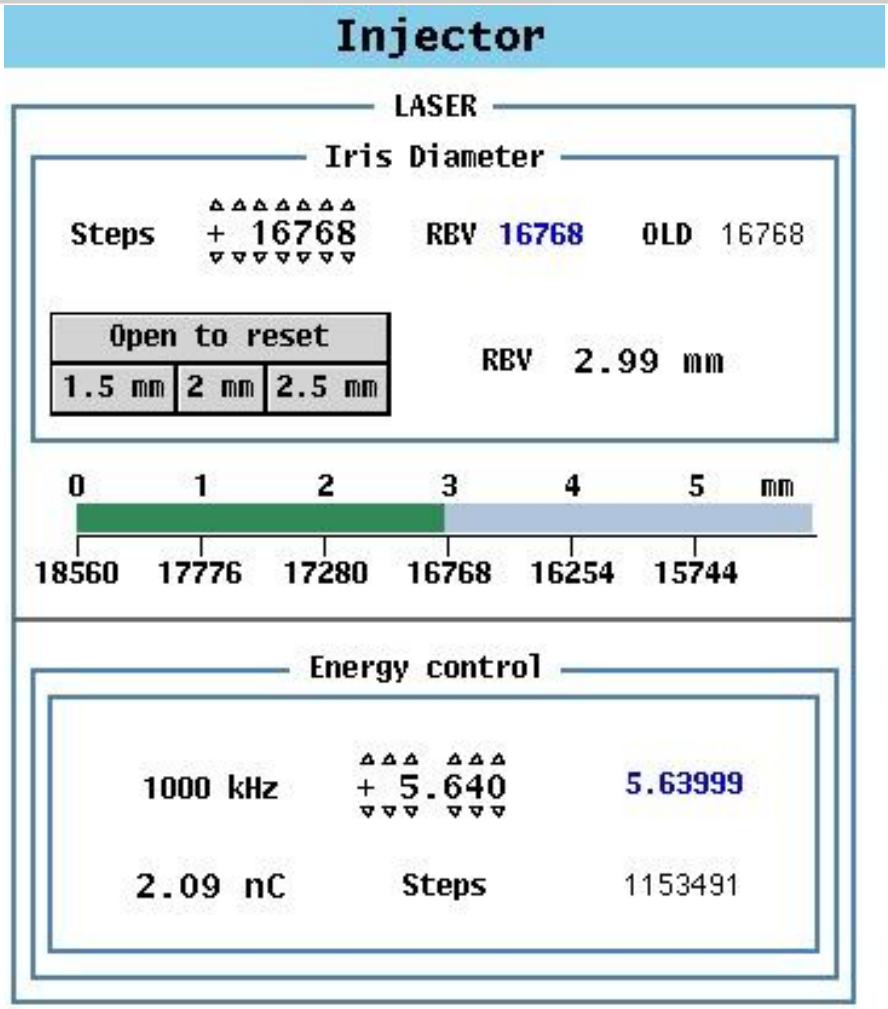
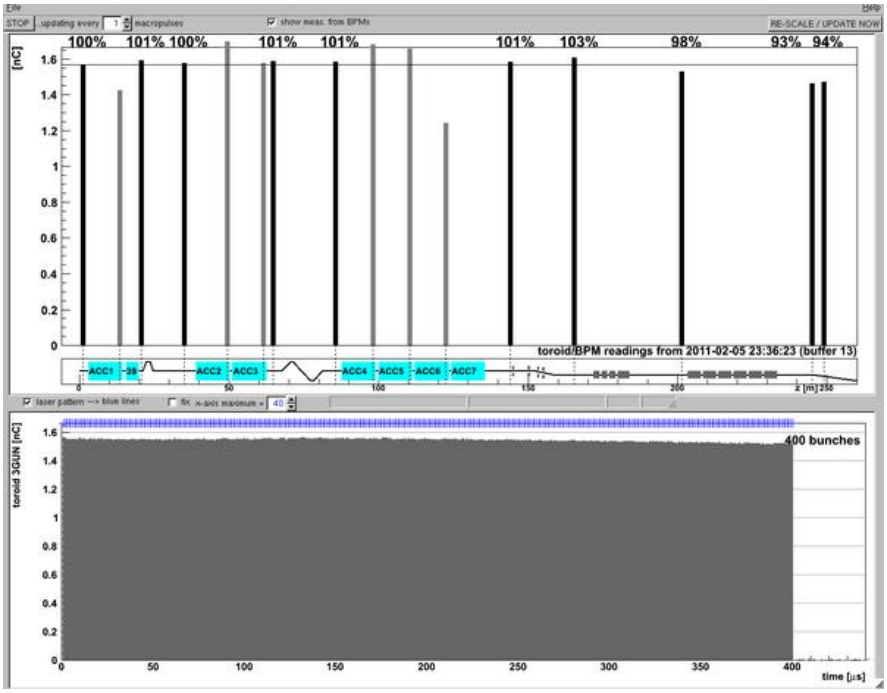
? 05.02.2011	23:25	oracle	**Shift summary**

05.02.2011	23:04	ttflinac	**ttflinac@:SASE_tuning_inj**



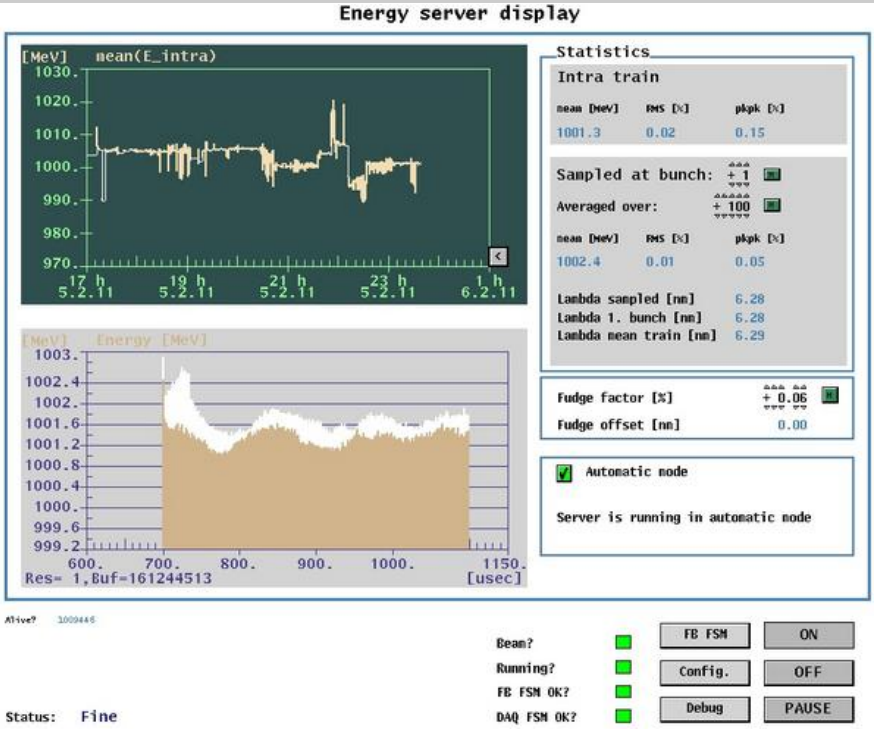
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:04:31-00.JPG

05.02.2011	23:36	ttflinac	**toroid charge readings**



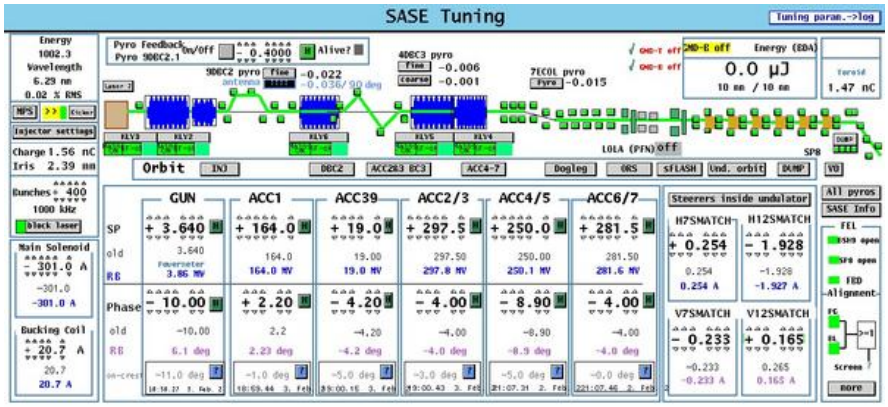
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:36:40-00.ps

05.02.2011 23:37 ttflinac **ttflinac@:Energyfbm_display**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:37:07-00.JPG

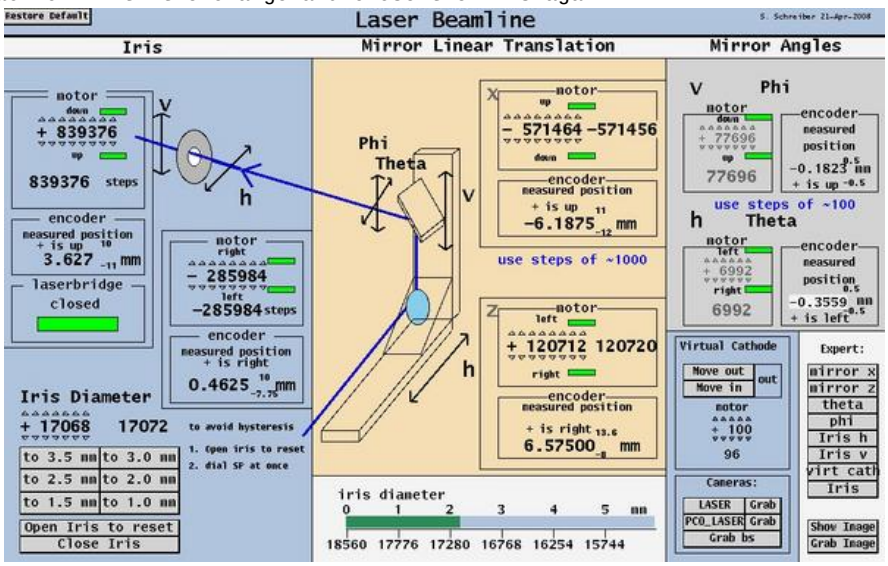
05.02.2011 23:37 ttflinac **ttflinac@:SASE_tuning**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:37:15-00.JPG

05.02.2011 23:38 S. Schreiber, B. Faatz, M. Vogt, K. Klose **ttflinac@:laser_beamline**

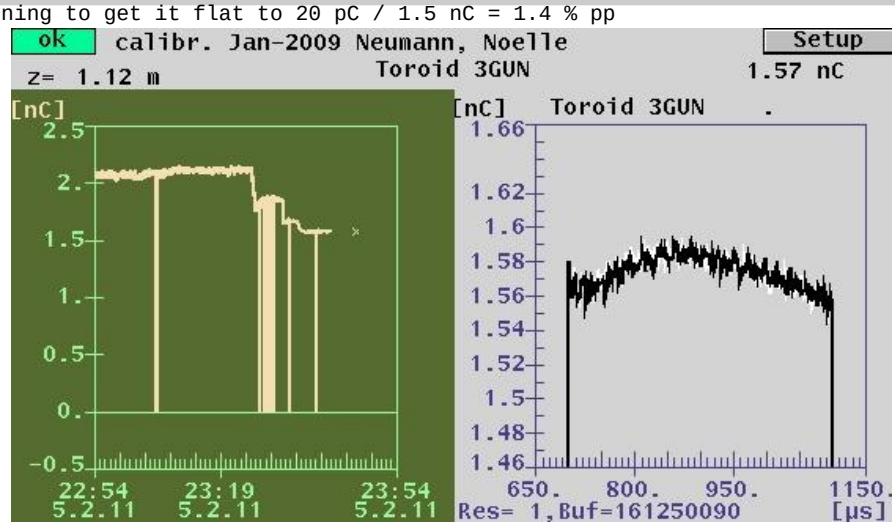
```
since we cannot get good beam at this time for 1 nC,
we decided to back off with the charge and close the iris again
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:38:22-00.JPG

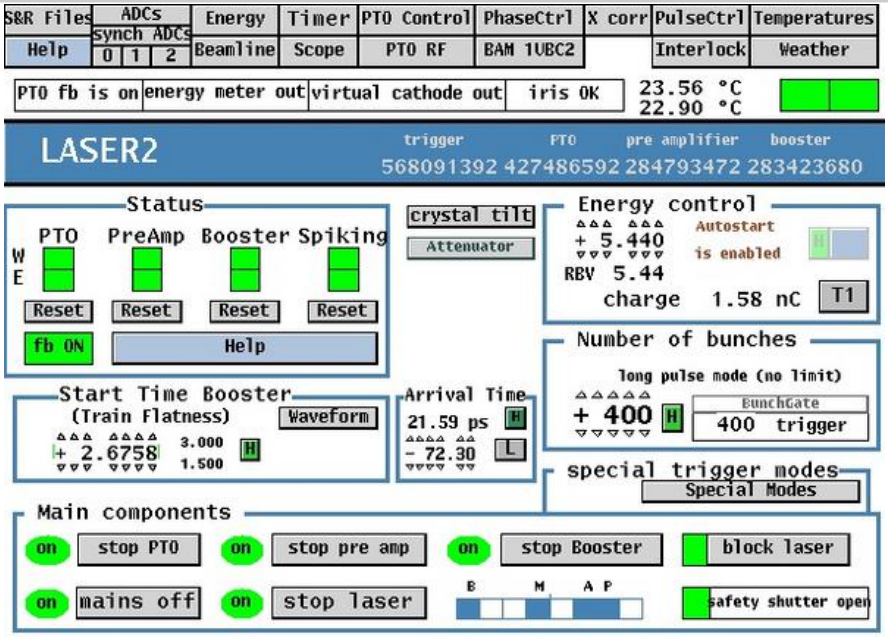
05.02.2011 23:46 S. Schreiber **T1**

