? 07.02.2011 15:00 oracle **Shift summary**

07.02.2011 15:01 ttflinac **SASE tuning parameters**

Misc. parameters

```
Energy / Wavelength: 999.08 MeV / 6.3 nm
Charge:              1.34 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	+164.10	+19.00	+297.50	+345.00	+183.50
Readback	3.85	164.1	18.5	296.5	345.8	181.2
Phase	-10.30	+2.40	+114.00	-3.00	-8.90	-5.00
on-crest		-1.0		-3.0	-5.0	-0.0
Readback	5.0	2.4	114.0	-2.6	-8.3	-3.8

Undulator steerers and aircoils

H7SMATCH	H12SMATCH
+0.454	**-1.988**

V7SMATCH	V12SMATCH
-0.103	**-1.988**

Intra-undulator steerers

H3UND1	H3UND2	H3UND3	H3UND4	H3UND5	H3UND6
-4.90	**-4.30**	**-4.90**	**-4.70**	**-4.90**	**-5.00**

07.02.2011 15:02 ttflinac **Main linac parameters**

shift documentation

Laser

```
Number of bunches ...... 30
Bunch frequency ........ 3000 kHz
Macropulse rep'rate .... 5.0 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 .......... 5.62
Iris diameter .......... 17088 steps
Iris diameter .......... 2.36 mm
```

Gun

```
Feedforward/Feedback ... on/on
FSM .................... on
Pfwd SP ................ 3.64
VS ampl. ............... 18.38
Phase SP ............... -10.30 deg
VS phase ............... 4.93 deg
Pfwd (peak) ............ 3.849 MW
Prefl (peak) ........... 2.840 MW
Pfwd sample point ...... 700
Pfwd (at sample point) . 18.379 MW
Prefl sample point ..... 720
Prefl (at sample point)  5.775 MW
Flat top ............... 460 us
Water temperature SP ... 72.32 deg C
Main solenoid (RBV) .... -301.04 A
Bucking coil (RBV) ..... 20.70 A
Gun dipole (RBV) ....... 0.000 A
Charge 3GUN(T1) ........ 1.33 nC
DC kicker delay ........ 6.80 ms
DC kicker HV ........... not local
DC kicker HV ........... enabled
DC kicker HV ........... on
DC kicker SP ........... 0.00 V
DC kicker start ........ 124.00 ns
```

ACC1

```
Feedforward/Feedback ... on/on
Feedback gain .......... 2.0
Pfwd SP ................ 164.10
Pfwd RBV ............... 164.12
Phase SP ............... 2.40 deg
Phase RBV .............. 2.40 deg
Pfwd C1.ACC1 ........... 183.0 kW
Pfwd C5.ACC1 ........... 175.9 kW
Flat top ............... 800 us
Dipole BC2 (RBV) ....... 73.11 A
Pyro 9DBC2.1 ........... -0.0683 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 .......... 4.0
Pfwd SP ................ 19.00
Phase SP ............... 114.00 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 ............... 296.34
Phase SP ............... -3.00 deg
Phase RBV .............. -2.60 deg
```

ACC4/5

```
Feedforward/Feedback ... on/on
Feedback gain .......... 40.0
Pfwd SP ................ 345.00
Pfwd RBV ............... 345.86
Phase SP ............... -8.90 deg
Phase RBV .............. -8.31 deg
```

```
Pfwd C5.ACC2 ........... 128.59 kW
Pfwd C1.ACC3 ........... 224.88 kW
Flat top ............... 450 us
Dipole BC3 (RBV) ....... 56.00 A
Pyro 4DBC3.1 ........... -0.0090 V
Pyro 4DBC3.3 ........... 0.0020 V
Radiator 4DBC3 ......... out
```

ACC6/7

```
Feedforward/Feedback ... on/on
Feedback gain .......... 50.0
Pfwd SP ................ 183.50
Pfwd RBV ............... 181.01
Phase SP ............... -5.00 deg
Phase RBV .............. -3.77 deg
Pfwd C1.ACC6 ........... 118.90 kW
Pfwd C1.ACC7 ........... 131.51 kW
Flat top ............... 800 us
```

Collimator

```
Dipole D1ECOL (RBV) .... 176.89 A
Energy dogleg .......... 999.1 MeV
Charge 7ORS ............ 1.29 nC
```

Dump

```
Dipole D9SMATCH (RBV) .. 0.00 A
Dipole D1DUMP (RBV) .... 0.00 A
Dipole D6DUMP (RBV) .... 209.60 A
Rotator RD13DUMP (RBV) . 9.13 A
Charge 9DUMP ........... 1.13 nC
```

Photon beamline

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

```
Pfwd C1.ACC4 ........... 164.06 kW
Pfwd C2.ACC5 ........... 172.51 kW
Pfwd C1.ACC6 ........... 0.61 kW
Flat top ............... 800 us
```

Bypass

```
Dipole D1BYP (RBV) ..... 0.00 A
Energy bypass .......... 1211.4 MeV
RF vector sum ALL ...... 777.8 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
```

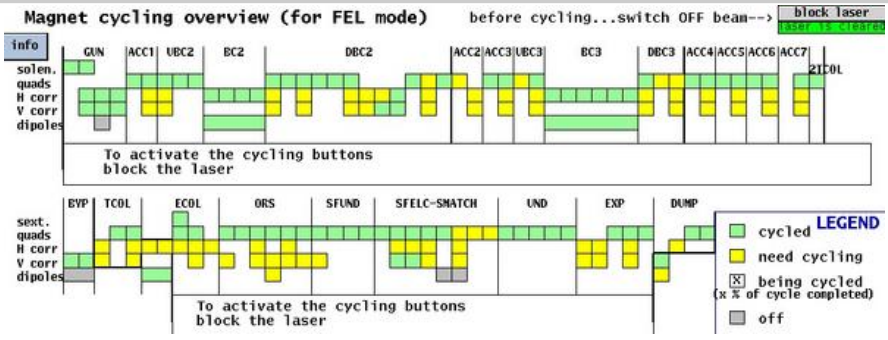
Feedbacks

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

