	Total Emittance	Normalized, mm mrad
5	-2	1.1244	0.2250	0.2783	0.0626	1.2255	NaN	NaN



(a) Slice emittance



(a) Slice energy spread



(a) Slice energy spread

Figure 1

File Edit View Insert Tools Desktop Window Help

### Local Bump Common Section

Local Bump between Sol 5 and Sol 6 ▾

Read current as base | Preview correction

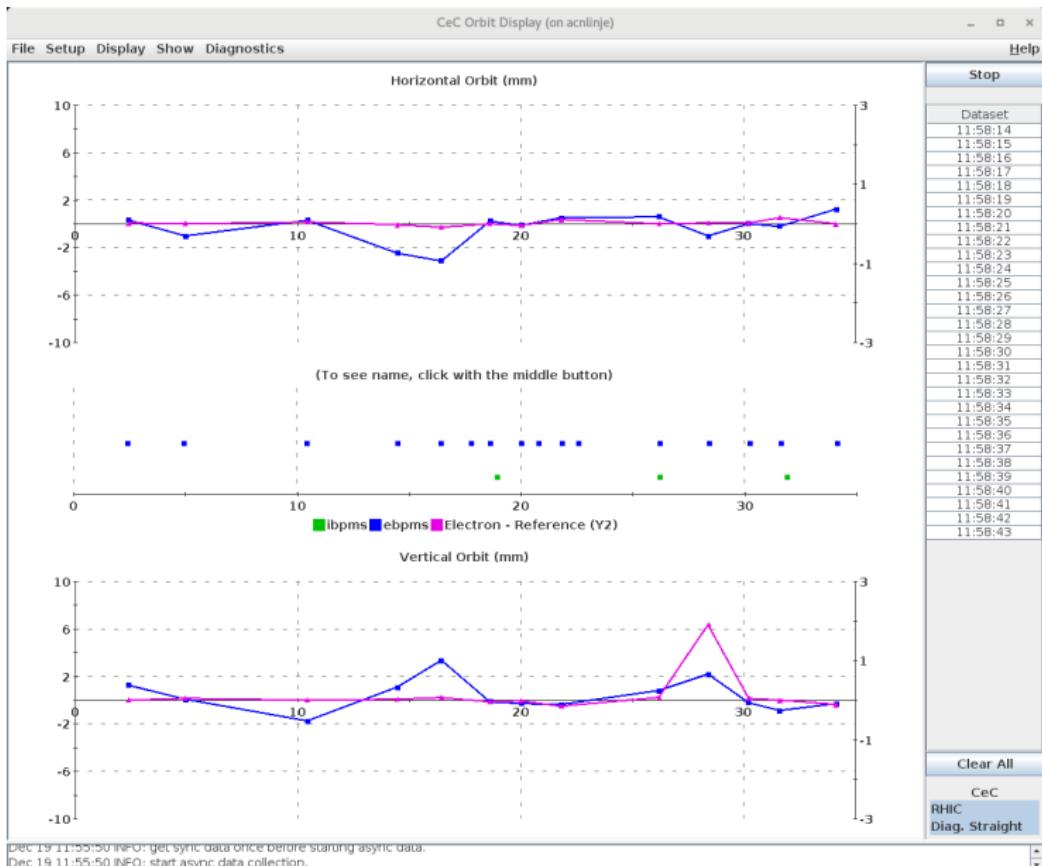
Reset to base | Apply correction

	Goal at gc1-amp.bb3
x, mm	0
xp, mrad	0
y, mm	2
yp, mrad	0
Ekin, MeV	9.6020

	Max, A	Base, A	Proposed, A
Common V 8	5	0	0.4977
Common H 8	5	0	-0.1620
Common V 9	5	0	-0.5152
Common H 9	5	0	1.3245e-16
Common V 10	5	0	-0.3692
Common H 10	5	0	-0.0212
Common V 11	5	0	0.4540
Common H 11	5	0	-0.0849

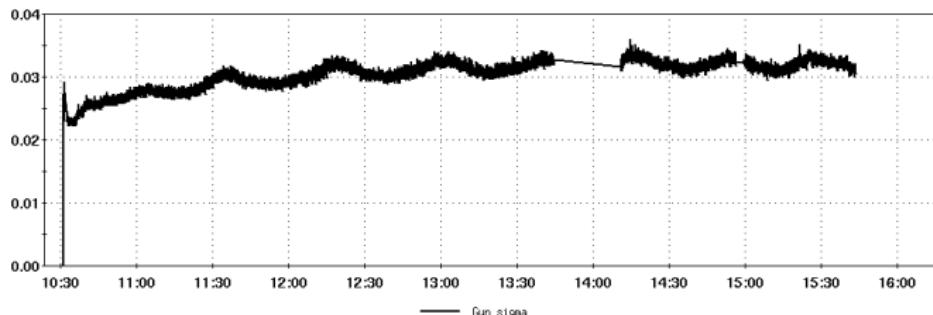
	Solenoid current, A
gc2.sol5.ps	25
gc2.sol6.ps	25