```
a little bit tuning to get it flat to 20 pC / 1.5 nC = 1.4 % pp
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:46:15-00.JPG

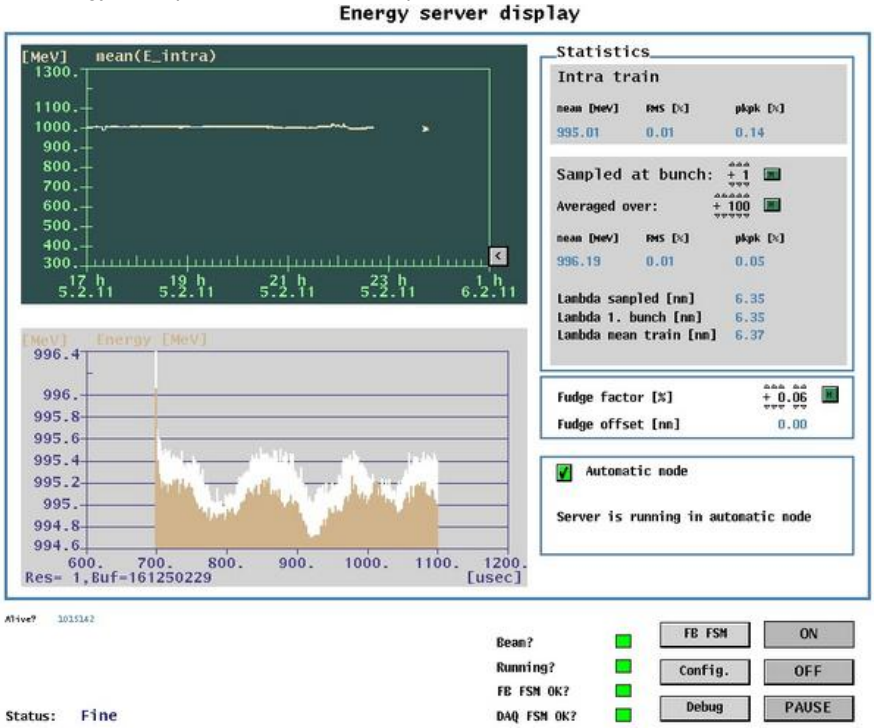
05.02.2011 23:46 ttflinac **ttflinac@:laser2_control**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:46:21-00.JPG

05.02.2011 23:46 S. Schreiber, B. Faatz, M. Vogt, K. Klose **ttflinac@:Energyfbm_display**

oscillation of the energy independent on the slope of the laser train



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-05T23:46:30-00.JPG

05.02.2011 23:54 ttflinac **Energy scaling of magnet settings**

```
Energy scaling from machine file :
  timestamp: 2011-02-05T22:41:48+01  (ID = 14570)
  author(s):
  comment  : 50 bunches 2 nC
  beam energy (UND)  = 1001.1 MeV
  photon wavelength  = 6.29 nm
  SASE pulse energy  = 0.0 microJ
New file (scaled)  :
  timestamp: 2011-02-05T23:54:37+01
```

```
  author(s): vogtm
  comment  :  E=1000.772 MeV (scaled from E=1000.772 MeV, file=2011-02-05T22:41:48+01 , ID=14570)
  beam energy (UND)  = 1000.8 MeV
  photon wavelength  = 6.29 nm
(all energies in MeV)
```

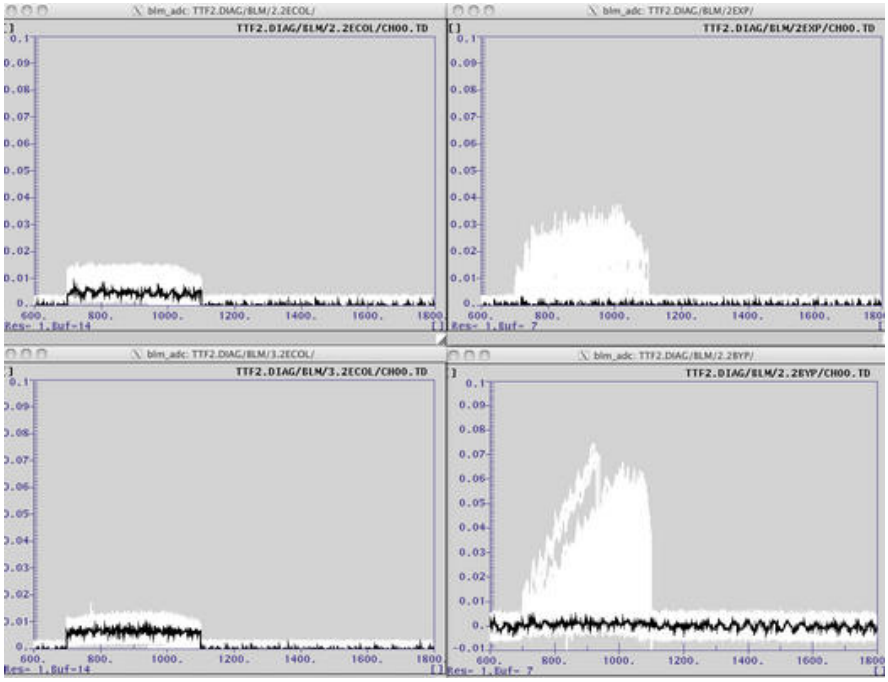
Energy at...	prev. file	scaled file	change	change(%)
E(BC3)	450.0	450.0	0	0
E(9ACC4)	575.4	623.9	48.5	8.4%
E(9ACC5)	708.9	809.0	100.1	14.1%
E(9ACC6)	845.9	899.0	53.1	6.3%
E(UND)	1000.8	1000.8	0.0	0.0%

Energy gain	prev. file	scaled file	change
Egain(ACC45)	258.9	359.0	100.1
Egain(ACC67)	291.9	191.8	-100.1

```
from computer: flashbkr4.desy.de
```

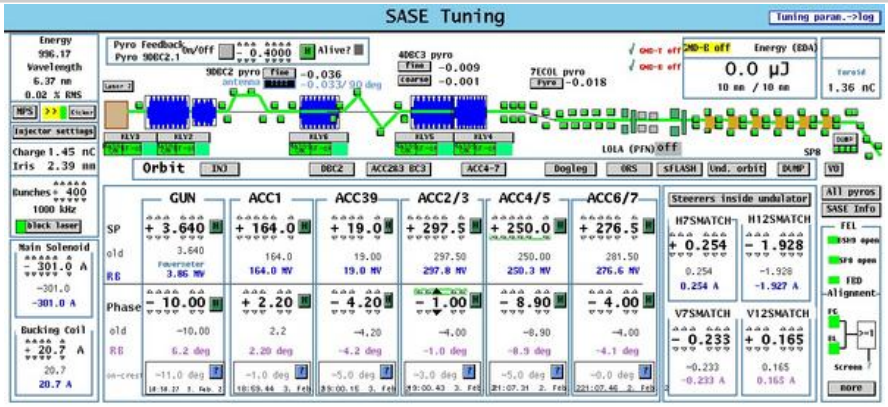
06.02.2011 00:02 S. Schreiber, B. Faatz, M. Vogt, K. Klose **losses reduced by changing the compression**

```
since we see slopes in the losses of 2.2BYP and 5DBC3 we tried to change the compression
-> ACC2/3 phase from -4 -> -1 dg (on crst -3 dg)
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:02:12-00.png

06.02.2011 00:03 ttflinac **ttflinac@:SASE_tuning**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:03:24-00.JPG

06.02.2011 00:08 ttflinac **SASE tuning parameters**

Misc. parameters

```
  Energy / Wavelength: 995.15 MeV / 6.4 nm
```

```
Charge:              1.51 nC
Main solenoid:       -301.0 A
Bucking coil:        +20.7 A
Dipoles BC2/BC3:     +73.1 A / +56.0 A
```

RF parameters

	GUN	ACC1	ACC39	ACC2/3	ACC4/5	ACC6/7
Power/Gradient	+3.640	+164.00	+19.00	+297.50	+250.00	+276.50
Readback	3.85	164.0	19.0	297.8	250.3	276.7
Phase	-10.00	+2.20	-4.20	-1.00	-8.90	-4.00
on-crest		-1.0		-3.0	-5.0	-0.0
Readback	6.4	2.2	-4.2	-1.0	-8.9	-4.1

Undulator steerers and aircoils

H7SMATCH	H12SMATCH
+0.254	**-1.928**

V7SMATCH	V12SMATCH
-0.233	**-1.928**

Intra-undulator steerers

H3UND1	H3UND2	H3UND3	H3UND4	H3UND5	H3UND6
-4.40	**-4.80**	**-4.80**	**-4.70**	**-4.80**	**-5.00**

06.02.2011 00:09 ttflinac **Main linac parameters**

400 bunches, 1.5nC

Laser

```
Number of bunches ...... 400
Bunch frequency ........ 1000 kHz
Macropulse rep'rate .... 10.0 Hz
Pump time_3 ........... 0.0030 ms
Pump current_3 ......... 5.00 V
Pre-amp start time ..... 2.42 ms
Booster start time ..... 2.68 ms
Attenuator SP .......... 5.39
Iris diameter .......... 17072 steps
Iris diameter .......... 2.39 mm
```

Gun

```
Feedforward/Feedback ... on/on
FSM .................... on
Pfwd SP ................ 3.64
VS ampl. ............... 18.32
Phase SP ............... -10.00 deg
VS phase ............... 6.41 deg
Pfwd (peak) ............ 3.845 MW
Prefl (peak) ........... 2.918 MW
Pfwd sample point ...... 700
Pfwd (at sample point) . 18.313 MW
Prefl sample point ..... 720
Prefl (at sample point)  5.650 MW
Flat top ............... 460 us
Water temperature SP ... 72.75 deg C
Main solenoid (RBV) .... -301.03 A
Bucking coil (RBV) ..... 20.70 A
Gun dipole (RBV) ....... 0.000 A
Charge 3GUN(T1) ........ 1.52 nC
DC kicker delay ........ 6.80 ms
DC kicker HV ........... not local
DC kicker HV ........... disabled
DC kicker HV ........... off
DC kicker SP ........... 60.00 V
DC kicker start ........ 124.00 ns
```

ACC1

```
Feedforward/Feedback ... on/on
Feedback gain .......... 2.0
Pfwd SP ................ 164.00
Pfwd RBV ............... 164.01
Phase SP ............... 2.20 deg
Phase RBV .............. 2.25 deg
Pfwd C1.ACC1 ........... 187.8 kW
Pfwd C5.ACC1 ........... 178.3 kW
Flat top ............... 800 us
Dipole BC2 (RBV) ....... 73.11 A
Pyro 9DBC2.1 ........... -0.0249 V
Radiator 9DBC2 ......... out
Slow phase feedback .... off
Slow ph. FB target/gain  -0.400/-0.1
Slow ph. FB pyrodet.used Pyro 9DBC2.1 (fine, old ADC)
```

ACC39

```
Feedforward/Feedback ... on/on
Feedback gain .......... 10.0
Pfwd SP ................ 19.00
Phase SP ............... -4.20 deg
Pfwd C1.ACC39 .......... <error>
Flat top ............... 800 us
```

ACC2/3

```
Feedforward/Feedback ... on/on
Feedback gain .......... 2.0
Pfwd SP ................ 297.50
Pfwd RBV ............... 297.69
Phase SP ............... -1.00 deg
Phase RBV .............. -1.04 deg
Pfwd C5.ACC2 ........... 126.65 kW
Pfwd C1.ACC3 ........... 219.43 kW
Flat top ............... 450 us
Dipole BC3 (RBV) ....... 56.00 A
Pyro 4DBC3.1 ........... -0.0099 V
Pyro 4DBC3.3 ........... 0.0017 V
Radiator 4DBC3 ......... out
```

ACC4/5