```
Status saved in machine file 2011-02-07T15_01_37+01
Orbit reference for the root tool saved in /home/ttflinac/measurements/xy_jitter/2011-02-07T150137
```

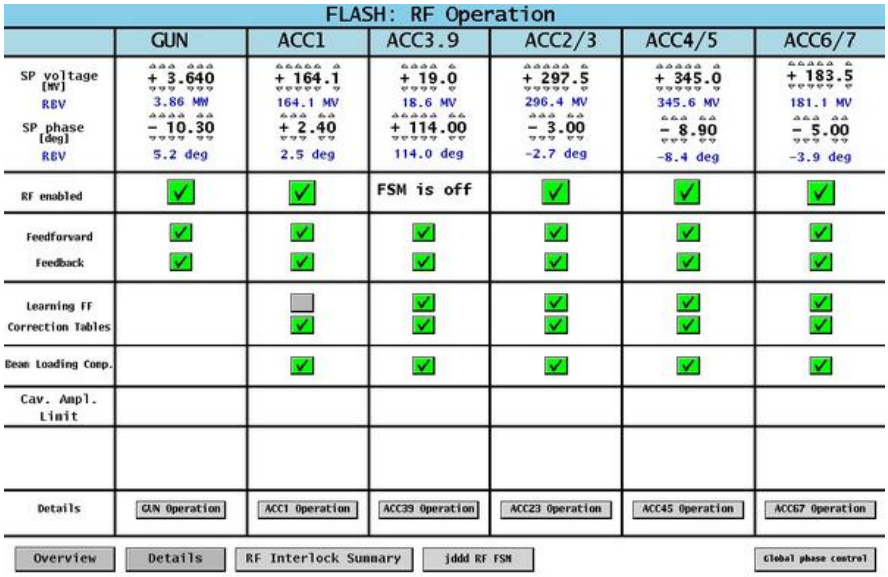
```
also in 'save and restore' files:
Magnets saved to: /home/ttflinac/save_restore/Magnets/autosaved/all_Magnets_20110207T150137.sr
uMovers saved to: /home/ttflinac/save_restore/Micromovers/autosaved/uMovers_20110207T150137.sr
from computer: flashbkr1
```

07.02.2011 15:02 ttflinac **ttflinac@:magnet_cycle_overview_fel**



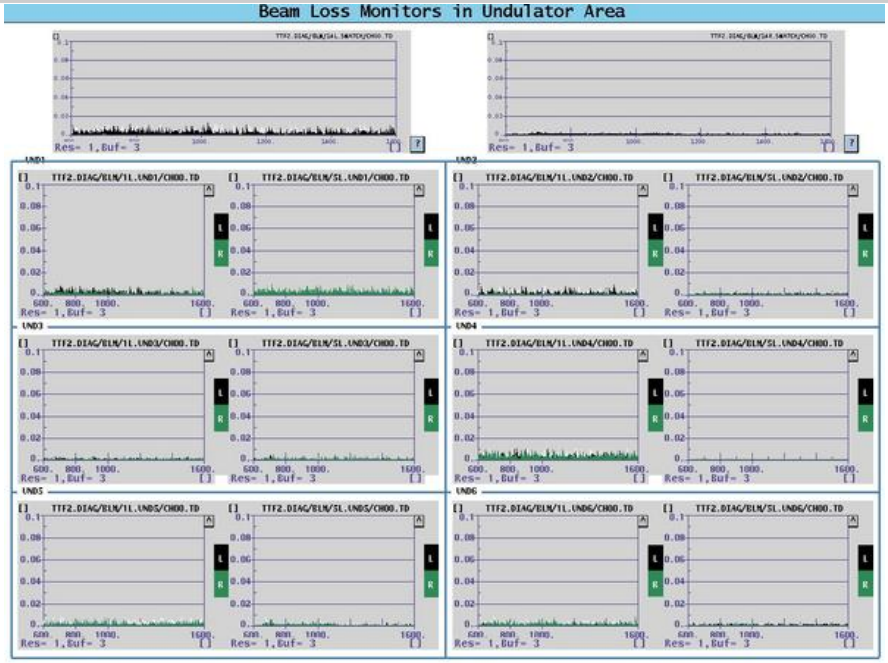
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:02:32-00.JPG

07.02.2011 15:02 ttflinac **ttflinac@:RF_OPERATION**



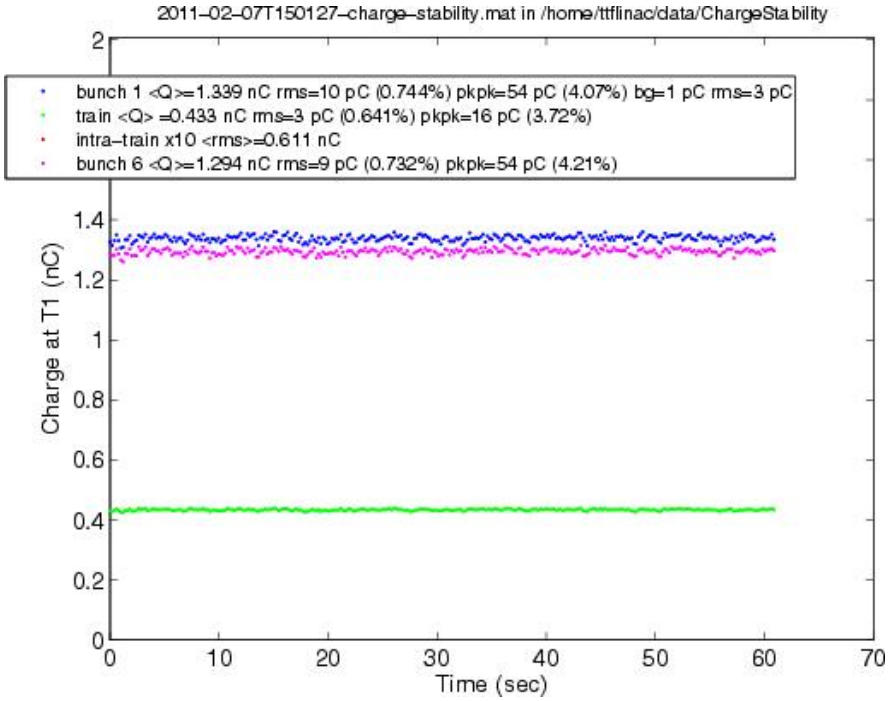
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:02:39-00.JPG

07.02.2011 15:02 ttflinac **ttflinac@:BLM_UNDULATORS**



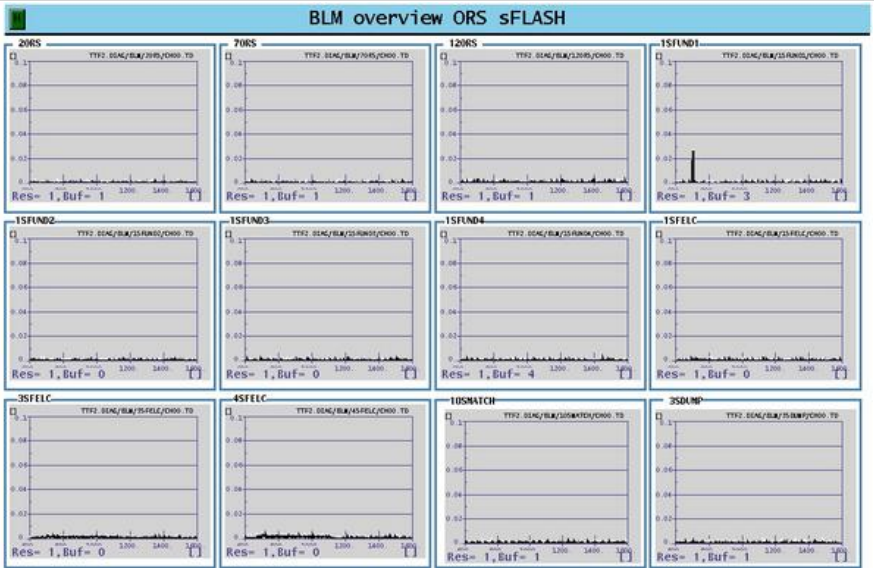
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:02:48-00.JPG

07.02.2011 15:03 ttflinac **tp2dcbc00b_2474_44bf_b964_2c608e0f04bc.ps**



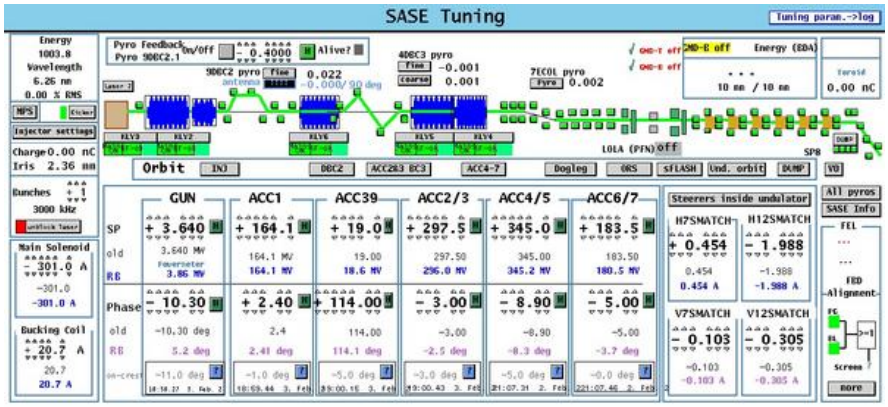
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:03:05-00.ps

07.02.2011 15:03 ttflinac **ttflinac@:blm_overview_ORS**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:03:11-00.JPG

07.02.2011 15:03 ttflinac **ttflinac@:SASE_tuning**

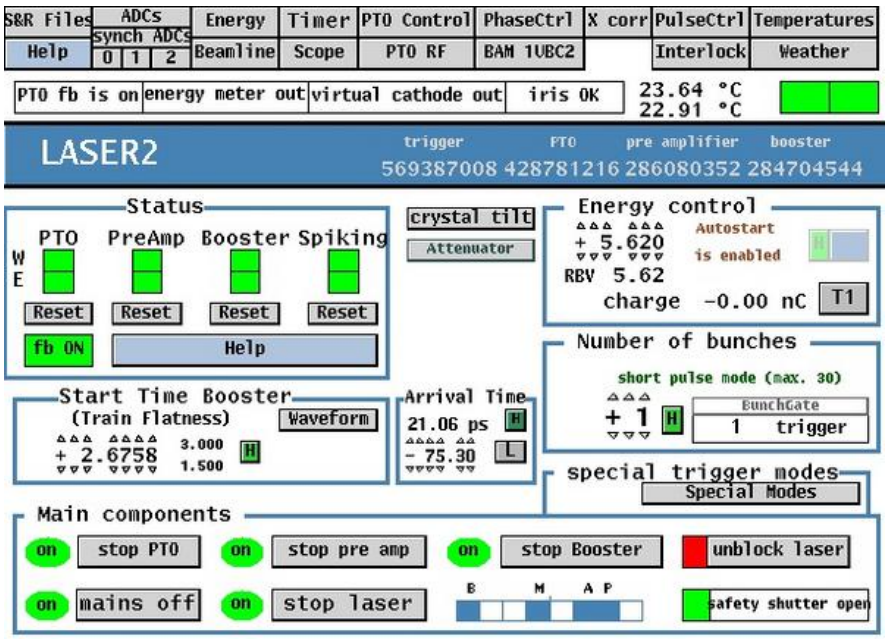


File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:03:43-00.JPG

07.02.2011 15:03 ttflinac **ttflinac@:dose_und**

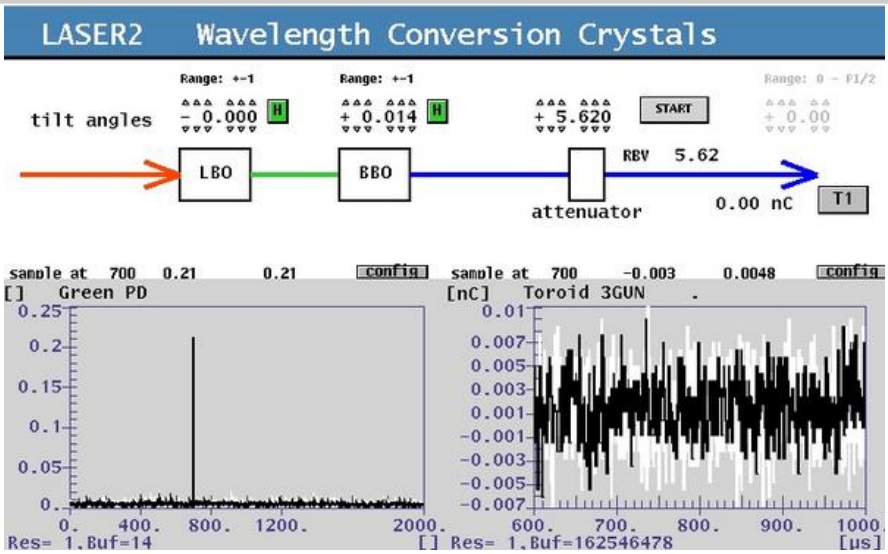
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:03:53-00.JPG

07.02.2011 15:04 ttflinac **ttflinac@:laser2_control**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:04:12-00.JPG

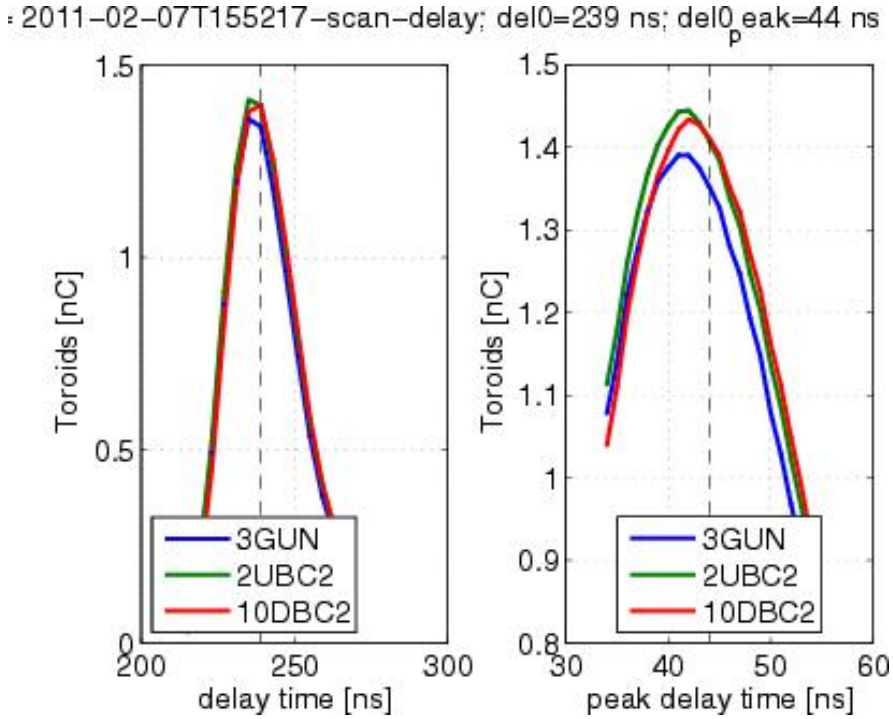
07.02.2011 15:04 ttflinac **End of shift documentation**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T15:04:23-00.JPG

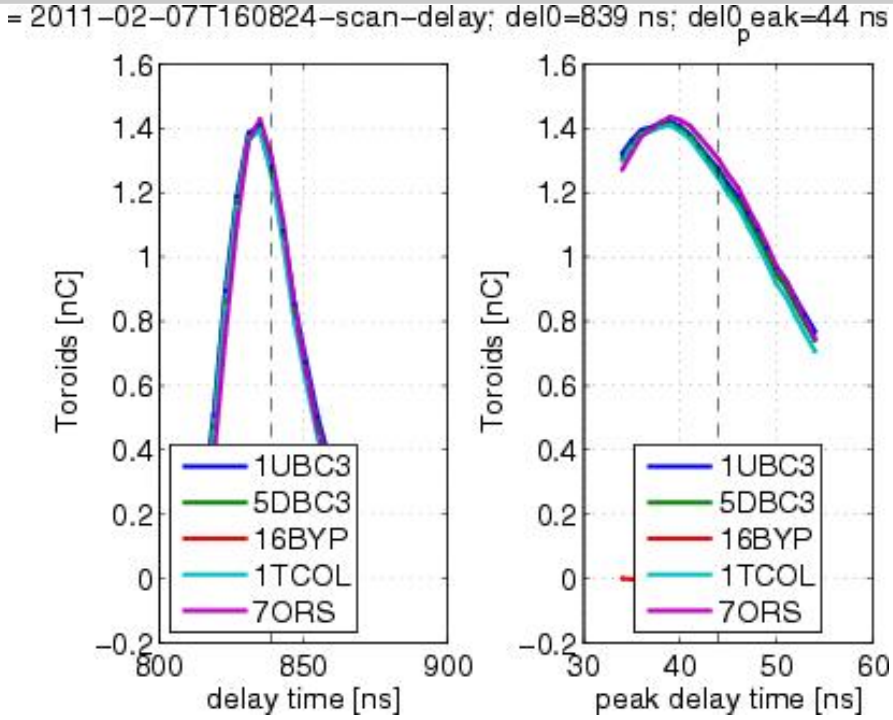
07.02.2011 16:02 S. Schreiber **Toroid timing scan**