(a) Orbit local bump

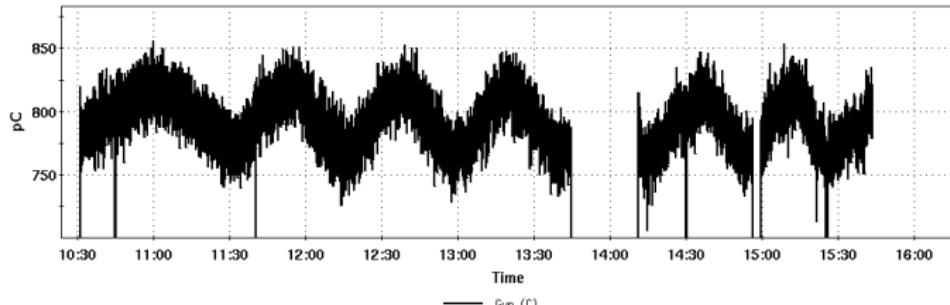


(a) Orbit local bump

File Window Markers Analysis



CEC ICT Average Charge



Menu selection: Analysis -&gt; Do Cell Calculations...

Performing calculations...

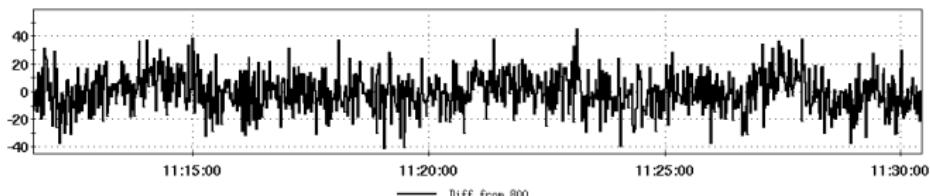
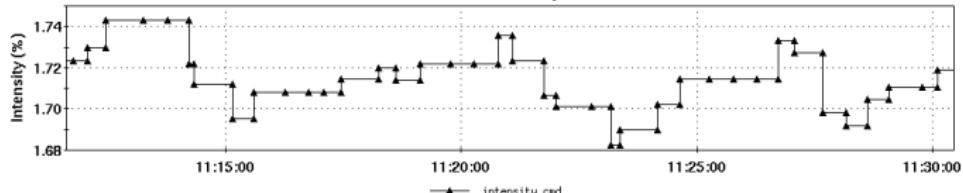
Calculations completed successfully

(a) Why charge feedback

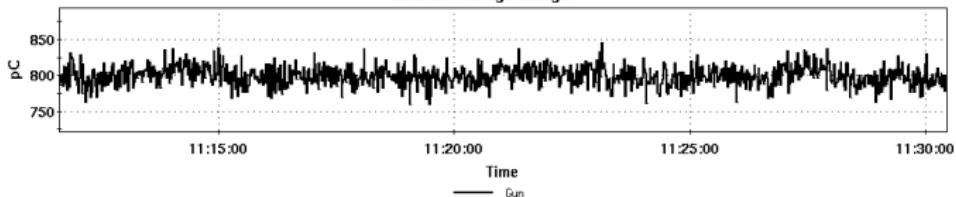


File Window Markers Analysis

## Laser Beam Intensity



## CEC ICT Average Charge



Calculations completed successfully

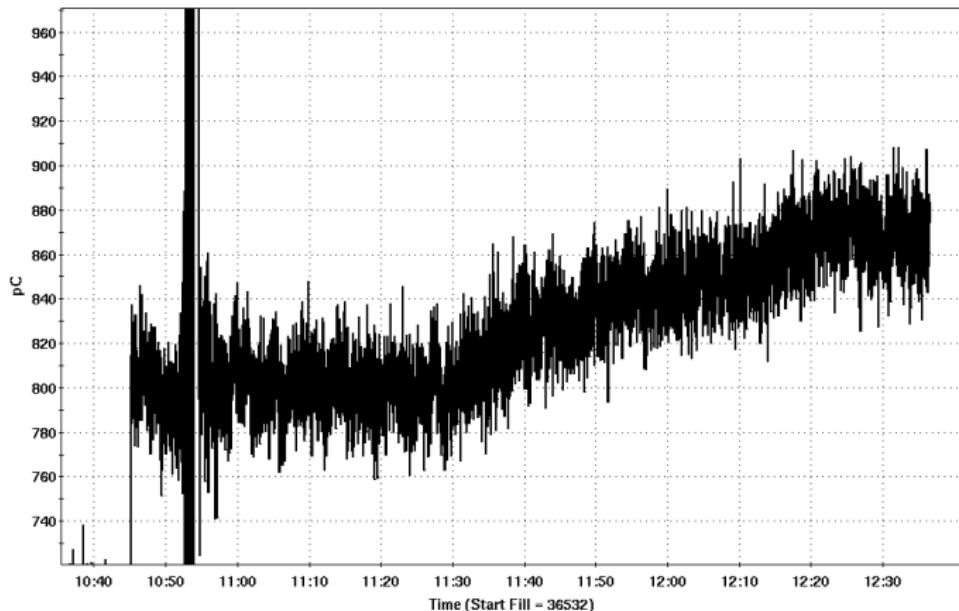
Performing calculations...