```
Feedforward/Feedback ... on/on
Feedback gain .......... 40.0
Pfwd SP ................ 250.00
Pfwd RBV ............... 250.35
Phase SP ............... -8.90 deg
Phase RBV .............. -8.91 deg
Pfwd C1.ACC4 ........... 115.67 kW
Pfwd C2.ACC5 ........... 90.91 kW
Pfwd C1.ACC6 ........... 0.61 kW
Flat top ............... 800 us
```

ACC6/7
Feedforward/Feedback ... on/on
Feedback gain 50.0
Pfwd SP 276.50
Pfwd RBV 276.84
Phase SP ..... -4.00 deg
Phase RBV ..... -4.15 deg
Pfwd C1.ACC6 ..... 156.09 kW
Pfwd C1.ACC7 ..... 178.63 kW
Flat top ..... 800 us

Collimator
Dipole D1ECOL (RBV) .... 176.89 A
Energy dogleg ..... 995.1 MeV
Charge 7ORS ..... 1.55 nC

Dump
Dipole D9SMATCH (RBV) .. 0.00 A
Dipole D1DUMP (RBV) .... 0.00 A
Dipole D6DUMP (RBV) .... 210.09 A
Rotator RD13DUMP (RBV) . 9.13 A
Charge 9DUMP ..... 1.42 nC

Photon beamline
Aperture 1 ..... 10 mm
Offset h/v ..... 0/-1 mm
Aperture 2 ..... 10 mm
Offset h/v ..... 1/0 mm

Bypass
Dipole D1BYP (RBV) ..... 0.00 A
Energy bypass ..... 1211.4 MeV
RF vector sum ALL ..... 686.3 MeV
Charge 16BYP ..... -0.00 nC

Undulator
1SFUND1 gap RBV ..... 220.0 mm
1SFUND2 gap RBV ..... 220.0 mm
1SFUND3 gap RBV ..... 220.0 mm
1SFUND4 gap RBV ..... 180.0 mm

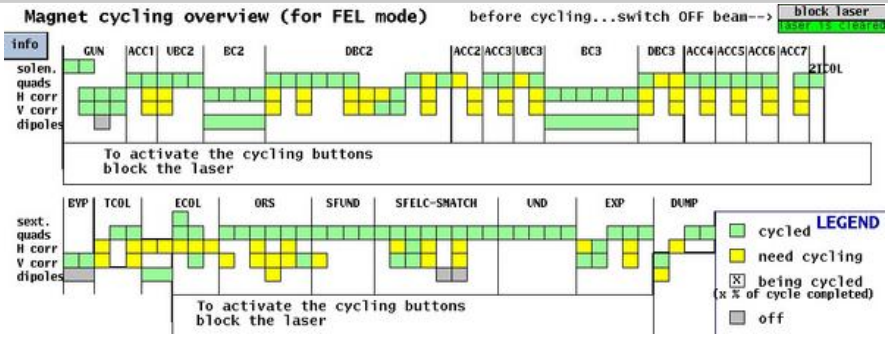
Feedbacks
Charge feedback gain ... <error>
Charge feedback SP ..... <error>
PTO feedback ..... on

Status saved in machine file 2011-02-06T00_08_31+01
Orbit reference for the root tool saved in /home/ttflinac/measurements/xy_jitter/2011-02-06T000831

---

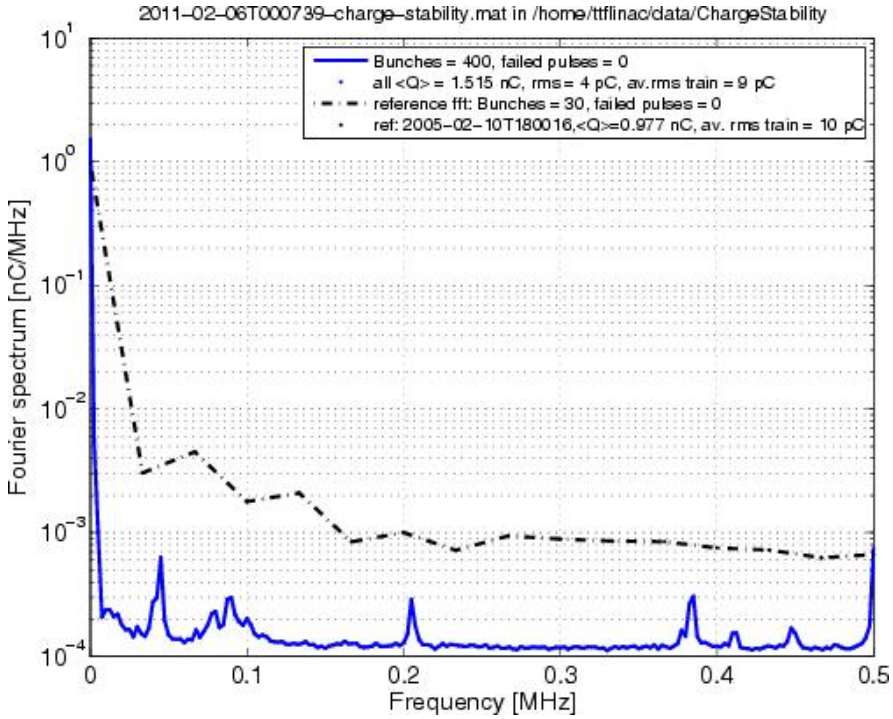
also in 'save and restore' files:
Magnets saved to: /home/ttflinac/save_restore/Magnets/autosaved/all_Magnets_20110206T000831.sr
uMovers saved to: /home/ttflinac/save_restore/Micromovers/autosaved/uMovers_20110206T000831.sr
from computer: flashbkr3.desy.de

06.02.2011 00:09 ttflinac **ttflinac@:magnet_cycle_overview_fel**



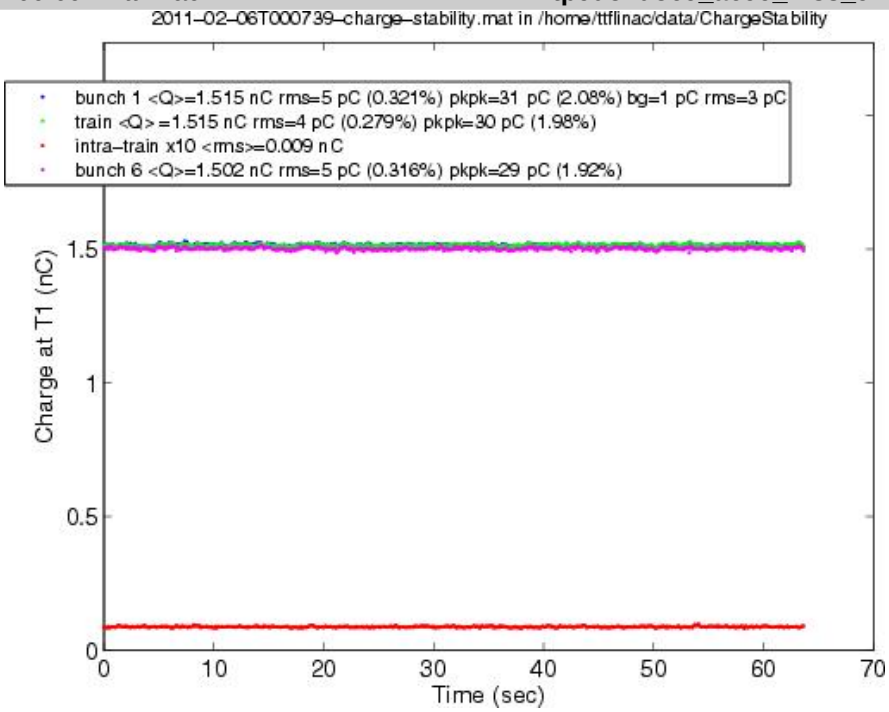
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:09:14-00.JPG

06.02.2011 00:09 ttflinac **tp58561ea8_ed93_4eae_94ca_dd29bc51501d.ps**



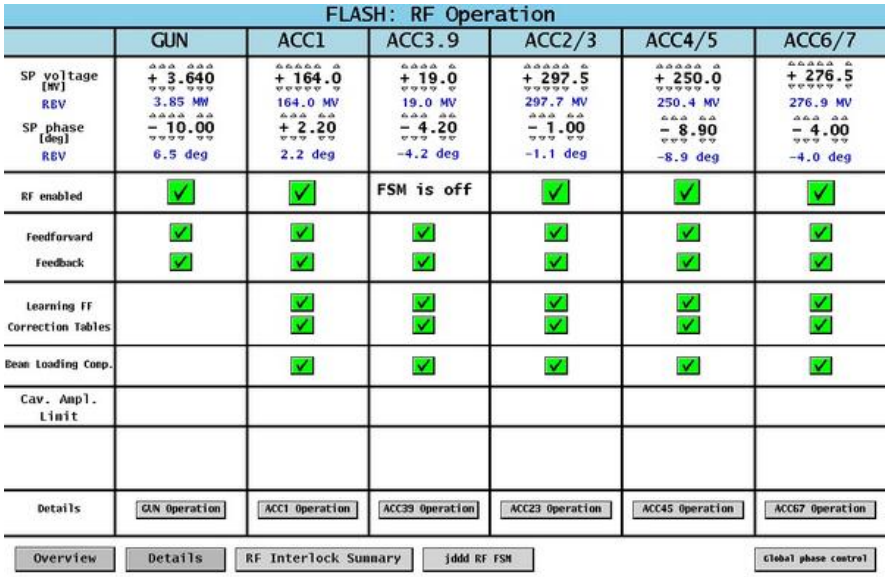
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:09:21-00.ps

06.02.2011 00:09 ttflinac **tp9d52d569_a699_4f38_9749_a4daf2dc709f.ps**



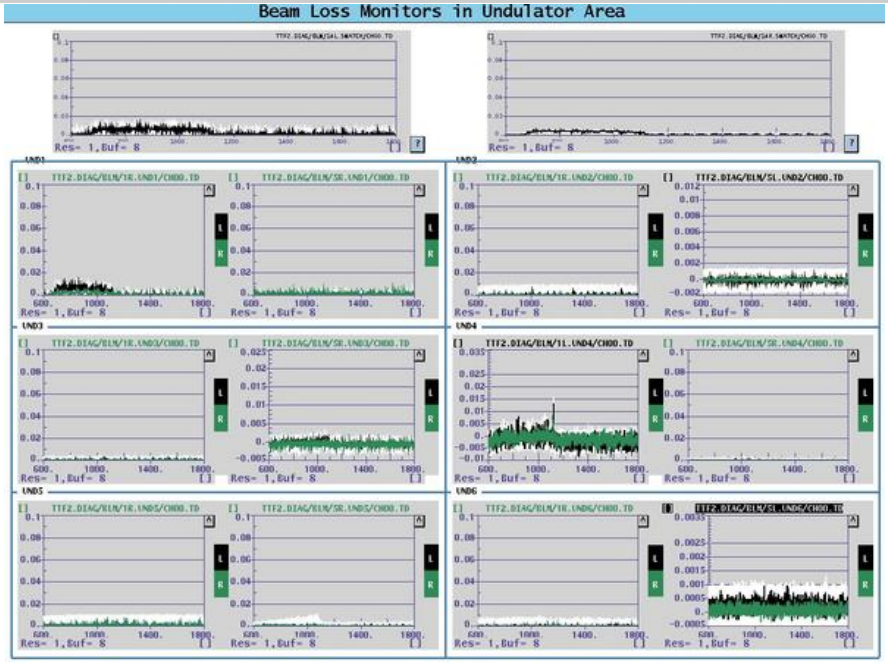
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:09:28-00.ps

06.02.2011 00:09 ttflinac **ttflinac@:RF_OPERATION**



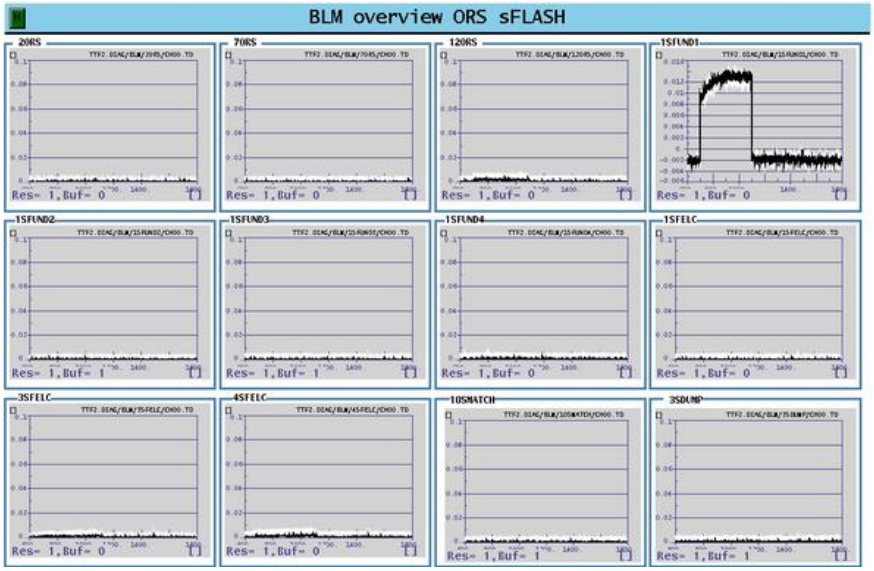
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:09:34-00.JPG

06.02.2011 00:09 ttflinac **ttflinac@:BLM_UNDULATORS**



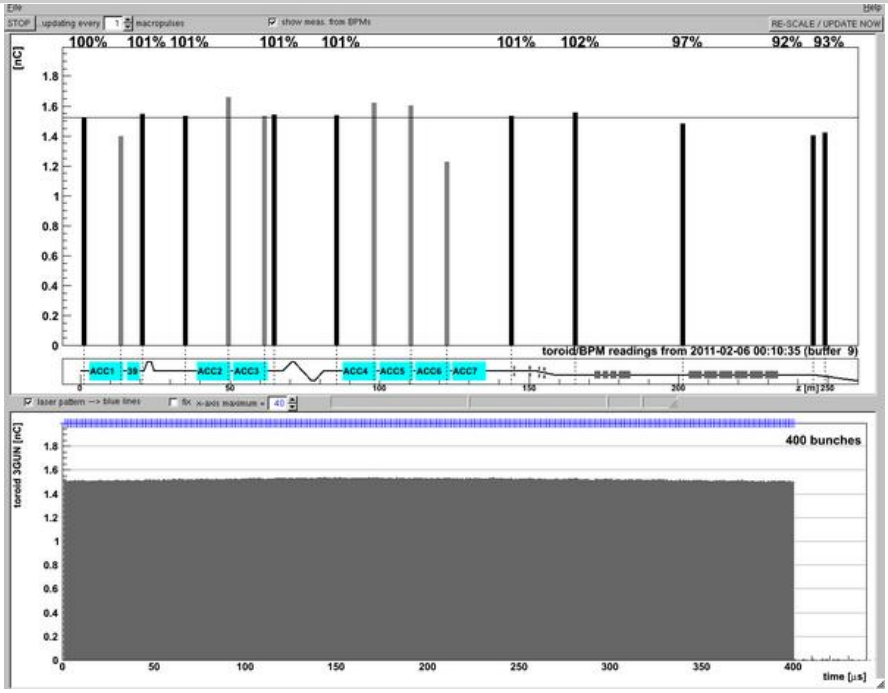
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:09:58-00.JPG

06.02.2011 00:10 ttflinac **ttflinac@:blm_overview_ORS**



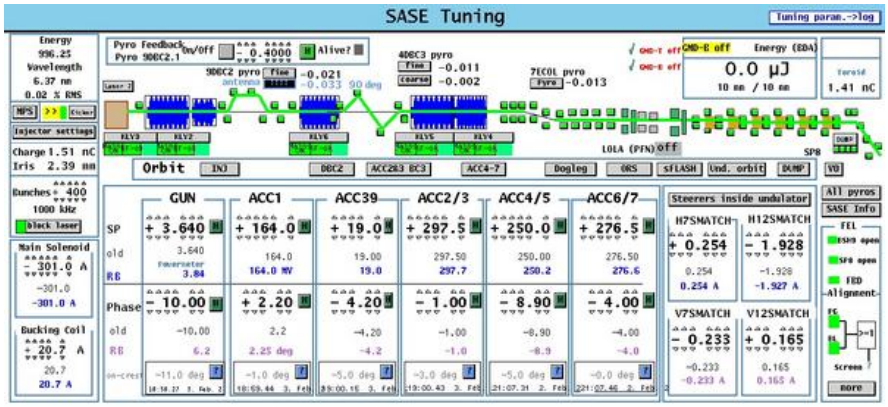
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:10:23-00.JPG

06.02.2011 00:10 ttflinac **toroid charge readings**



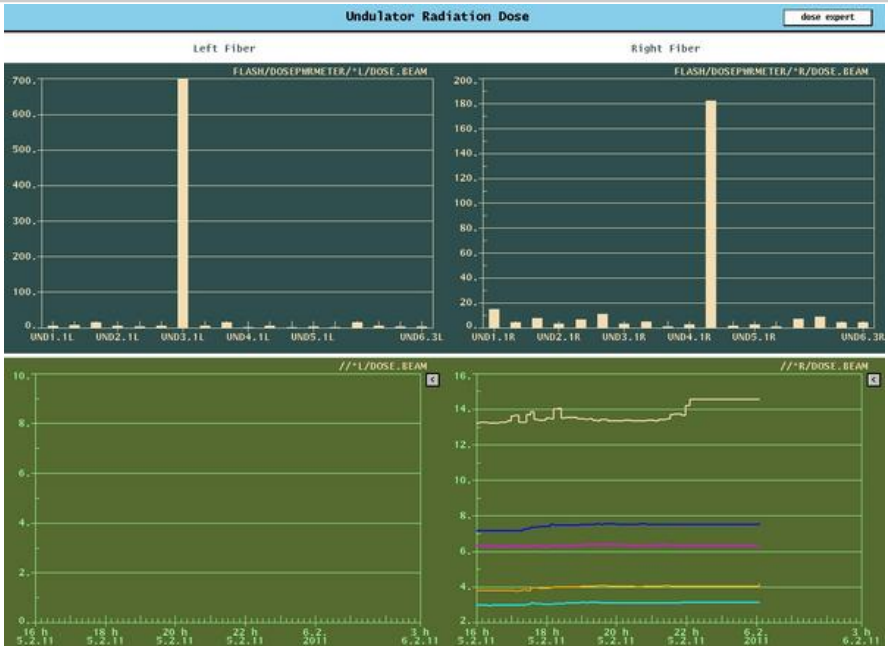
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:10:55-00.ps

06.02.2011 00:11 ttflinac **ttflinac@:SASE_tuning**



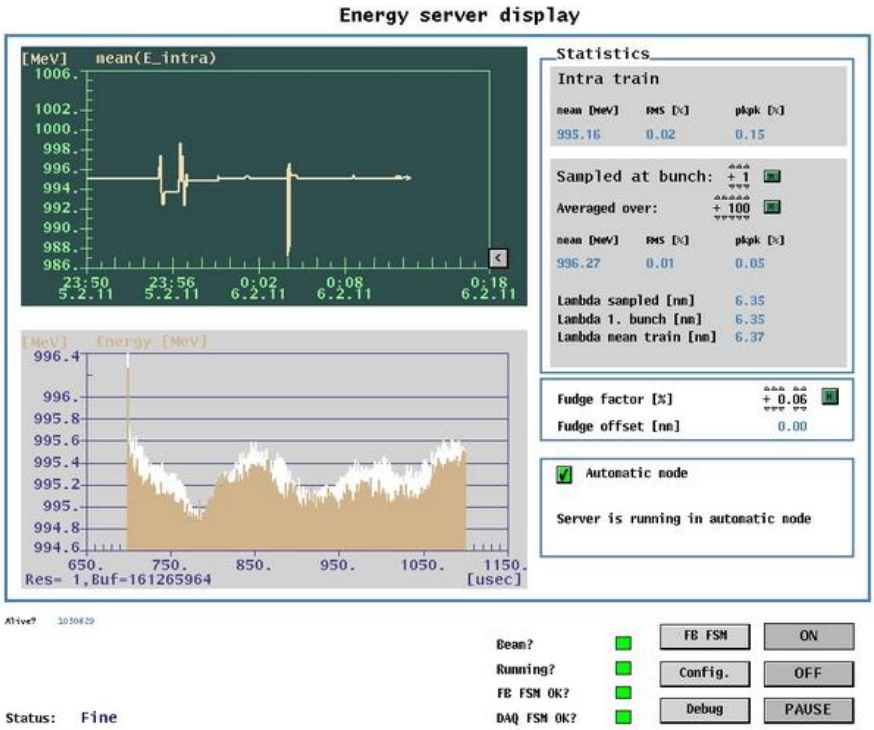
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:11:19-00.JPG

06.02.2011 00:11 ttflinac **ttflinac@:dose_und**



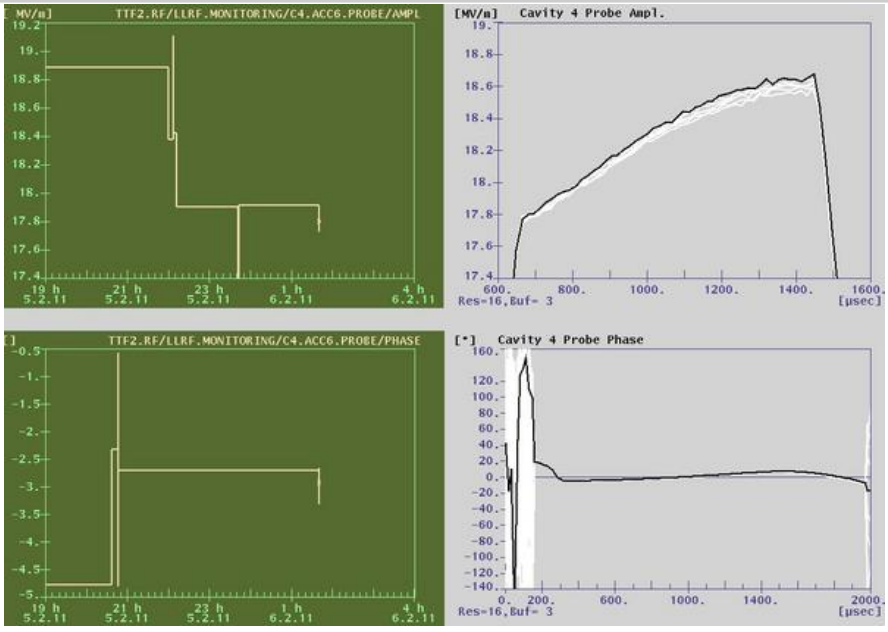
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:11:27-00.JPG

06.02.2011 00:12 ttflinac **ttflinac@:Energyfbm_display**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T00:12:44-00.JPG

06.02.2011 01:41 ttflinac **ttflinac@:ADC_RF_win2**

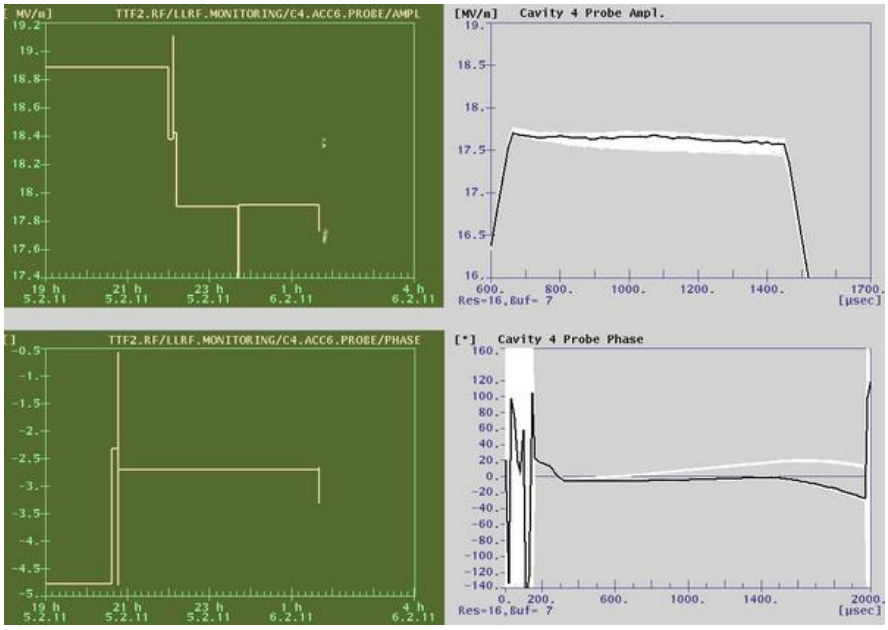


File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T01:41:26-00.JPG

06.02.2011 01:41