```
the scan tells us, that the timing is not exactly as it was
235 instead of 239, 42 instead of 44 ns so a total of 2 ns
```



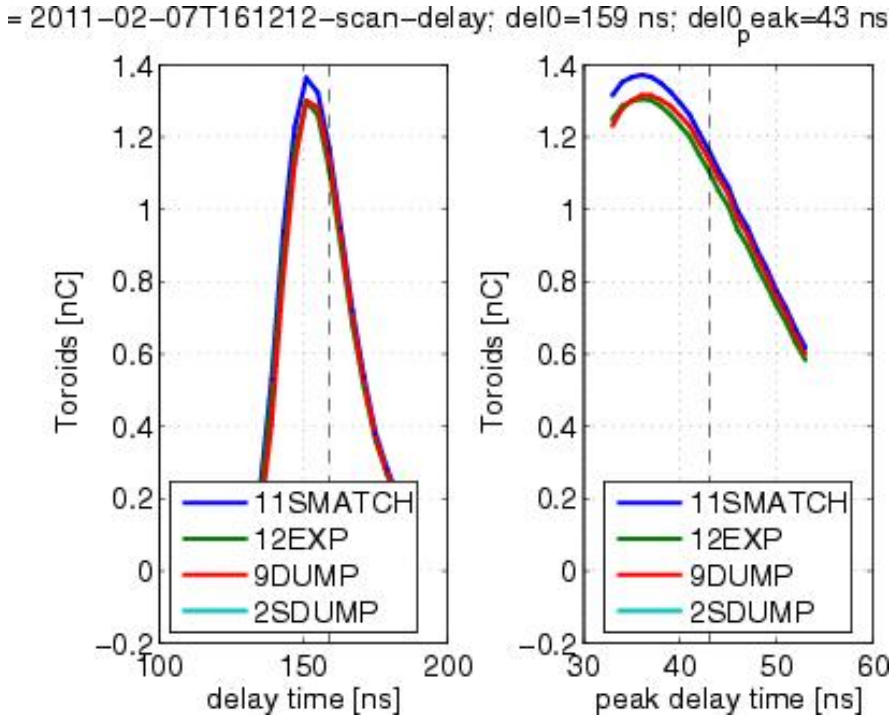
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:02:25-00.ps

07.02.2011	16:11	ttflinac	**Toroid timing scan**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:11:38-00.ps

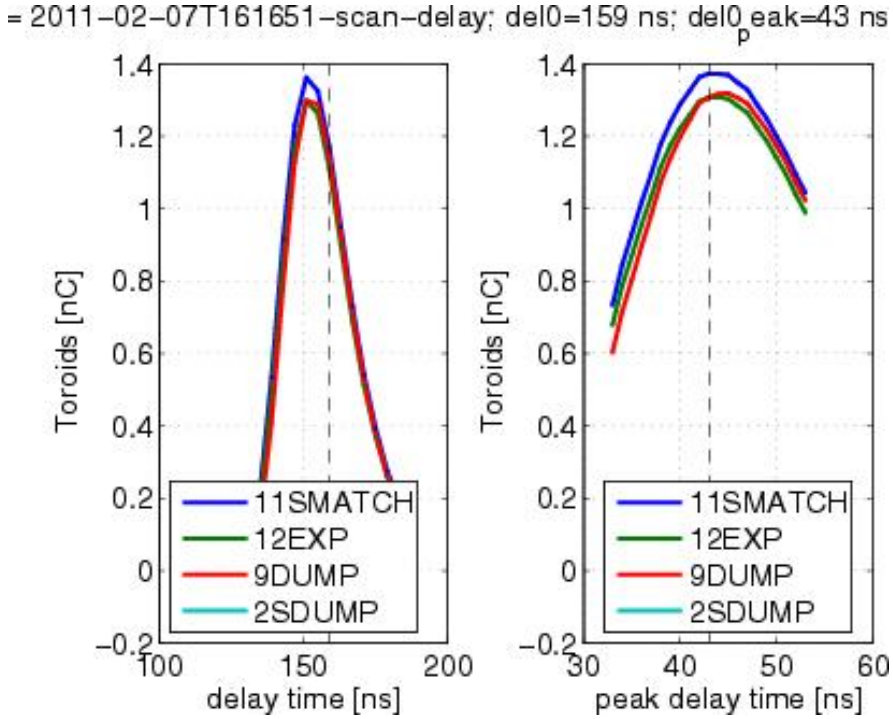
07.02.2011	16:15	ttflinac	**Toroid timing scan**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:15:29-00.ps

07.02.2011 16:20 S. Schreiber, Z. Pisarov **Toroid timing scan**

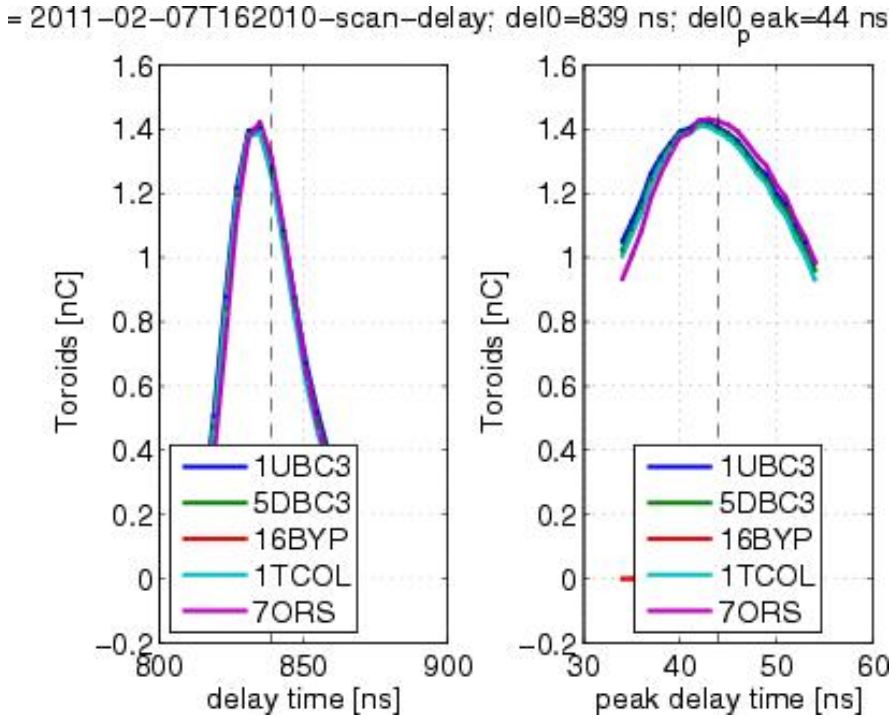
new 151/43



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:20:05-00.ps

07.02.2011 16:23 S. Schreiber, Z. Pisarov **Toroid timing scan**

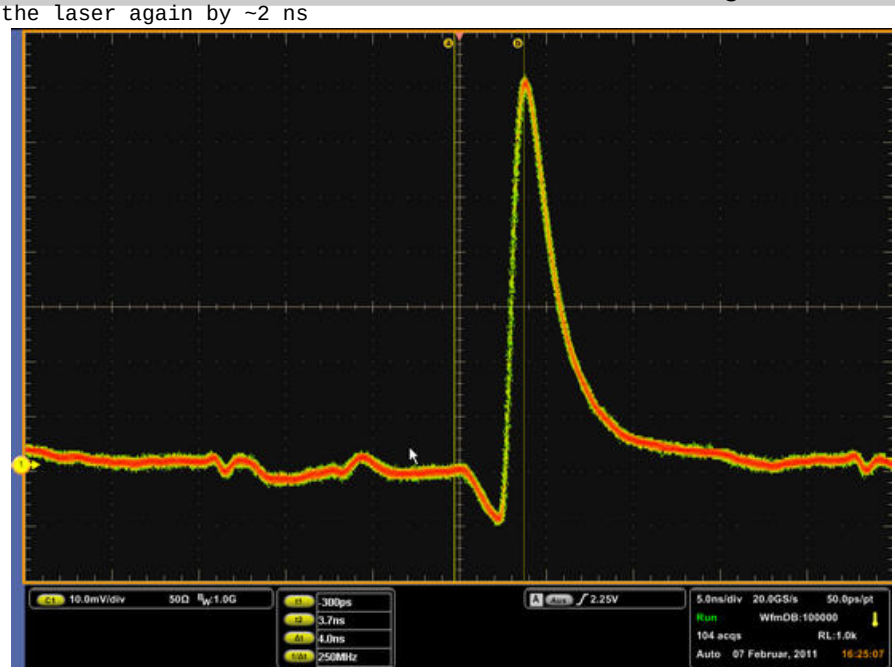
new 835/43



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:23:41-00.ps

07.02.2011 16:25 S. Schreiber, Z. Pisarov **Laser 2 timing**

before we move the laser again by ~2 ns

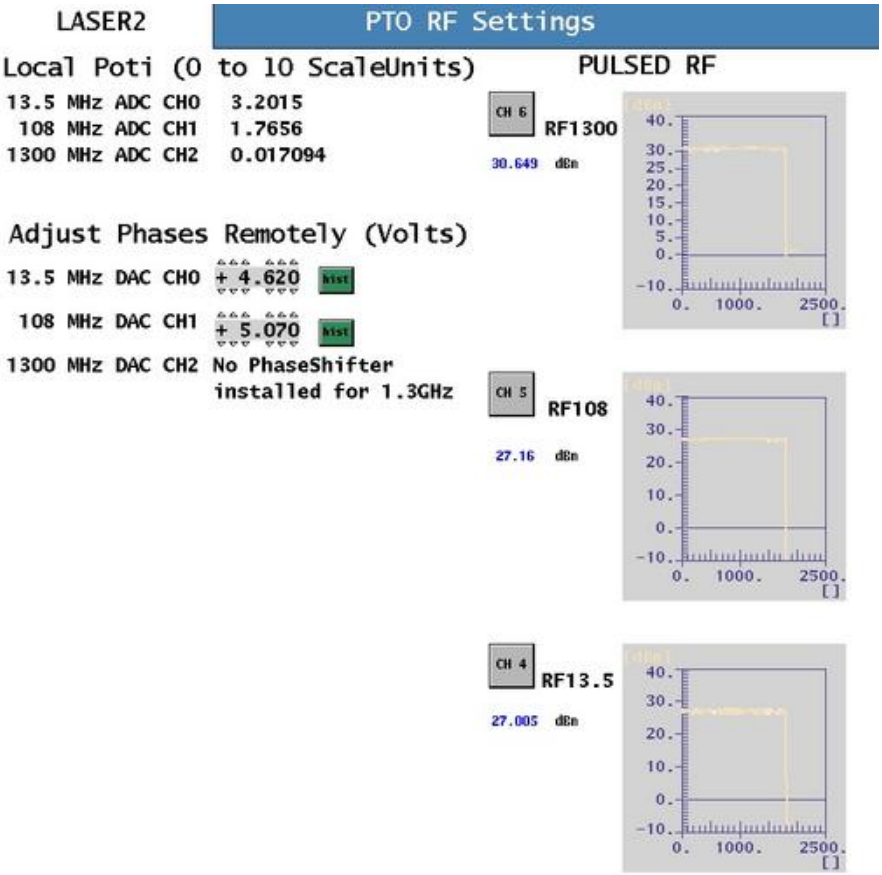


File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:25:13-00.png

07.02.2011 16:37 S. Schreiber, Z. Pisarov **laser PTO RF**

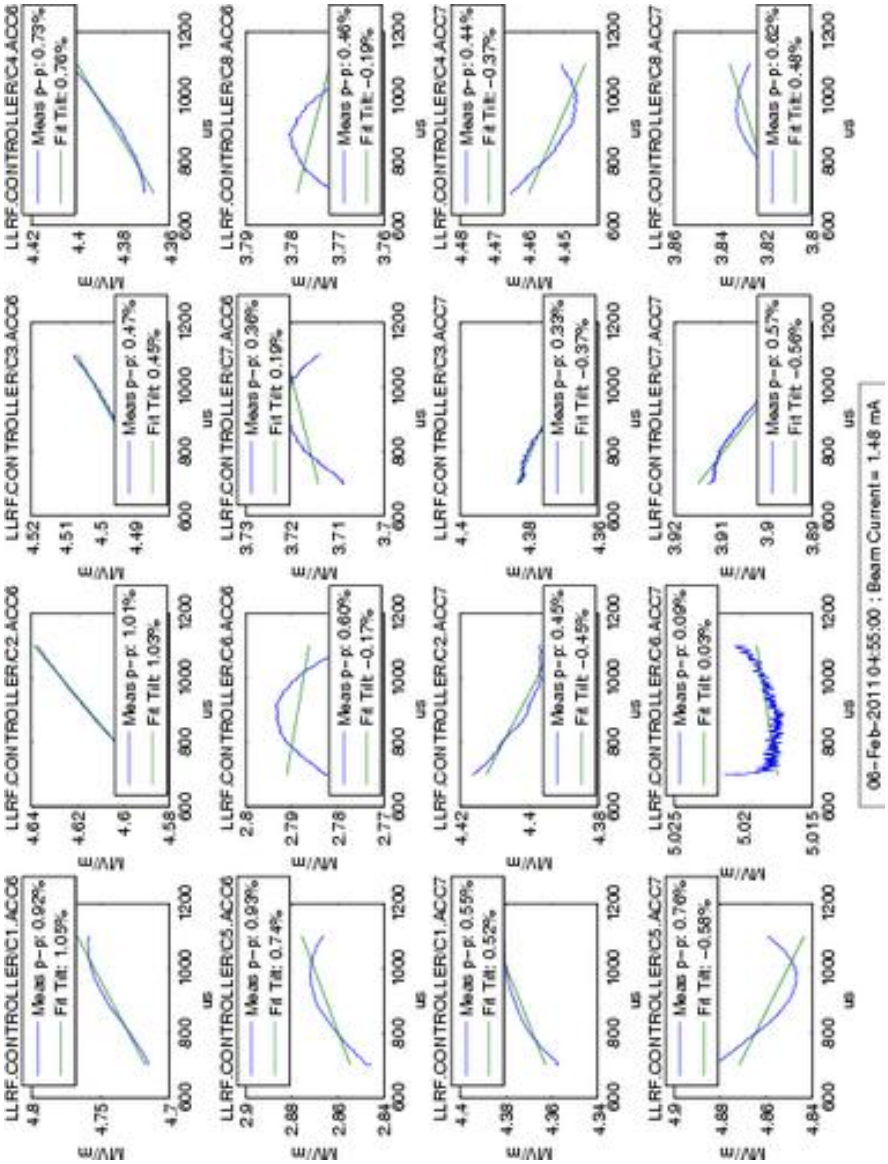
