NEG Pipe Study (2/18/04)

- The experiment took about 3 hours and consists of two parts: warm dipole at yi10 and single turn kick at yi10.
- Spent quite some time to tune injection. But injection oscillation is still ±6mm. (Lambertson magnet failure found later).
- Confirmed the loss we saw at beam dump and Q8 region is due to beam loss there. Due to the limited aperture at yi10, it is hard to tune the beam in this region.
- Puzzles: Why a 3-bump at 1150m affect beam loss at warm dipole (1330m)? Why such a 3-bump needed at the first place? (Is this 3-bump really closed?/ Scattered lower energy particles lost there?)
- Observed pressure rises at 3.1, when injecting multiple bunches.
- Bump beam to beam pipe with one turn kick at Q4 of YI10.
- Move warm dipoles to Blue on March 3.

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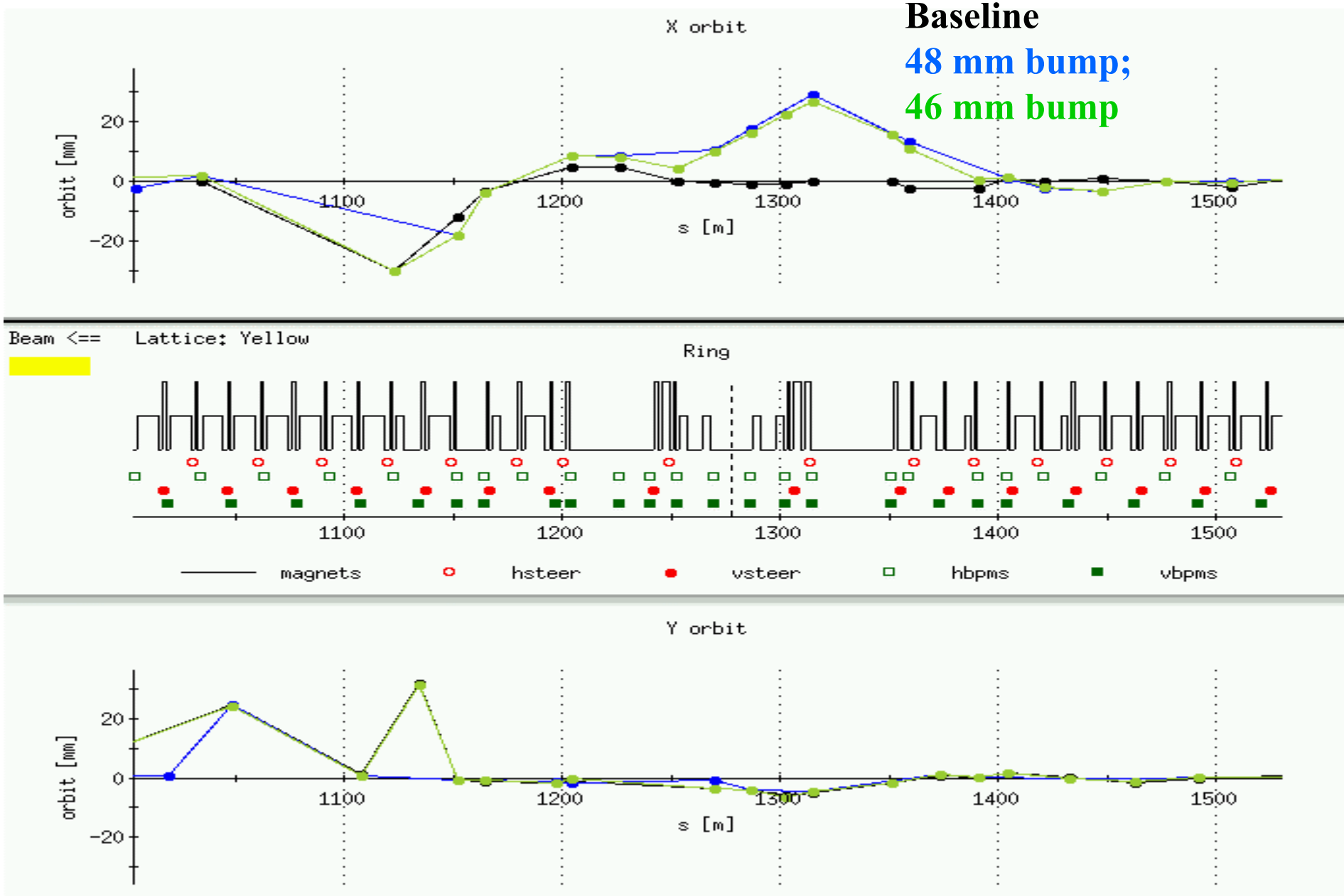
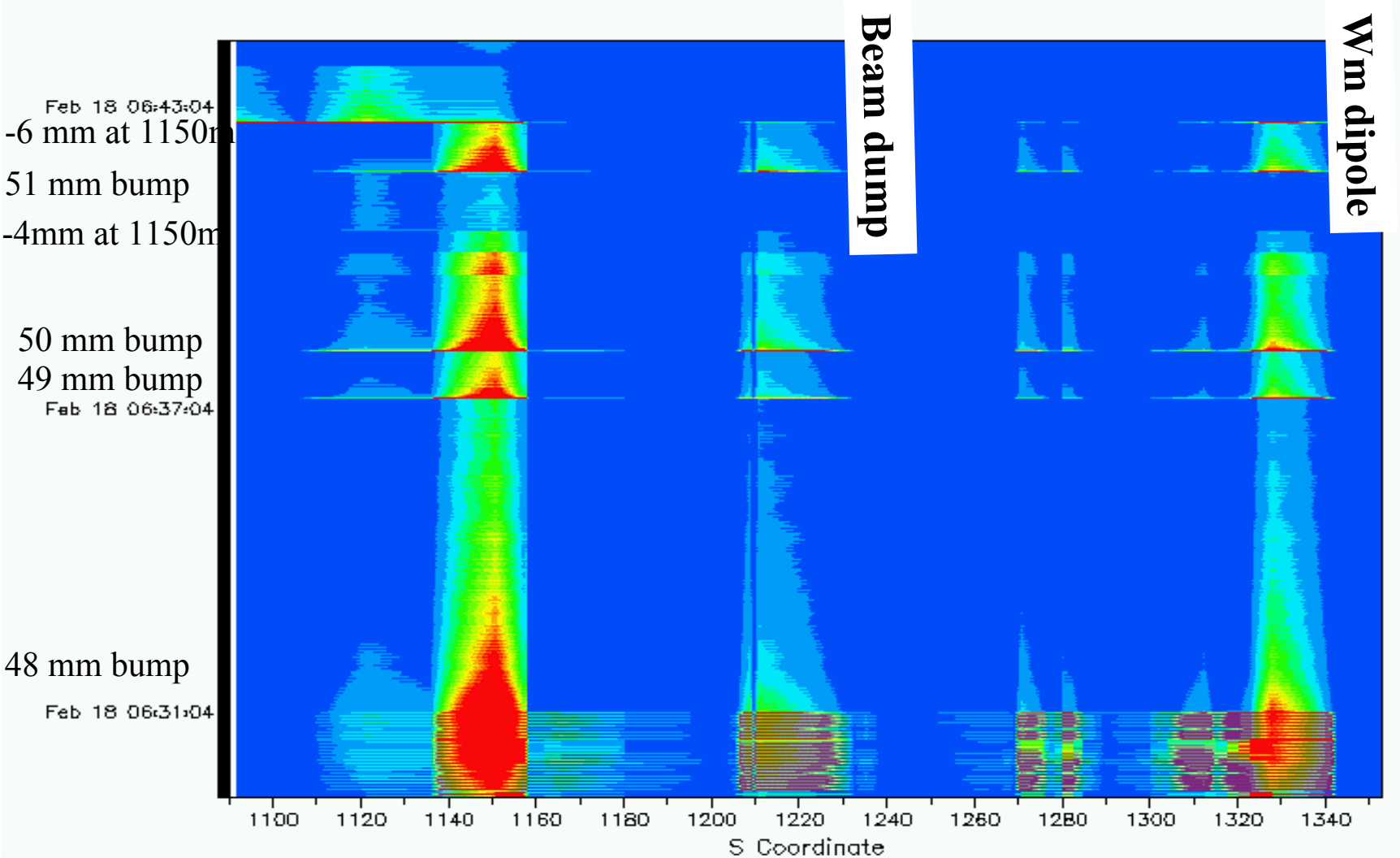