```
As a proof of principle, we will change the Ql of cavity 4 ACC6.
(see below)
The initial tilt is ~ 0.8 MV/m for a Ql = 3.03e6.
```

06.02.2011 01:51 ttflinac **ttflinac@:ADC_RF_win2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T01:51:07-00.JPG

06.02.2011 01:51

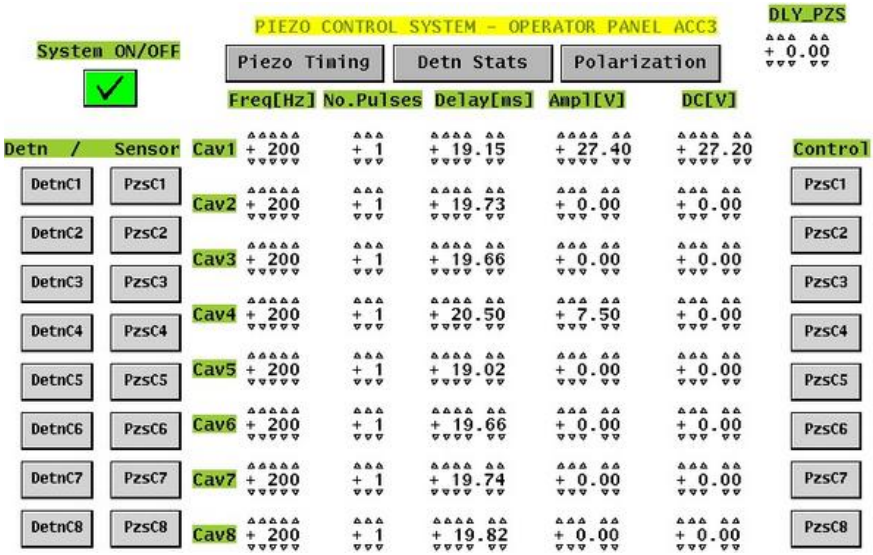
The steps were as follows:
1. measure the tilt with beam and feedback on.
2. turn beam off,
3. adjust the Ql
4. turn FB off, slightly retune the cavity, turn FB on
5. turn beam on
6. verify that the tilt is gone.

06.02.2011 02:01

Beam conditions:
1.5nC, 400 bunches
These are the initial tilts:

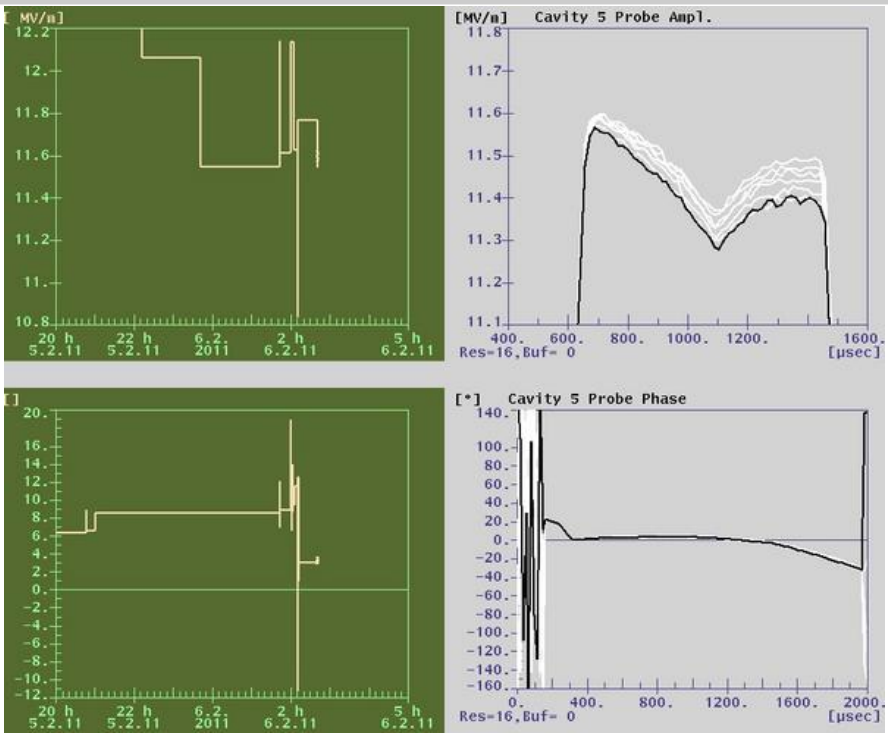
ACC6	cav1	6.07 %	
ACC6	cav2	1.86 %	
ACC6	cav3	0.87 %	
ACC6	cav4	3.16 %	
ACC6	cav5	0.69 %	
ACC6	cav6	-1.97 %	
ACC6	cav7	0.61 %	
ACC6	cav8	-0.94 %	
ACC7	cav1	-0.62 %	
ACC7	cav2	-1.25 %	
ACC7	cav3	-1.14 %	
ACC7	cav4	-1.05 %	
ACC7	cav5	-1.11 %	
ACC7	cav6	1.20 %	
ACC7	cav7	-1.37 %	
ACC7	cav8	0.35 %	

06.02.2011 02:04 doocsadm **doocsadm@flashbkr4.desy.de:piezo_ctl_acc**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T02:04:01-00.JPG

06.02.2011 02:42 ttflinac **ttflinac@:ADC_RF_win2**

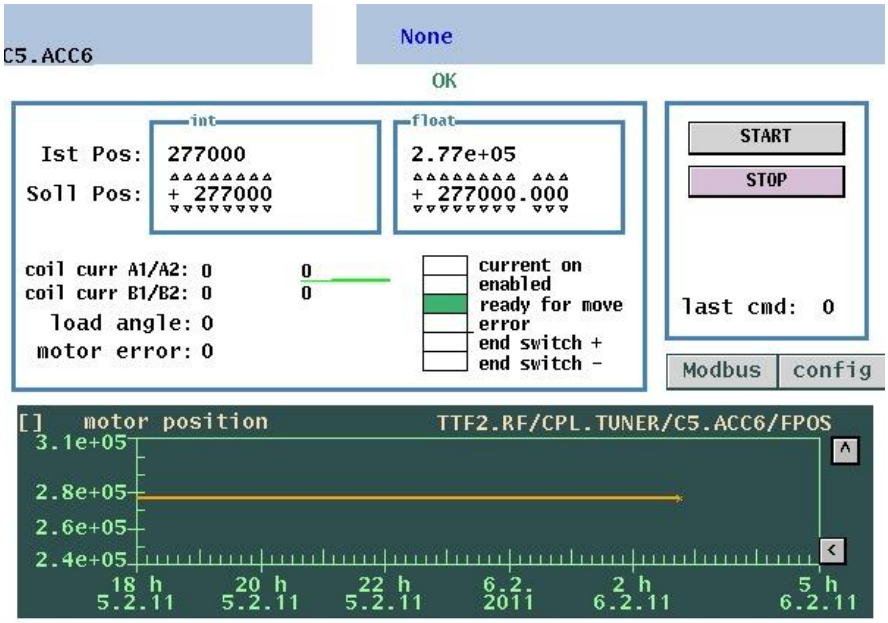


File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T02:42:29-00.JPG

06.02.2011 02:42 **adjusting Ql for ACC6-cav5**

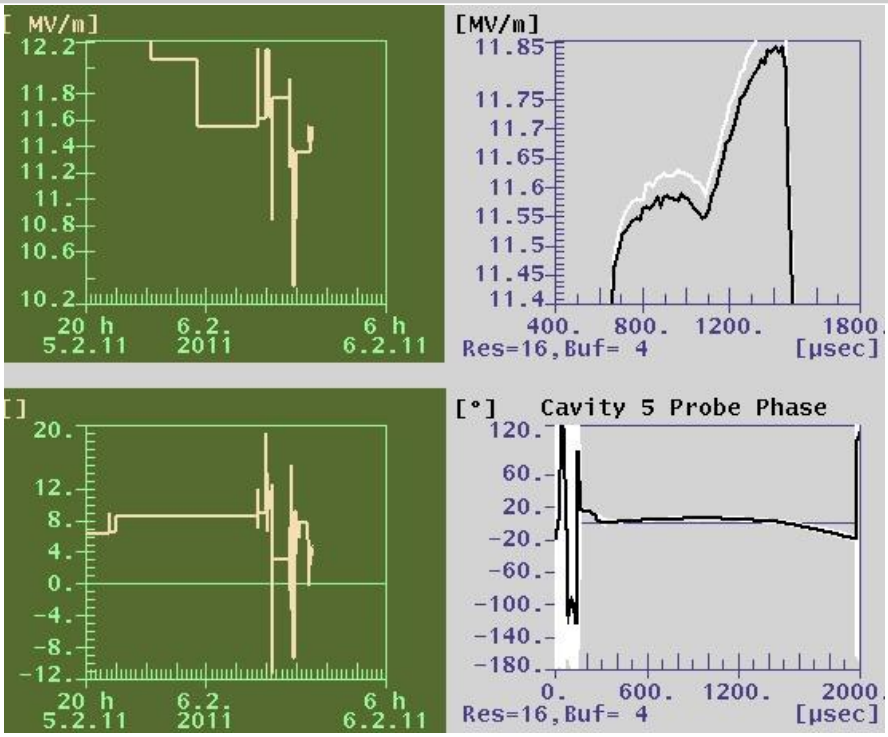
```
Next, we're changing ACC6 cavity 5
initial Ql = 3e6
new Ql = 3.4 e6
```

06.02.2011 02:45 doocsadm **doocsadm@flashbkr4.desy.de:Tuner_KL2531_sec**



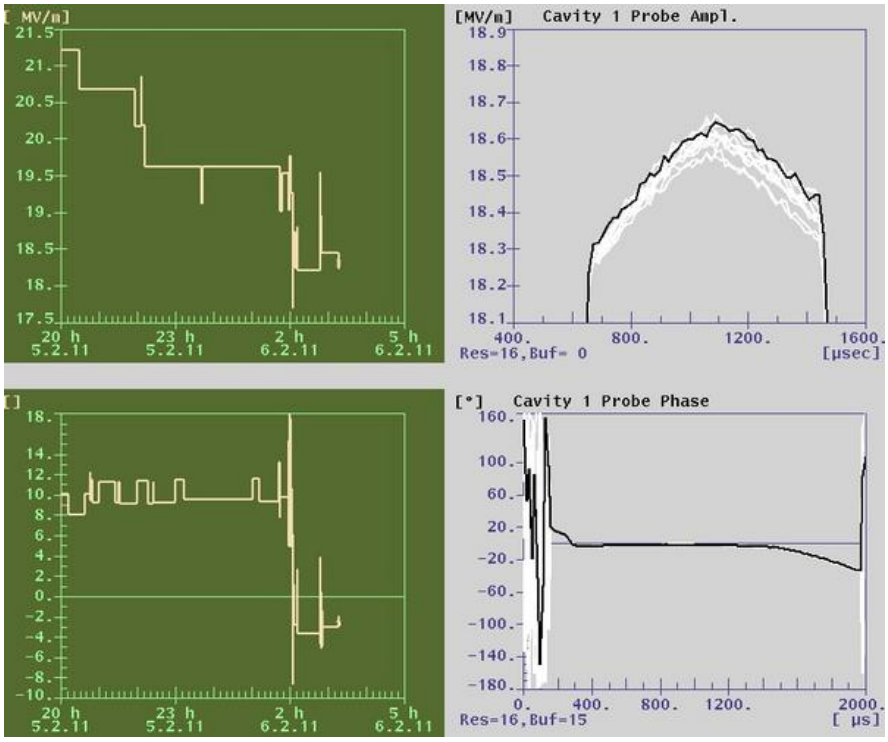
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T02:45:29-00.JPG

06.02.2011 03:07 ttflinac **ttflinac@:ADC_RF_win2**



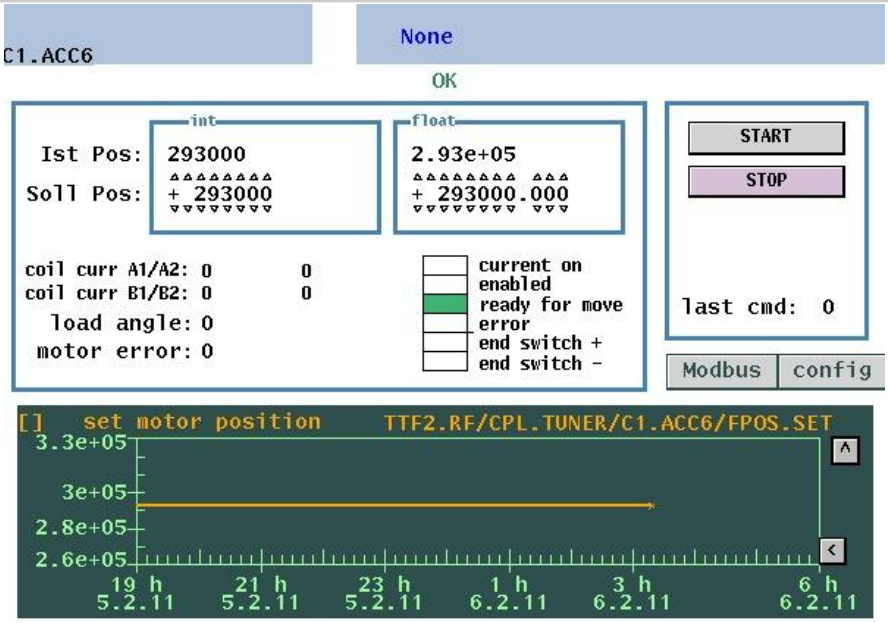
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:29:59-00.JPG

06.02.2011 03:18 ttflinac **ttflinac@:ADC_RF_win2**



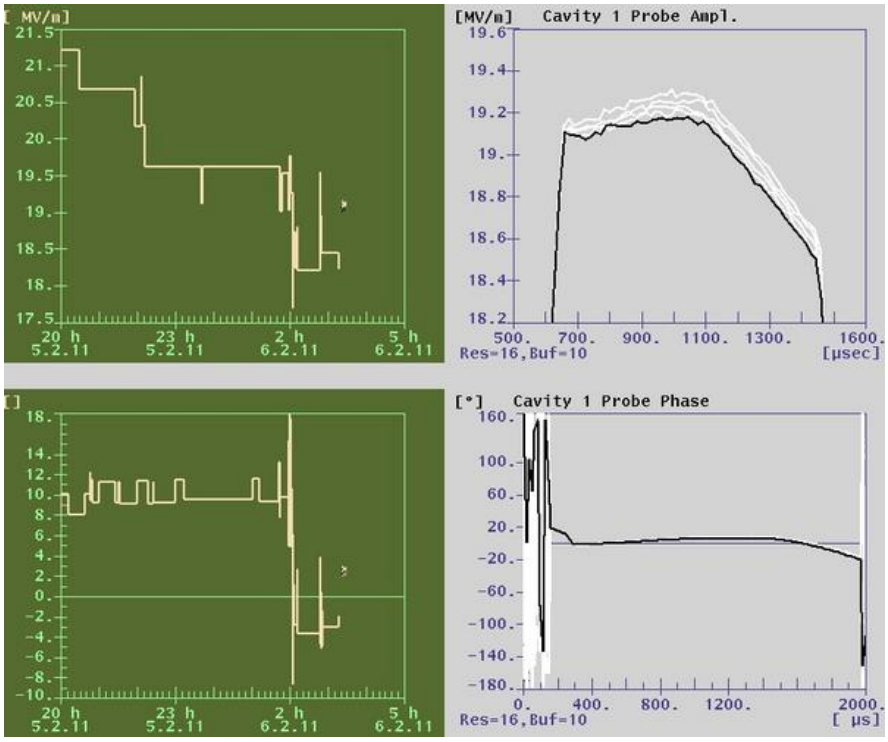
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:18:10-00.JPG

06.02.2011 03:19 doocsadm **doocsadm@flashbkr4.desy.de:Tuner_KL2531_sec**



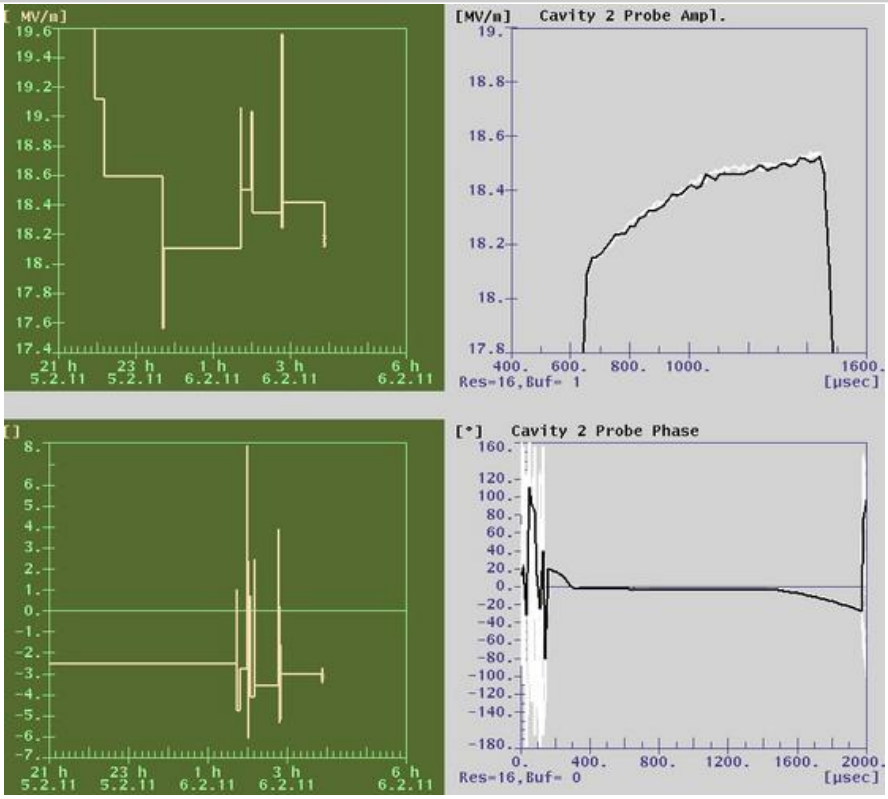
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:19:00-00.JPG

06.02.2011 03:25 ttflinac **ttflinac@:ADC_RF_win2**



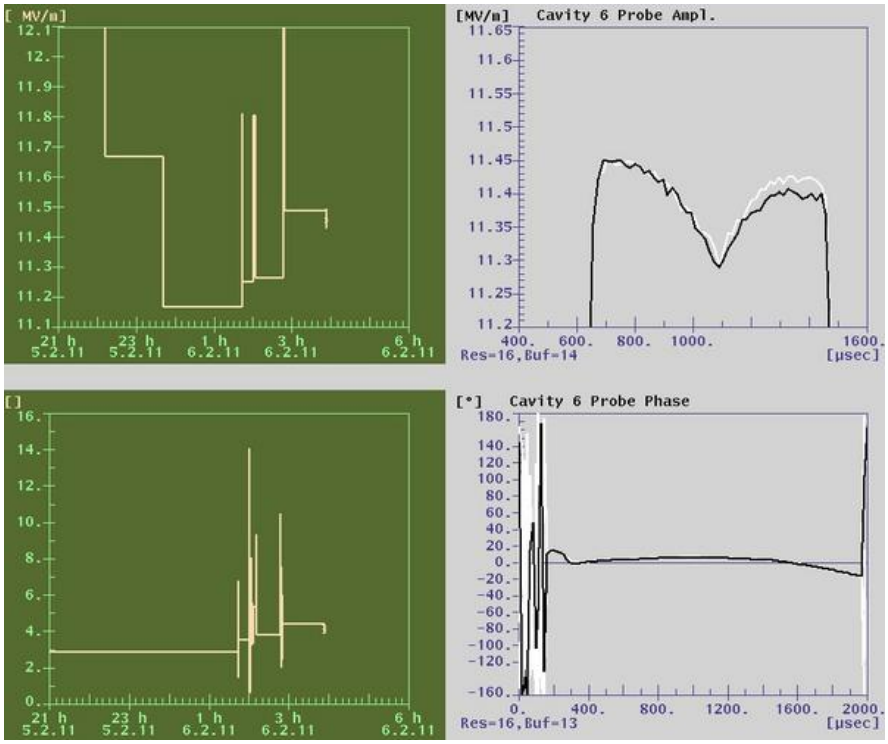
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:25:39-00.JPG

06.02.2011 03:54 ttflinac **ttflinac@:ADC_RF_win2**



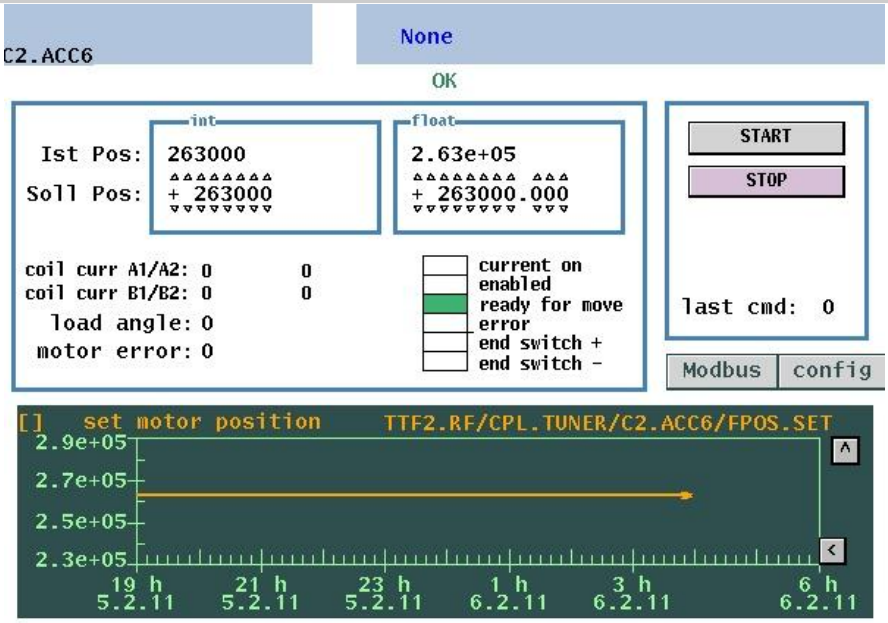
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:54:22-00.JPG

06.02.2011 03:54 ttflinac **ttflinac@:ADC_RF_win2**



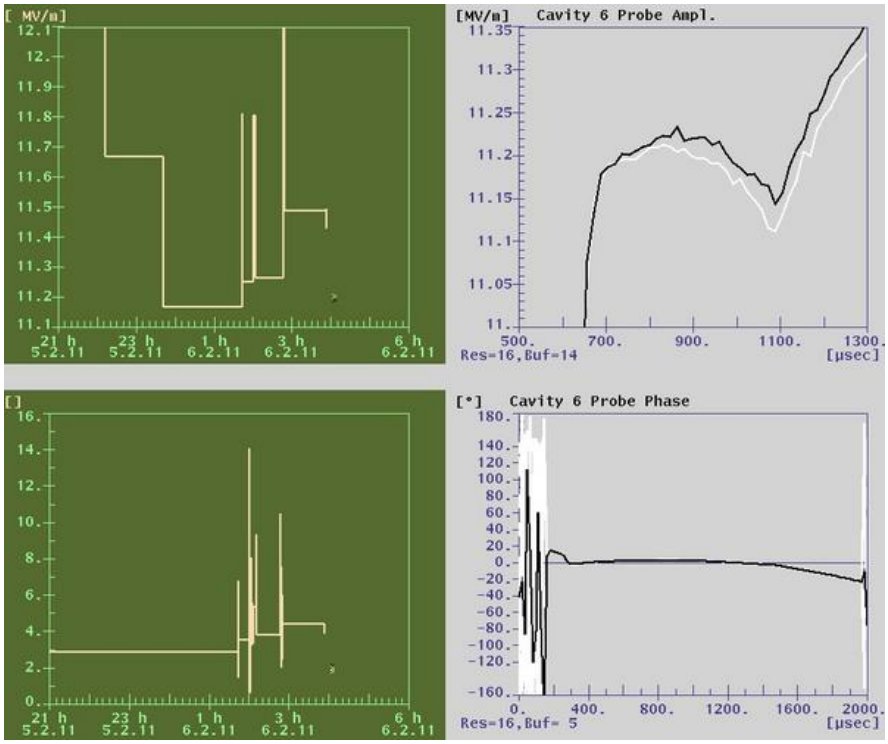
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:54:40-00.JPG

06.02.2011 03:55 doocsadm **doocsadm@flashbkr4.desy.de:Tuner_KL2531_sec**



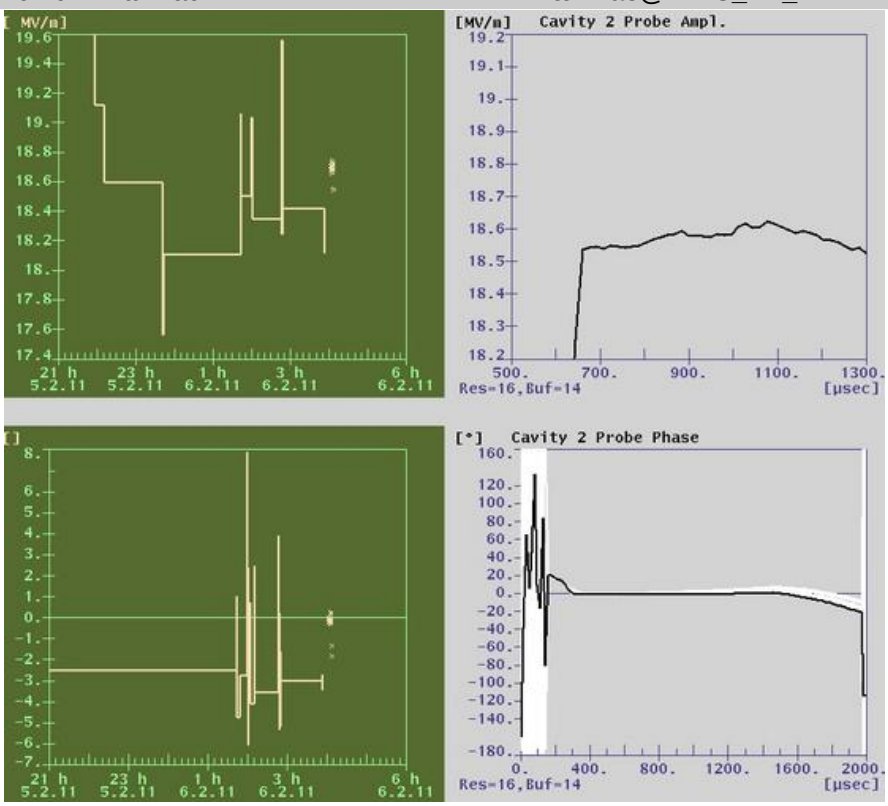
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T03:55:11-00.JPG

06.02.2011 04:06 ttflinac **ttflinac@:ADC_RF_win2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:06:49-00.JPG

06.02.2011 04:07 ttflinac **ttflinac@:ADC_RF_win2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:07:55-00.JPG

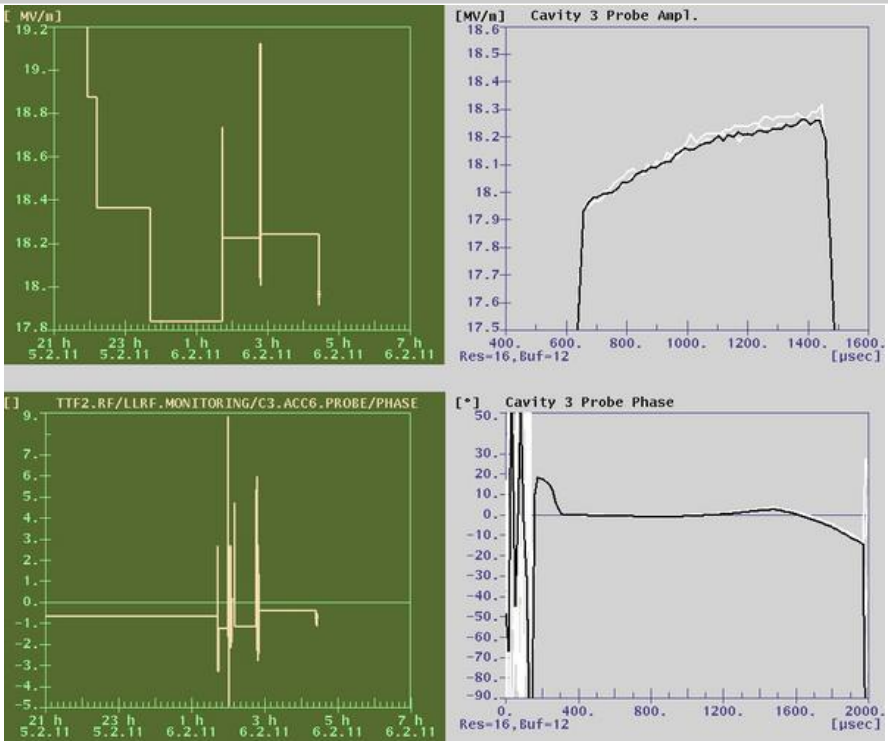
06.02.2011 04:09