13.5 MHz phase moved from 4.5 to 4.65 to bring the laser into the measurement range of the X correlator

the laser is assumed to be within picoseconds modulo 217 MHz (4.5 ns) where it was before



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:37:28-00.JPG

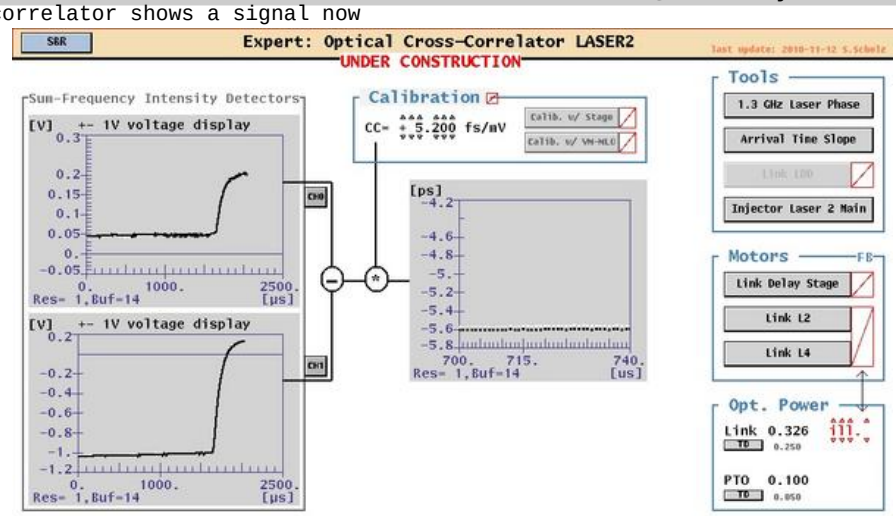
07.02.2011 16:38 ttflinac **tp6756ccc8_0999_4d70_8c96_a5c05054e837.ps**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:38:43-00.ps

07.02.2011 16:39 S. Schreiber, Z. Pisarov **ttflinac@:OXC_InjectorLaser2_Expert**

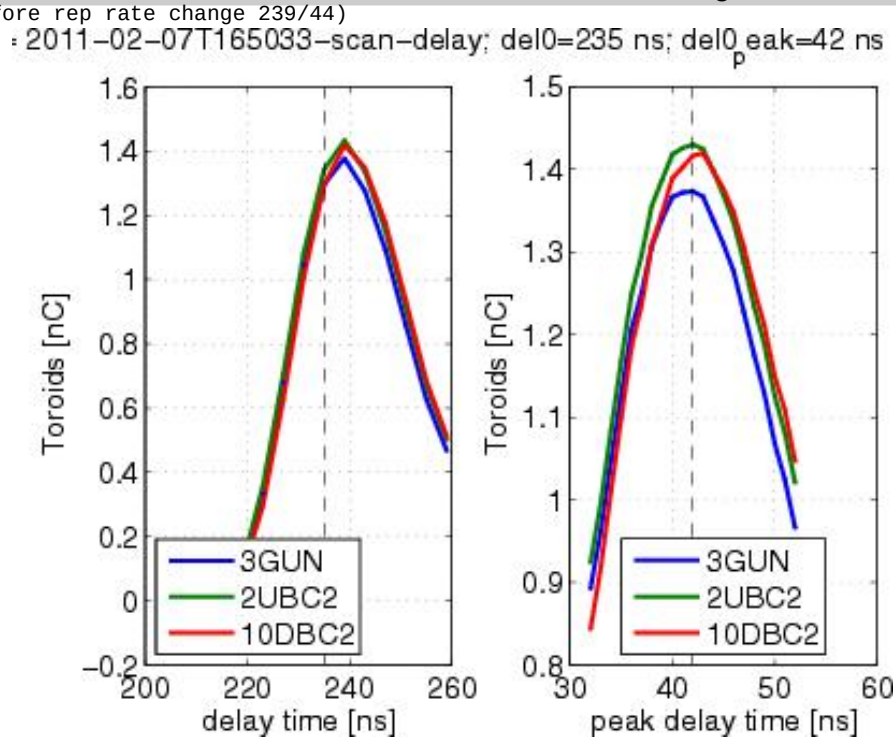
optical cross correlator shows a signal now



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:39:07-00.JPG

07.02.2011 16:53 S. Schreiber, Z. Pisarov **Toroid timing scan**

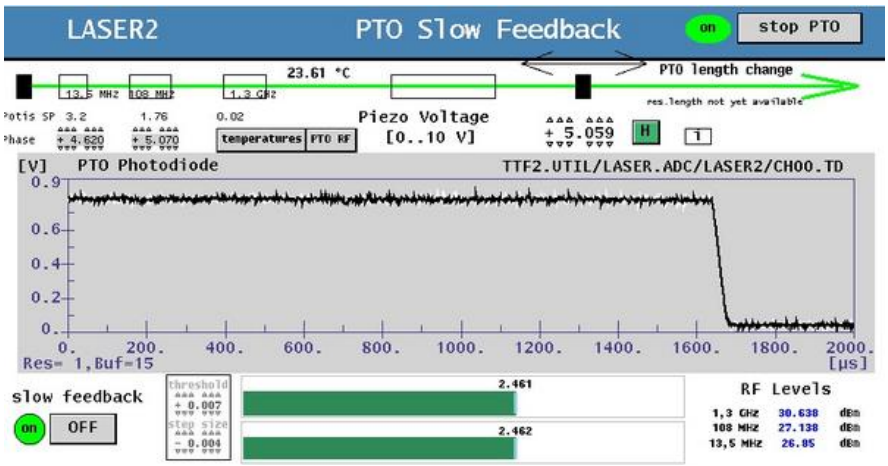
new 239/42 (before rep rate change 239/44)



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:53:37-00.ps

07.02.2011 16:54 S. Schreiber **laser 2 Resonator_Lenght**

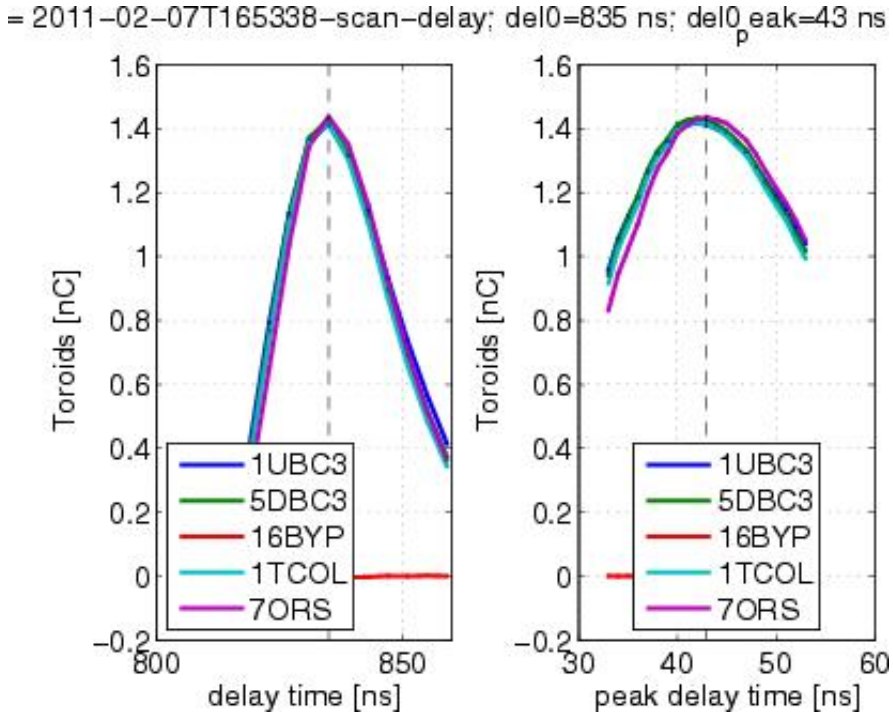
Piezo voltage from 4.3 to 5.0



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:54:39-00.JPG

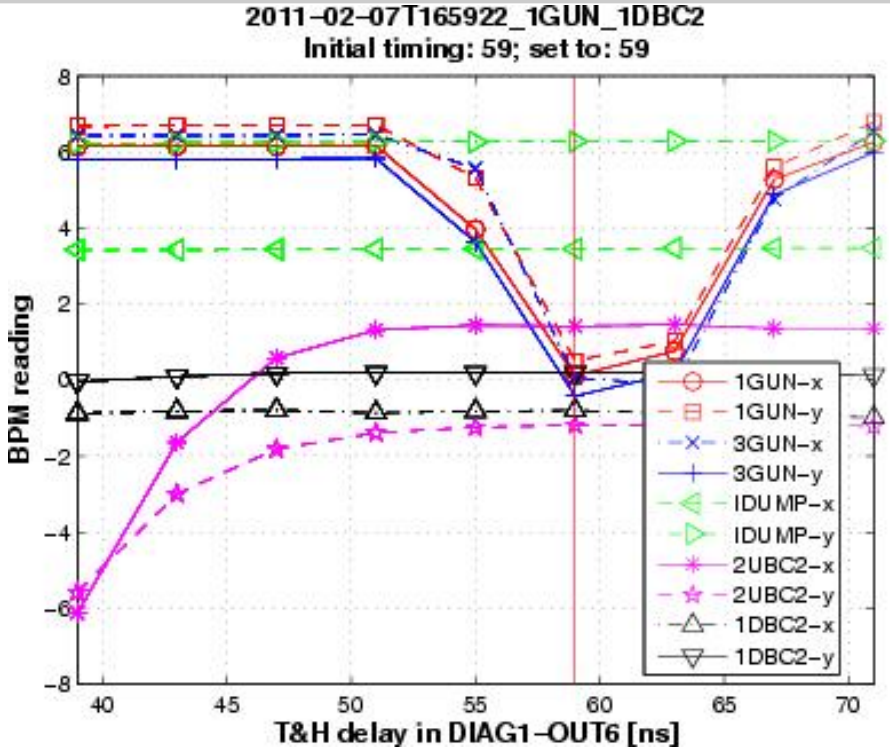
07.02.2011 16:56 S. Schreiber, Z. Pisarov **Toroid timing scan**

keep 835/43



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:56:57-00.ps