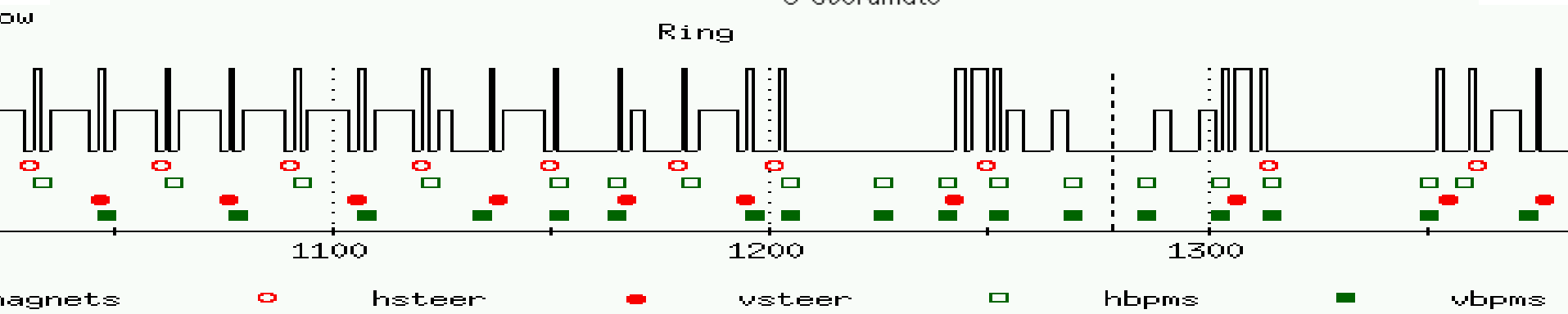
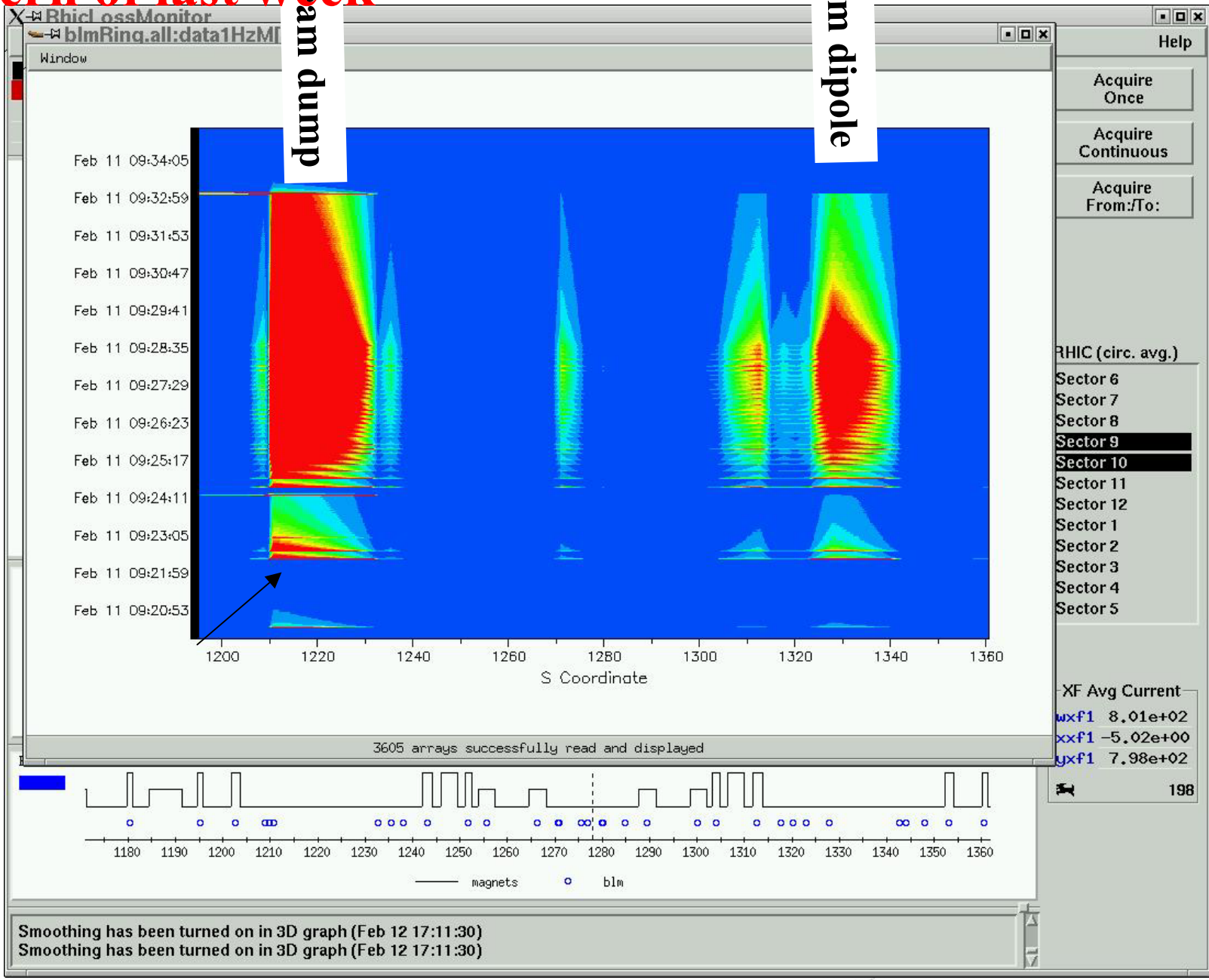
Bumps Used in the Study

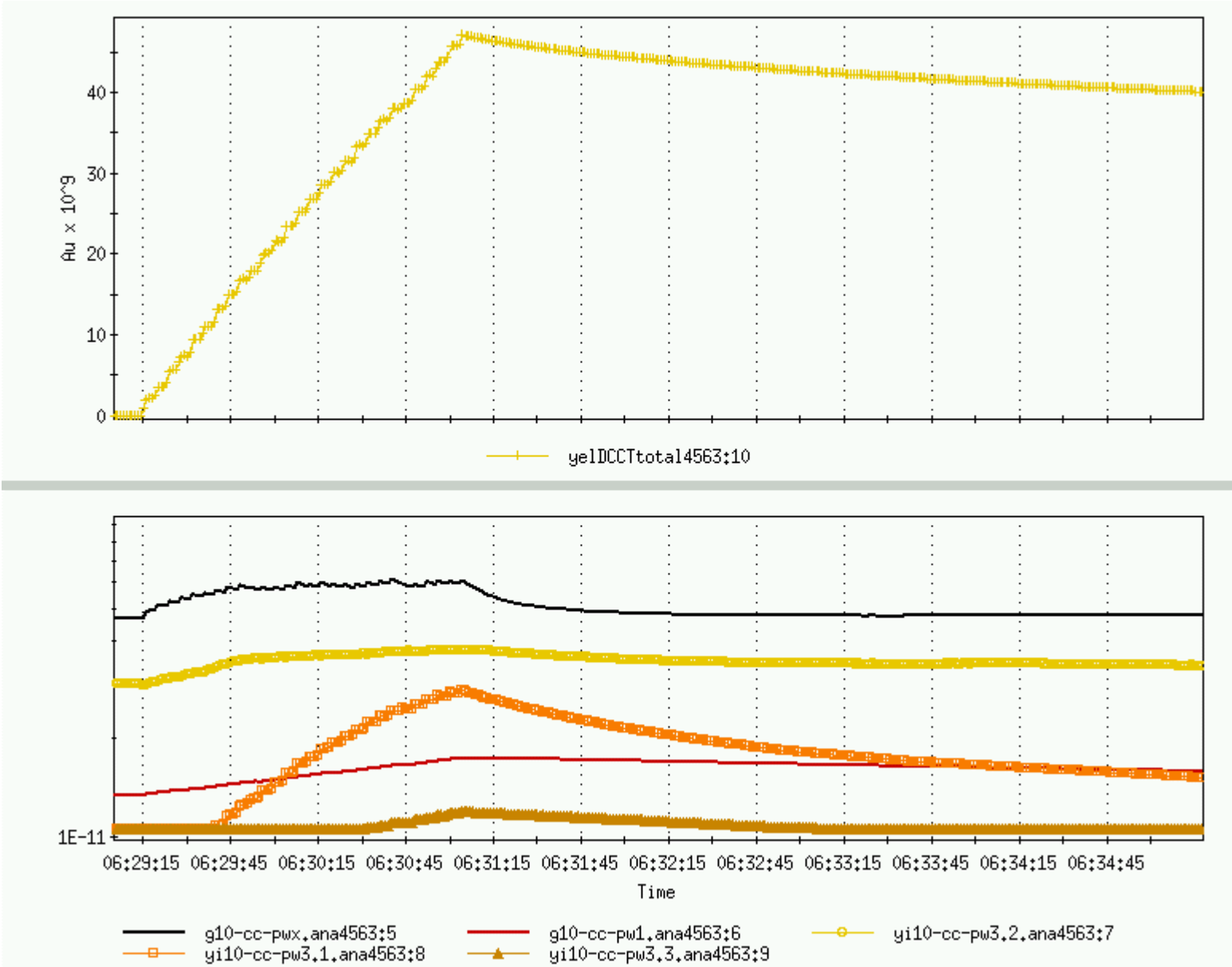


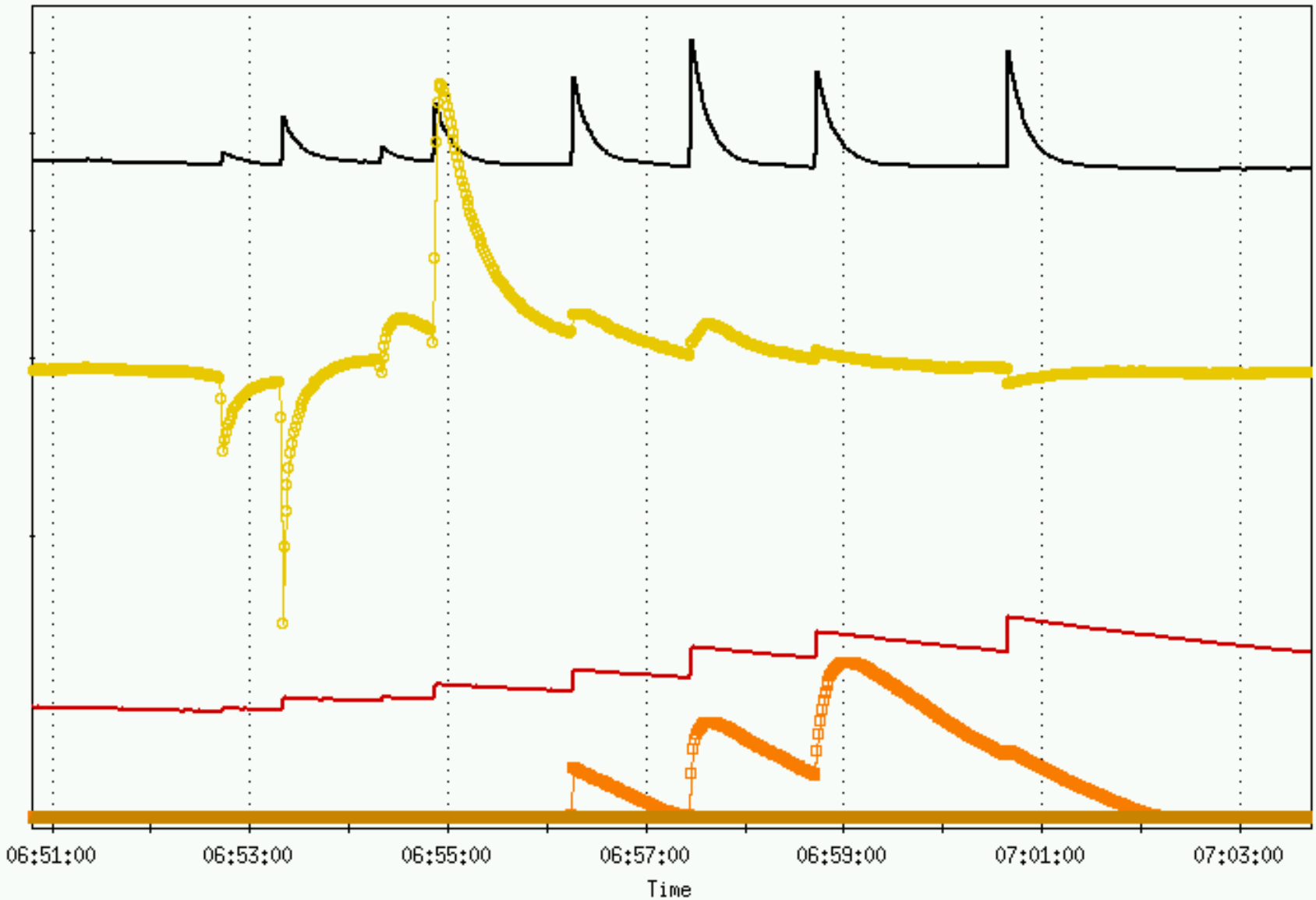

Beam dump
Wm dipole
Feb 18 06:43:04
-6 mm at 1150m
51 mm bump
-4mm at 1150m
50 mm bump
49 mm bump
Feb 18 06:37:04
48 mm bump
Feb 18 06:31:04
1100
1120
1140
1160
1180
1200
1220
1240
1260
1280
1300
1320
1340
S Coordinate


Ring
1100
1200
1300
hsteer
vsteer
hbpms
vbpms

Loss pattern of last week




Au x 10^9
40
30
20
10
0
yelDCCTtotal4563:10
1E-11
06:29:15 06:29:45 06:30:15 06:30:45 06:31:15 06:31:45 06:32:15 06:32:45 06:33:15 06:33:45 06:34:15 06:34:45
Time
g10-cc-pwx.ana4563:5
g10-cc-pw1.ana4563:6
yi10-cc-pw3.2.ana4563:7
yi10-cc-pw3.1.ana4563:8
yi10-cc-pw3.3.ana4563:9


06:51:00
06:53:00
06:55:00
06:57:00
06:59:00
07:01:00
07:03:00
Time
g10-cc-pwx.ana4563:0
g10-cc-pw1.ana4563:1
yi10-cc-pw3.2.ana4563:2
yi10-cc-pw3.1.ana4563:3
yi10-cc-pw3.3.ana4563:4