```
we adjusted ACC6-cav2: new Ql : 2.9e6
we adjusted ACC6-cav6: new Ql : 3.3e6
```

06.02.2011 04:10

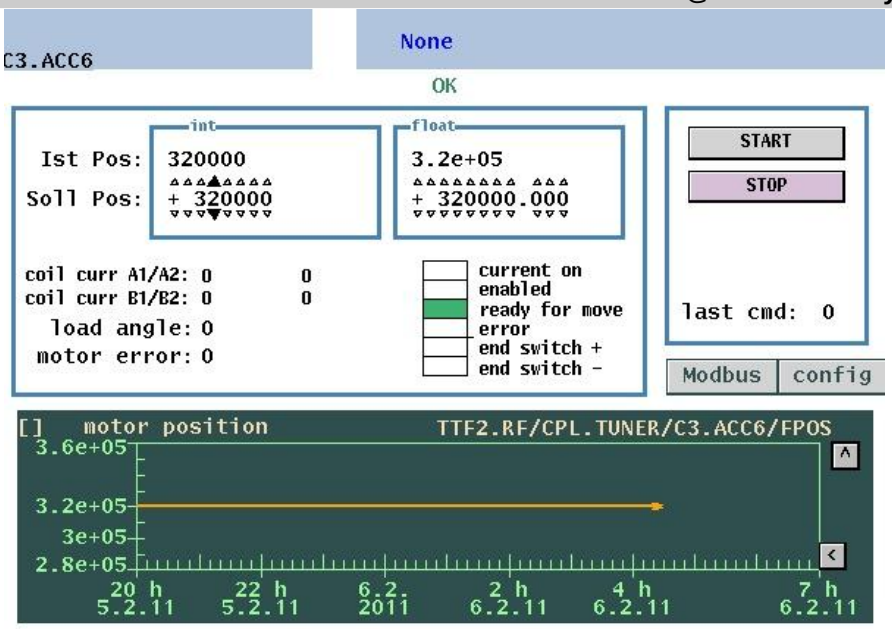
For small beam loading, the cavity tuning is as crucial as the Ql adjustment.

06.02.2011 04:26 ttflinac **ttflinac@:ADC_RF_win2**



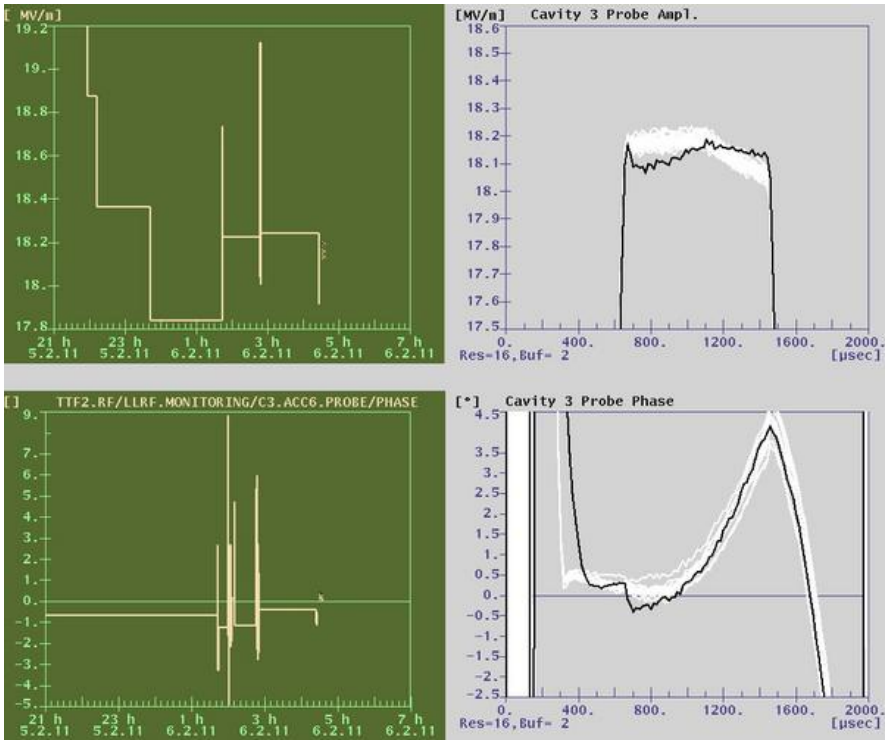
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:26:32-00.JPG

06.02.2011 04:27 doocsadm **doocsadm@flashbkr4.desy.de:Tuner_KL2531_sec**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:27:10-00.JPG

06.02.2011 04:34 ttflinac **ttflinac@:ADC_RF_win2**

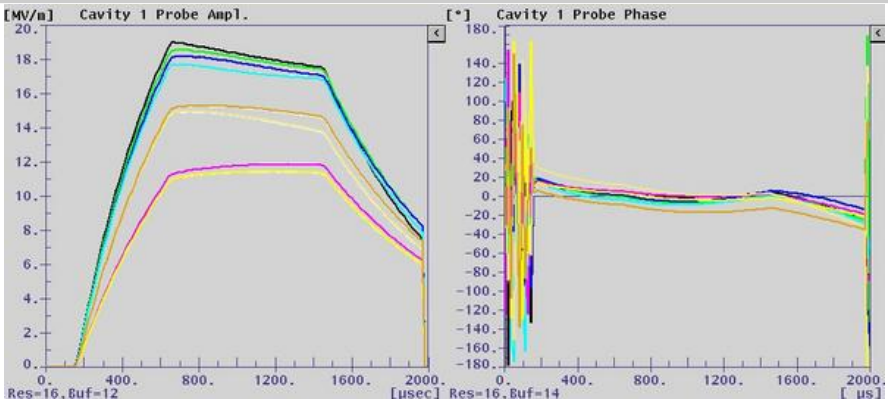


File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:34:10-00.JPG

06.02.2011 04:38 ttflinac