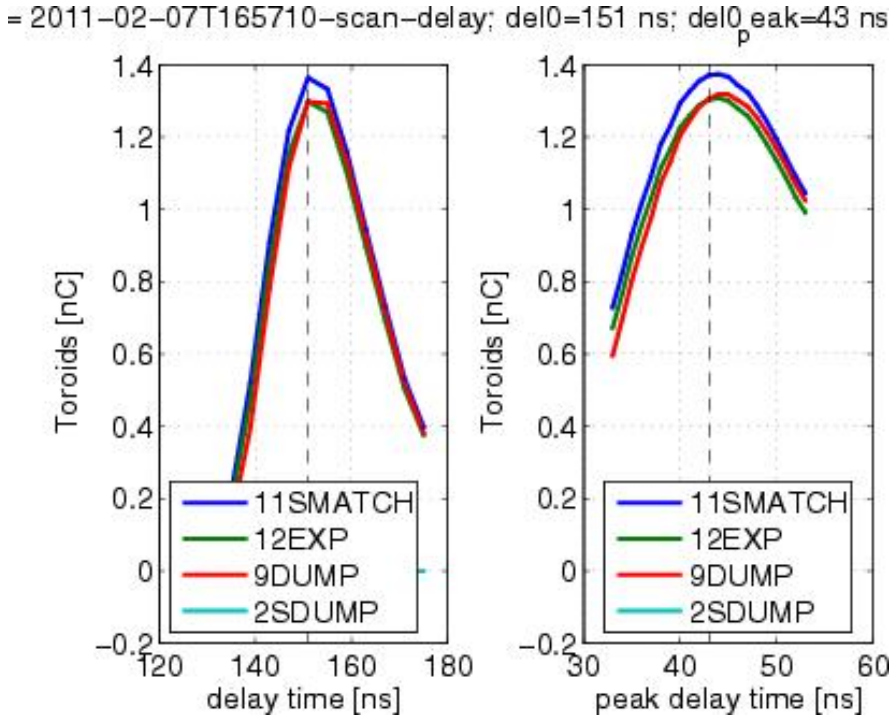
07.02.2011	16:59	ttflinac	**Trigger delay scan for BPMs 1GUN - 1DBC2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T16:59:44-00.ps

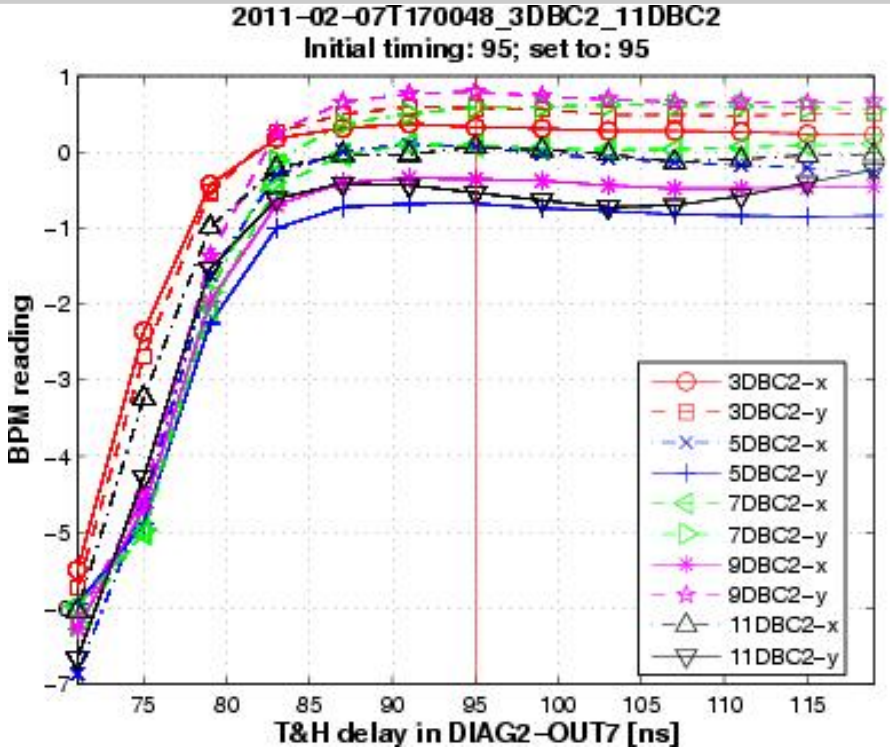
07.02.2011	17:00	S. Schreiber, Z. Pisarov	**Toroid timing scan**

new 151/44



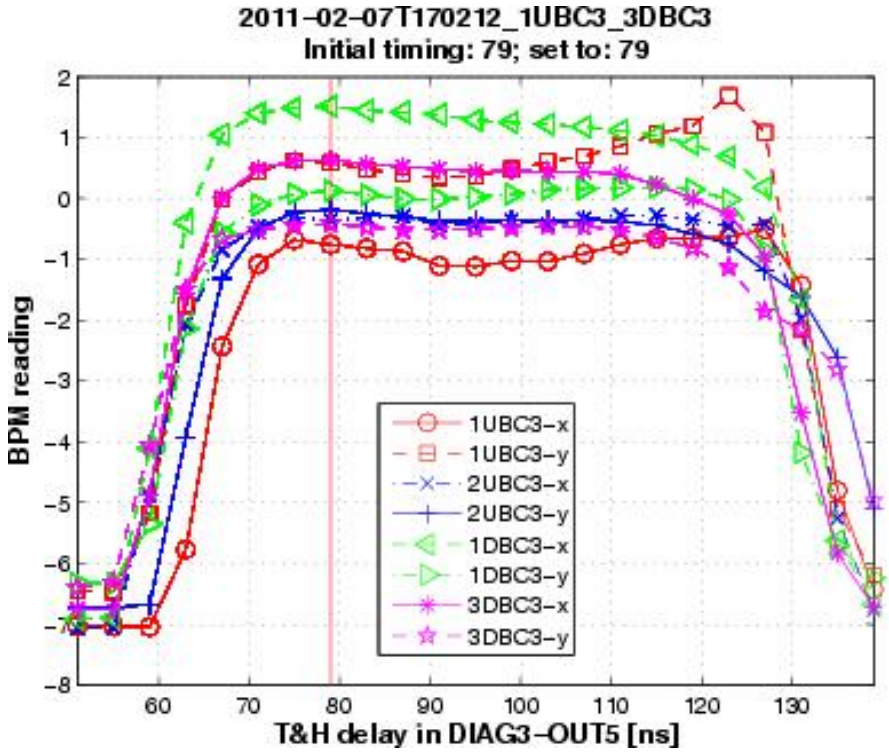
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:00:33-00.ps

07.02.2011	17:01	ttflinac	**Trigger delay scan for BPMs 3DBC2 - 11DBC2**



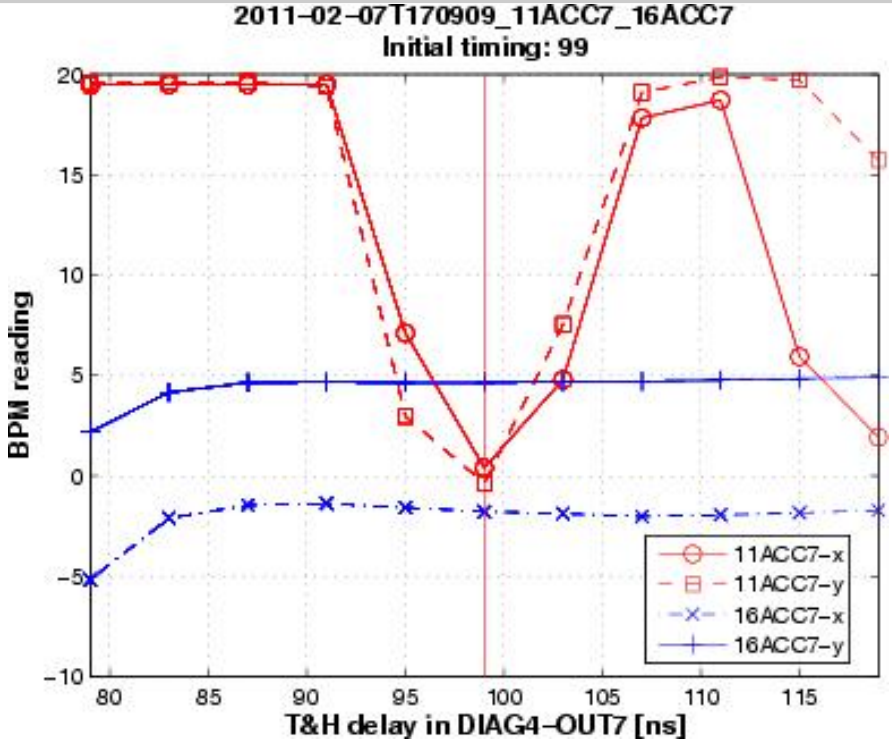
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:01:15-00.ps

07.02.2011	17:02	ttflinac	**Trigger delay scan for BPMs 1UBC3 - 3DBC3**



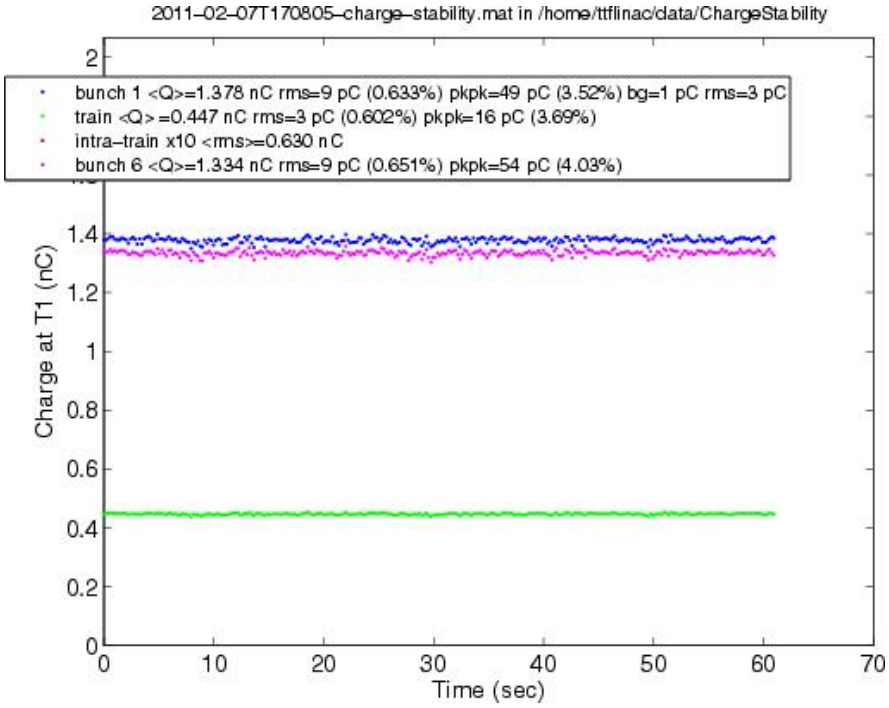
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:02:38-00.ps

07.02.2011	17:09	ttflinac	**Trigger delay scan for BPMs 11ACC7 - 16ACC7**



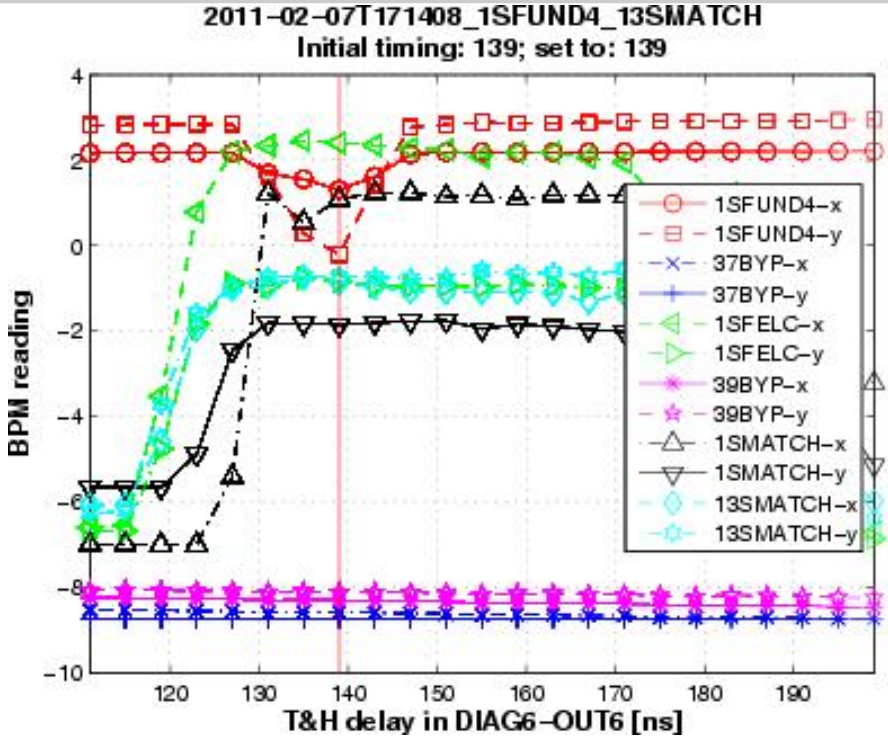
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:09:30-00.ps

07.02.2011	17:09	ttflinac	**tp9df882c4_f41a_45ca_85a9_ef6880d90c8e.ps**



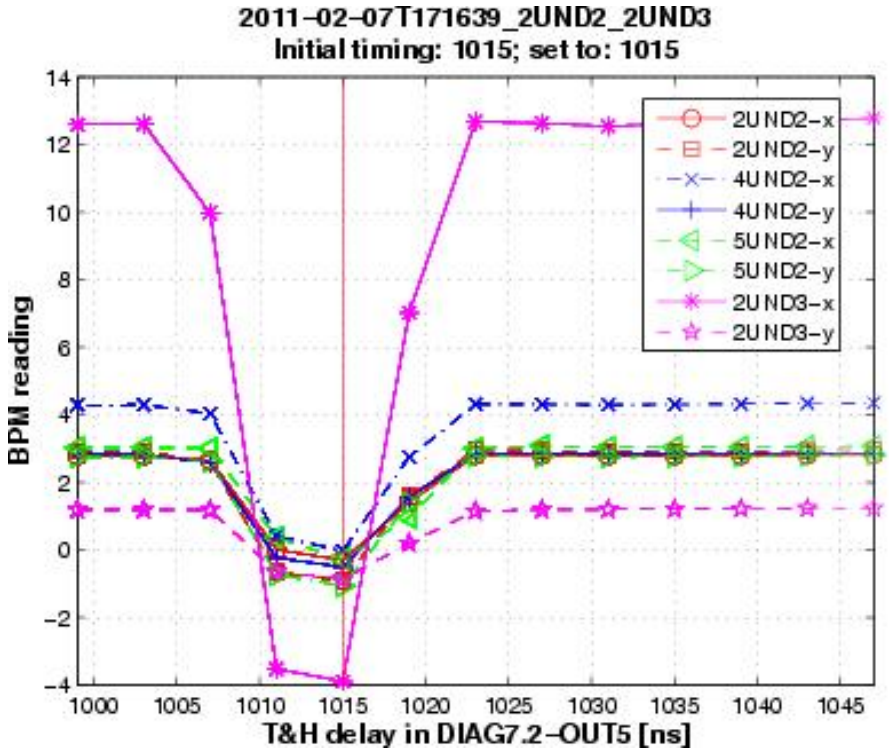
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:09:42-00.ps

07.02.2011	17:14	ttflinac	**Trigger delay scan for BPMs 1SFUND4 - 13SMATCH**