Calculations completed successfully

(a) Charge feedback on

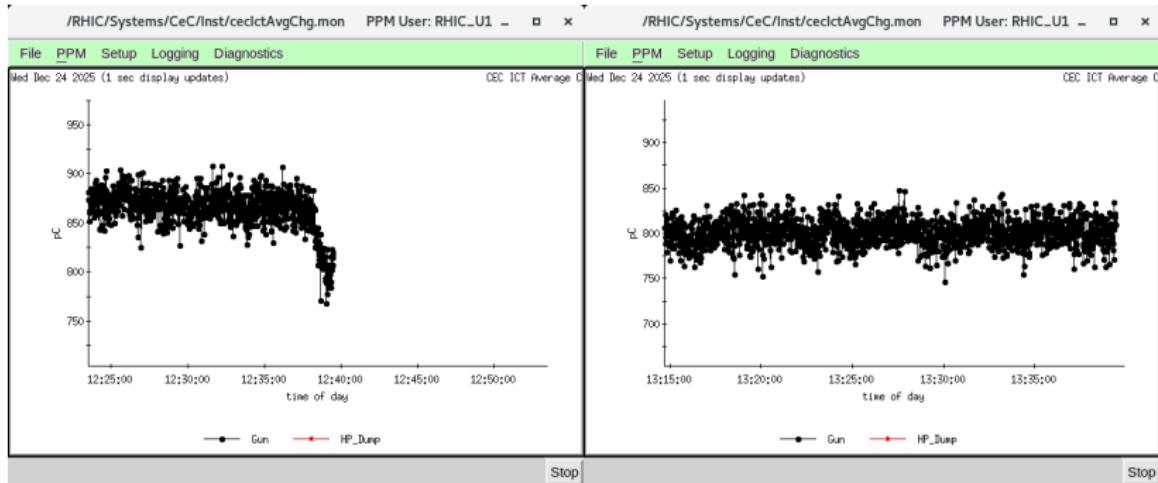


## CEC ICT Average Charge



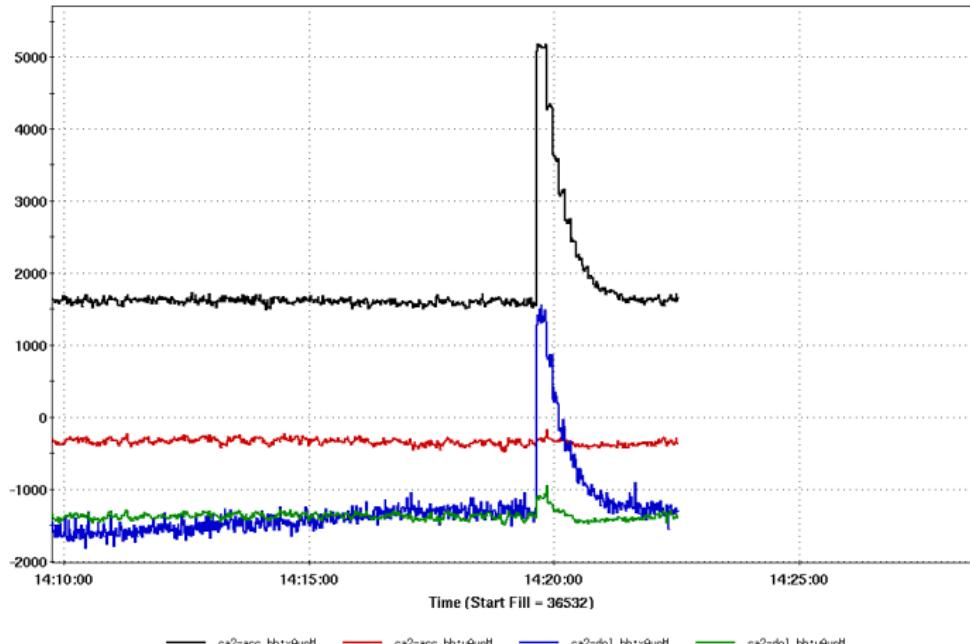
(a) Charge feedback off





(a) Charge feedback on

(b) Charge feedback on



(a) Orbit feedback with fractional correction