```
we adjusted ACC6-cav3: new Ql --> 2.85e6
```

06.02.2011 04:39 ttflinac **ttflinac@:ACC_win2**

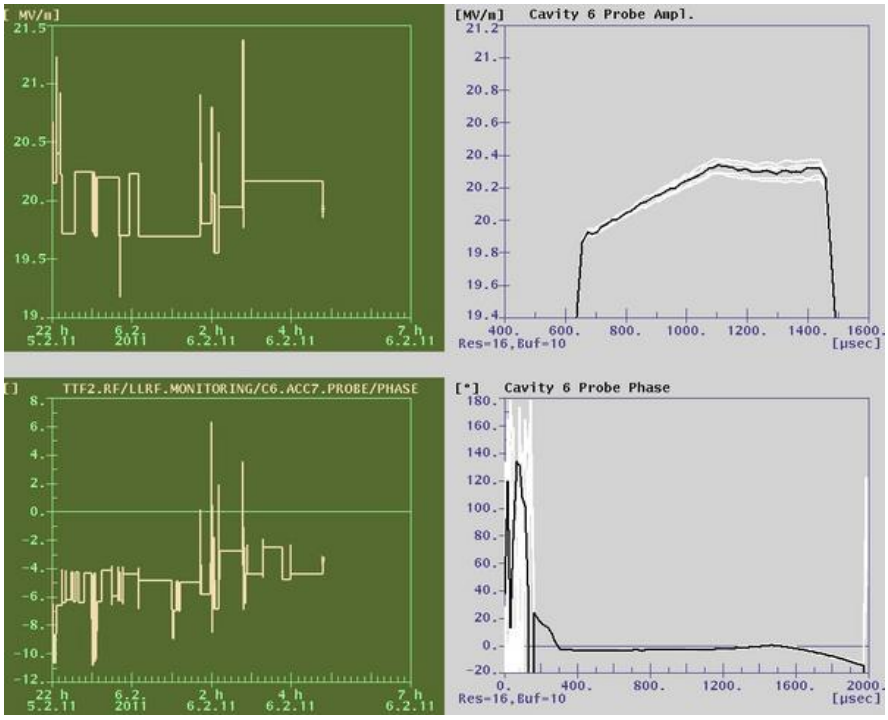


File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:39:58-00.JPG

06.02.2011 04:40 ttflinac

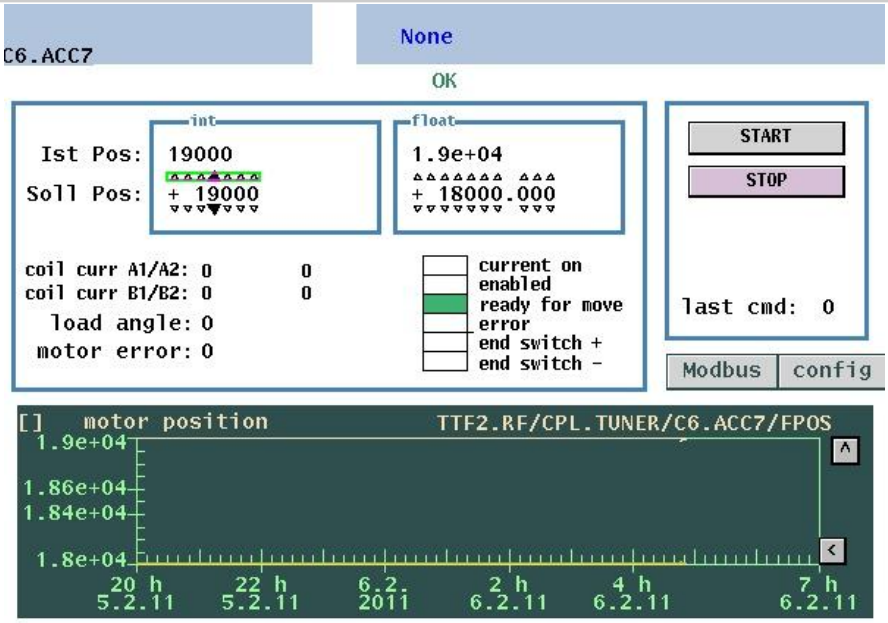
```
beam OFF, feedback OFF to observe the tilts with the new QL settings
```

06.02.2011 04:48 ttflinac **ttflinac@:ADC_RF_win2**



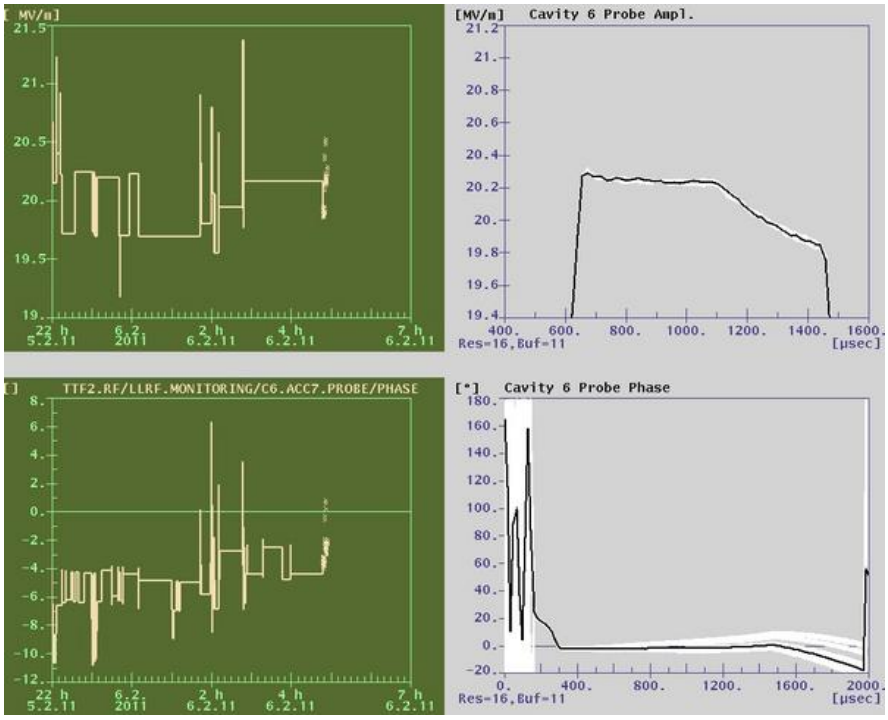
File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:48:57-00.JPG

06.02.2011 04:49 doocsadm **doocsadm@flashbkr4.desy.de:Tuner_KL2531_sec**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:49:49-00.JPG

06.02.2011 04:55 ttflinac **ttflinac@:ADC_RF_win2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T04:55:18-00.JPG

06.02.2011 05:00 ttflinac

we adjusted ACC7-cav6: new QL --> 2.65e6

06.02.2011 05:06 ttflinac

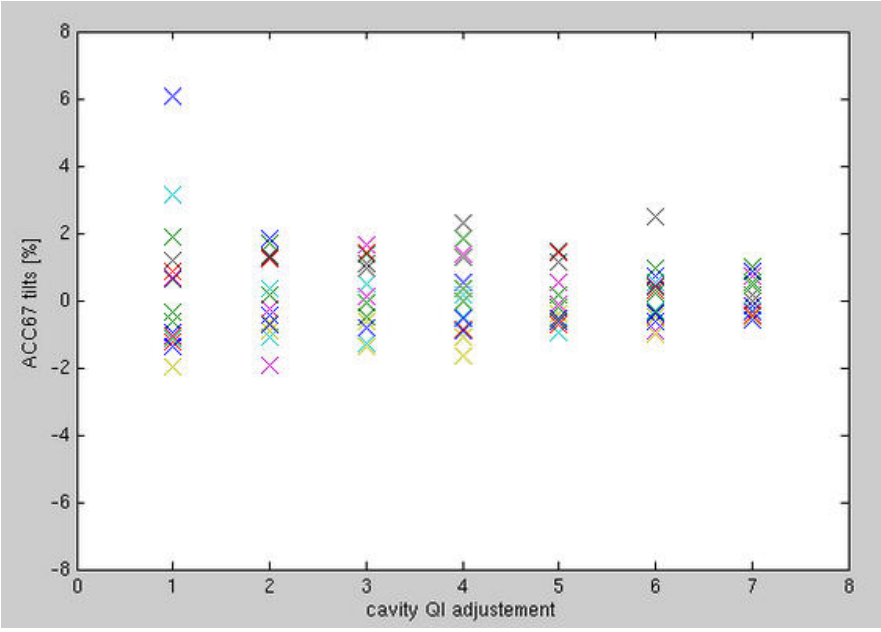
Beam conditions:
1.5nC, 400 bunches
These are the final tilts:

ACC6	cav1	0.87 %	
ACC6	cav2	1.01 %	
ACC6	cav3	0.44 %	
ACC6	cav4	0.70 %	
ACC6	cav5	0.71 %	
ACC6	cav6	-0.17 %	
ACC6	cav7	0.15 %	
ACC6	cav8	-0.17 %	
ACC7	cav1	0.55 %	
ACC7	cav2	-0.43 %	
ACC7	cav3	-0.30 %	
ACC7	cav4	-0.32 %	
ACC7	cav5	-0.50 %	
ACC7	cav6	-0.01 %	
ACC7	cav7	-0.57 %	
ACC7	cav8	0.45 %	

The tilts are all (almost..) under 1%

06.02.2011 05:21 ttflinac

The plot below summarizes the 7 successive corrections of Qls based on simulated values.
The tilt spread went from 8.0% to 1.6%

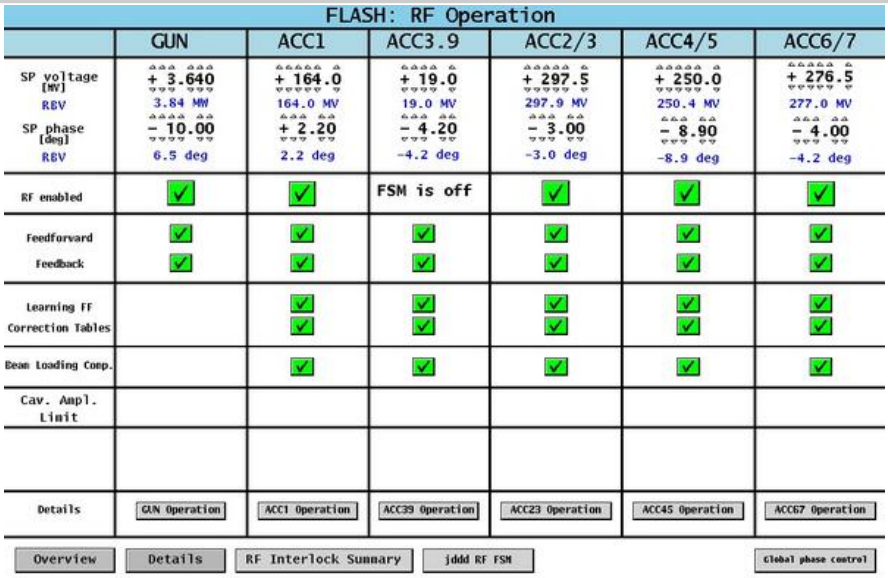


File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T05:21:06-00.png

06.02.2011 05:43 ttflinac