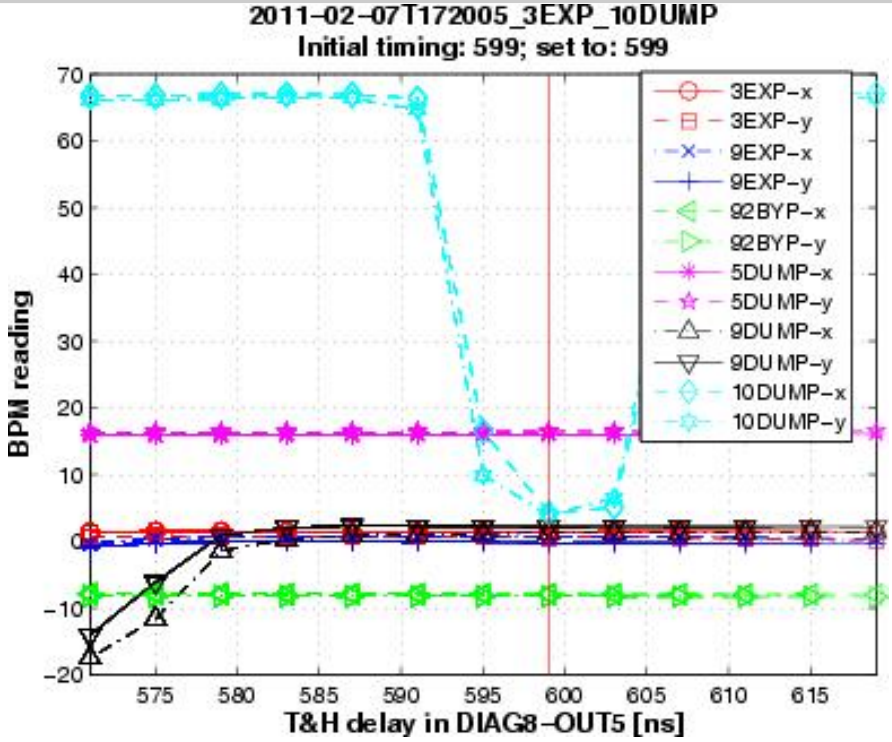
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:14:32-00.ps

07.02.2011	17:16	ttflinac	**Trigger delay scan for BPMs 2UND2 - 2UND3**



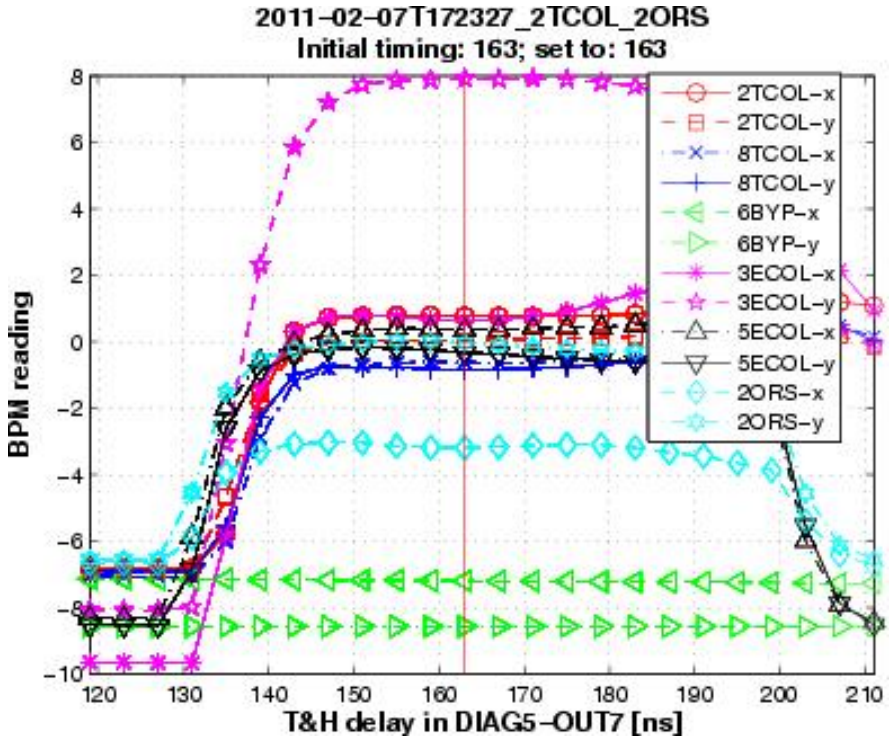
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:16:58-00.ps

07.02.2011	17:20	ttflinac	**Trigger delay scan for BPMs 3EXP - 10DUMP**



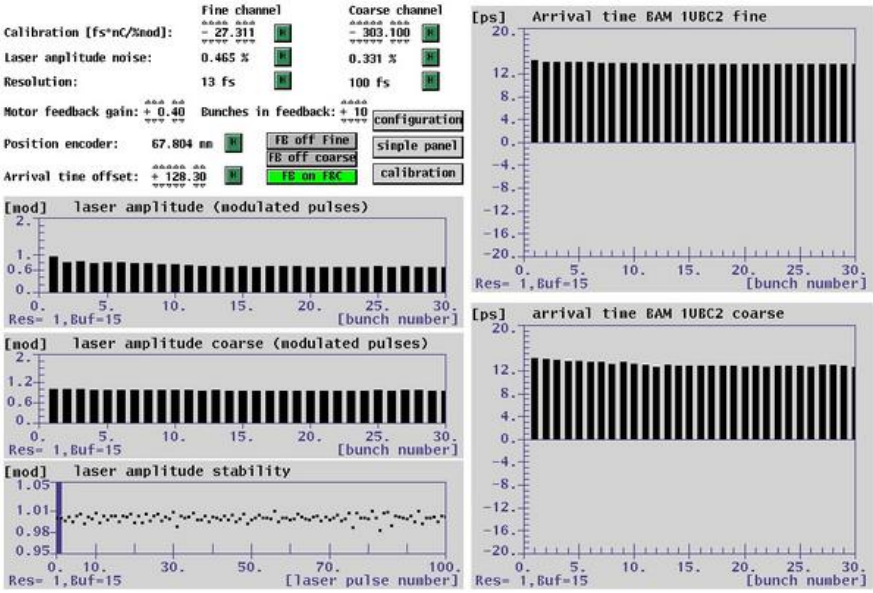
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:20:30-00.ps

07.02.2011	17:23	ttflinac	**Trigger delay scan for BPMs 2TCOL - 2ORS**



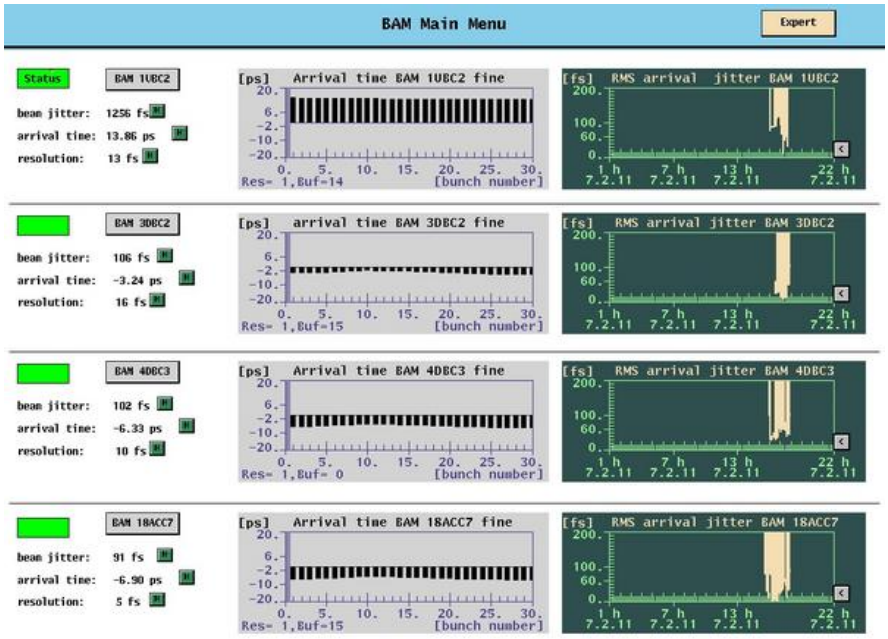
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:23:46-00.ps

07.02.2011 17:53 ttflinac **ttflinac@:BAM_server**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:53:13-00.JPG

07.02.2011 17:53 ttflinac **ttflinac@:BAM_Operator_main**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T17:53:31-00.JPG

07.02.2011 18:24 Carwardine **Performed scan of piezo parameters on C4 ACC7**

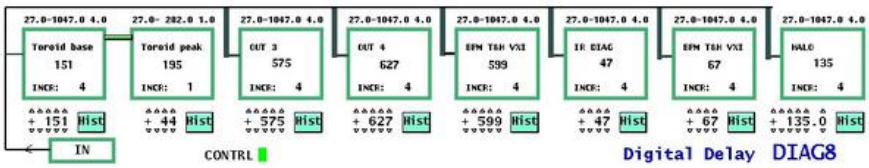
```
To measure the response of the piezo on the vibration as measured by the sense-piezo with rf on
The scan was performed in the past 5 mins (~18.19 to ~18.24)
```

07.02.2011 18:29 S. Schreiber, Z. Pisarov **TPS**