```
These are the times of Ql adjustments:
0:30am   initial conditions
2:13am   ACC6-cav4 (Ql=2.8e6)
3:07am   ACC6-cav5 (Ql=3.4e6)
3:25am   ACC6-cav1 (Ql=2.5e6)
4:08am   ACC6-cav2 (Ql=2.9e6) and ACC6-cav6 (Ql=3.3e6)
4:36am   ACC6-cav3 (Ql=2.85e6)
4:55am   ACC7-cav6 (Ql=2.65e6)
```

06.02.2011 06:18 doocsadm **doocsadm@flashbkr4.desy.de:RF_OPERATION**



FLASH: RF Operation

	GUN	ACC1	ACC3.9	ACC2/3	ACC4/5	ACC6/7
SP voltage [MV]	+ 3.640	+ 164.0	+ 19.0	+ 297.5	+ 250.0	+ 276.5
RBV	3.84 MW	164.0 MV	19.0 MV	297.9 MV	250.4 MV	277.0 MV
SP phase [deg]	- 10.00	+ 2.20	- 4.20	- 3.00	- 8.90	- 4.00
RBV	6.5 deg	2.2 deg	-4.2 deg	-3.0 deg	-8.9 deg	-4.2 deg
RF enabled	✓	✓	FSM is off	✓	✓	✓
Feedforward	✓	✓	✓	✓	✓	✓
Feedback	✓	✓	✓	✓	✓	✓
Learning FF		✓	✓	✓	✓	✓
Correction Tables		✓	✓	✓	✓	✓
Beam Loading Comp.		✓	✓	✓	✓	✓
Cav. Ampl. Limit						
Details	GUN Operation	ACC1 Operation	ACC39 Operation	ACC23 Operation	ACC45 Operation	ACC67 Operation

Overview | Details | RF Interlock Summary | jddd RF FSM | Global phase control

File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T06:18:44-00.JPG

06.02.2011 06:20 ttflinac **Main linac parameters**

shift documentation

Laser

```
Number of bunches ...... 400
Bunch frequency ........ 1000 kHz
Macropulse rep'rate .... 10.0 Hz
Pump time_3 ............ 0.0030 ms
Pump current_3 ......... 5.00 V
Pre-amp start time ..... 2.42 ms
Booster start time ..... 2.68 ms
```

Gun

```
Feedforward/Feedback ... on/on
FSM .................... on
Pfwd SP ................ 3.64
VS ampl. ............... 18.32
Phase SP ............... -10.00 deg
VS phase ............... 6.51 deg
Pfwd (peak) ............ 3.847 MW
```

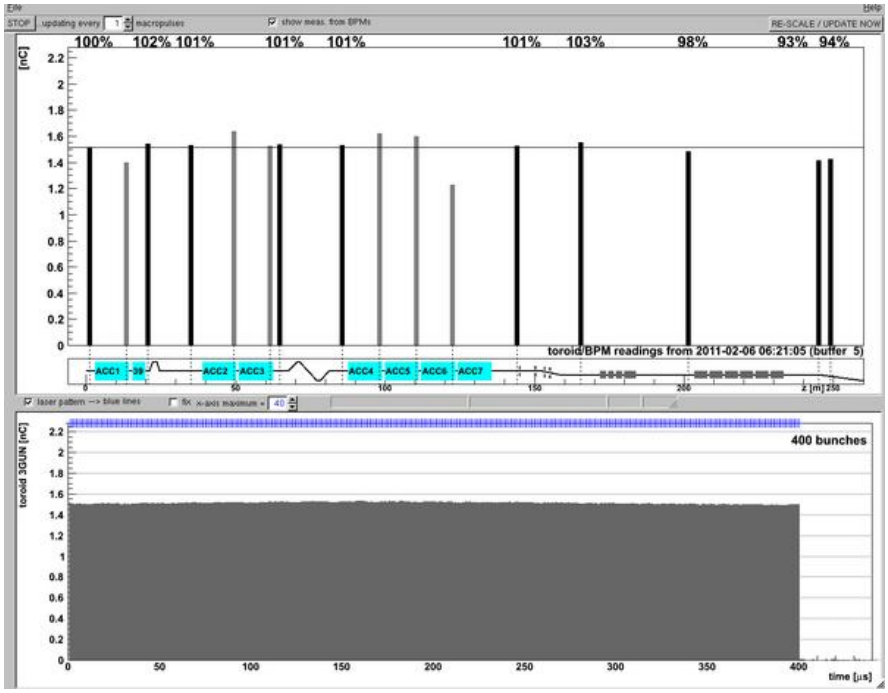
```
Attenuator SP .......... 5.39                  Prefl (peak) ........... 2.929 MW
Iris diameter .......... 17072 steps           Pfwd sample point ...... 700
Iris diameter .......... 2.39 mm               Pfwd (at sample point) . 18.315 MW
                                               Prefl sample point ..... 720
                                               Prefl (at sample point)  5.654 MW
                                               Flat top ............... 460 us
                                               Water temperature SP ... 72.75 deg C
                                               Main solenoid (RBV) .... -301.04 A
                                               Bucking coil (RBV) ..... 20.70 A
                                               Gun dipole (RBV) ....... 0.000 A
                                               Charge 3GUN(T1) ........ 1.51 nC
                                               DC kicker delay ........ 6.80 ms
                                               DC kicker HV ........... not local
                                               DC kicker HV ........... disabled
                                               DC kicker HV ........... off
                                               DC kicker SP ........... 60.00 V
                                               DC kicker start ........ 124.00 ns
ACC1                                           ACC39
Feedforward/Feedback ... on/on                 Feedforward/Feedback ... on/on
Feedback gain .......... 2.0                   Feedback gain .......... 10.0
Pfwd SP ................ 164.00               Pfwd SP ................ 19.00
Pfwd RBV ............... 164.07               Phase SP ............... -4.20 deg
Phase SP ............... 2.20 deg             Pfwd C1.ACC39 .......... <error>
Phase RBV .............. 2.26 deg             Flat top ............... 800 us
Pfwd C1.ACC1 ........... 187.5 kW
Pfwd C5.ACC1 ........... 179.2 kW
Flat top ............... 800 us
Dipole BC2 (RBV) ....... 73.11 A
Pyro 9DBC2.1 ........... -0.0324 V
Radiator 9DBC2 ......... out
Slow phase feedback .... off
Slow ph. FB target/gain  -0.400/-0.1
Slow ph. FB pyrodet.used Pyro 9DBC2.1 (fine, old ADC)
ACC2/3                                         ACC4/5
Feedforward/Feedback ... on/on                 Feedforward/Feedback ... on/on
Feedback gain .......... 2.0                   Feedback gain .......... 40.0
Pfwd SP ................ 297.50               Pfwd SP ................ 250.00
Pfwd RBV ............... 297.78               Pfwd RBV ............... 250.24
Phase SP ............... -3.00 deg            Phase SP ............... -8.90 deg
Phase RBV .............. -3.04 deg            Phase RBV .............. -8.93 deg
Pfwd C5.ACC2 ........... 126.01 kW            Pfwd C1.ACC4 ........... 116.14 kW
Pfwd C1.ACC3 ........... 218.78 kW            Pfwd C2.ACC5 ........... 90.47 kW
Flat top ............... 450 us               Pfwd C1.ACC6 ........... 0.61 kW
Dipole BC3 (RBV) ....... 56.00 A               Flat top ............... 800 us
Pyro 4DBC3.1 ........... -0.0086 V
Pyro 4DBC3.3 ........... 0.0016 V
Radiator 4DBC3 ......... out
ACC6/7                                         Bypass
Feedforward/Feedback ... on/on                 Dipole D1BYP (RBV) ..... 0.00 A
Feedback gain .......... 50.0                  Energy bypass .......... 1211.4 MeV
Pfwd SP ................ 276.50               RF vector sum ALL ...... 686.2 MeV
Pfwd RBV ............... 276.59               Charge 16BYP ........... 0.00 nC
Phase SP ............... -4.00 deg
Phase RBV .............. -4.04 deg
Pfwd C1.ACC6 ........... 156.30 kW
Pfwd C1.ACC7 ........... 178.19 kW
Flat top ............... 800 us
Collimator                                     Undulator
Dipole D1ECOL (RBV) .... 176.89 A              1SFUND1 gap RBV ........ 220.0 mm
Energy dogleg .......... 995.5 MeV             1SFUND2 gap RBV ........ 220.0 mm
Charge 7ORS ............ 1.55 nC               1SFUND3 gap RBV ........ 220.0 mm
                                               1SFUND4 gap RBV ........ 180.0 mm
Dump                                           Feedbacks
Dipole D9SMATCH (RBV) .. 0.00 A                Charge feedback gain ... <error>
Dipole D1DUMP (RBV) .... 0.00 A                Charge feedback SP ..... <error>
Dipole D6DUMP (RBV) .... 210.09 A              PTO feedback ........... on
Rotator RD13DUMP (RBV) . 9.13 A
Charge 9DUMP ........... 1.42 nC
Photon beamline
Aperture 1 ............ 10 mm
Offset h/v ............ 0/-1 mm
Aperture 2 ............ 10 mm
Offset h/v ............ 1/0 mm
```

```
Status saved in machine file 2011-02-06T06_19_52+01
Orbit reference for the root tool saved in /home/ttflinac/measurements/xy_jitter/2011-02-06T061952
```

```
also in 'save and restore' files:
Magnets saved to: /home/ttflinac/save_restore/Magnets/autosaved/all_Magnets_20110206T061952.sr
uMovers saved to: /home/ttflinac/save_restore/Micromovers/autosaved/uMovers_20110206T061952.sr
from computer: flashbkr4.desy.de
```

06.02.2011 06:21 ttflinac **toroid charge readings**

We returned the machine to its original state (i.e. brought all Qls to their initial value of 3e6 and adjusted detuning)



File: http://ttfinfo.desy.de/TTFelog/data/2011/05/05.02_n/2011-02-06T06:21:30-00.ps