```
Zlatan recalibrates TPS
takes a while, since he needs to jumper the timing right
```

07.02.2011 18:34 S. Schreiber, Z. Pisarov **ttflinac@:delay_win**

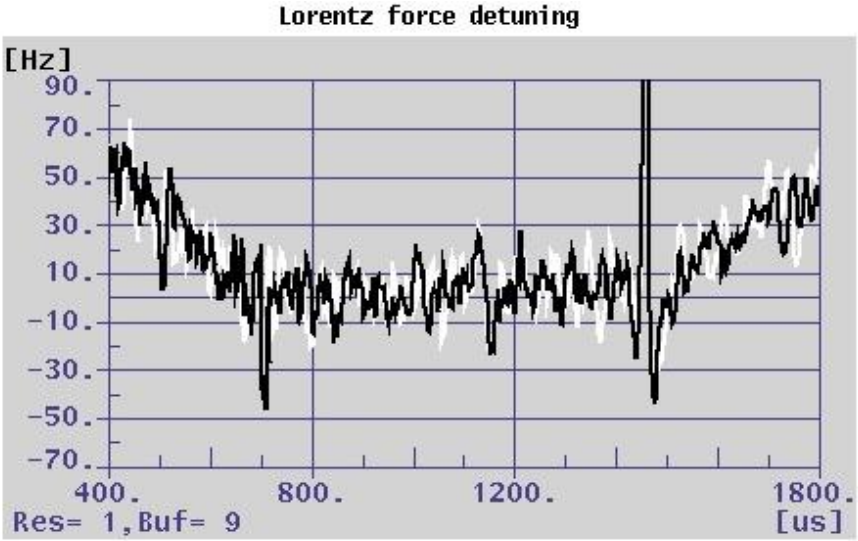
```
time delay dump ADCS from 67 to 63 ns
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T18:34:05-00.JPG

07.02.2011 18:39 M.Grecki, K.Przygoda **ACC7 C2**

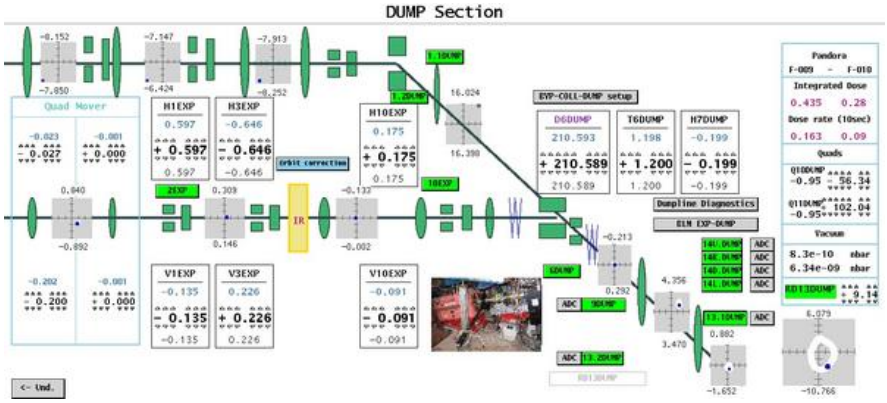
```
LFD compensated with parameters: d=17.45ms, A=4.15V, DC=21.70V
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T18:39:17-00.JPG

07.02.2011 18:52 S. Schreiber **ttflinac@:orbit_corr_dump**

```
dump line centered
```

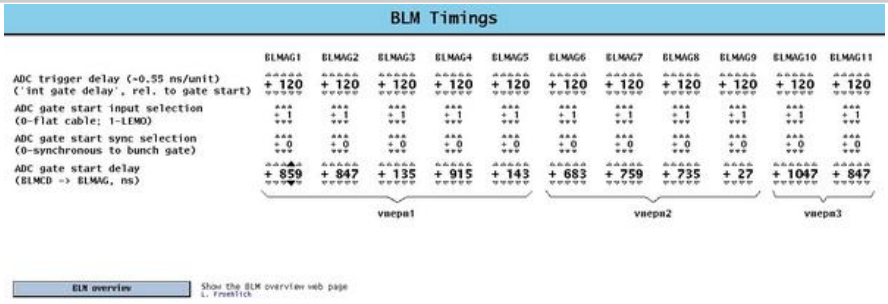


File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T18:52:41-00.JPG

07.02.2011 19:33 S. Schreiber **TPS**

```
thresholds BYP2
VAL 0.1 nC
SGL 15%
SLI 10%
INT 50 nC
```

07.02.2011 20:05 ttflinac **ttflinac@:BLM_timing**



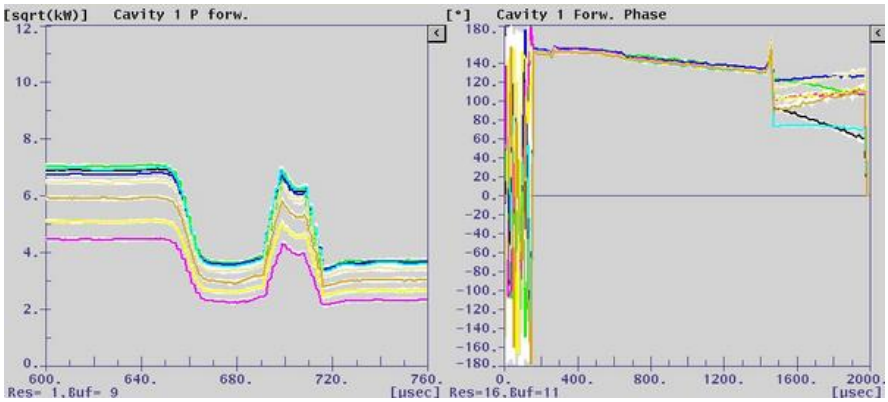
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T20:05:03-00.JPG

07.02.2011 20:13 schlarb **Forward power ACC6 (beam loading compensation)**

```
Forward power is comparable to the filling time forward power. Hence there will be phase change
 due to the klystron output power change. Therefore the beam loading compensation table
 cannot be properly adjusted for the first bunches of the macro pulse. Similar for the
```

output rotation matrix which will depend upon the duration of the macro-pulse and moves the loop phase and loop gain accordingly. Ideally an amplitude depend phase rotation (klystron linearization) is used to remove the klystron imperfection out of the calculation.
Session learned from 9mA run!
This elogbook entry was sent to following experts:
Schmidt

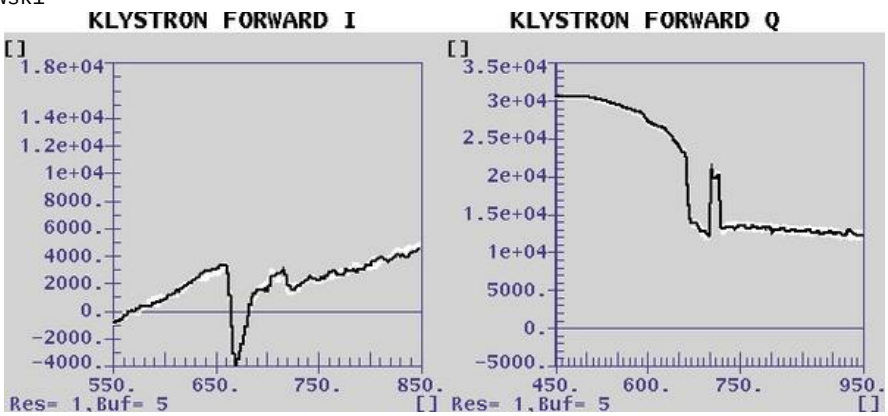
-
Labels of Pfor,Pref,Probe Ampl and Phase of monitoring ADCs does not reflect which models are shown. Hence in the elogbook it is not obvious which acceleration station is displayed. Could you please change this for all properties. Example:
• Cavity 1 ACC2 Probe Ampl.
• Cavity 1 ACC2 Pfor Ampl.
• Cavity 1 ACC2 Pref Ampl.
• Cavity 1 ACC2 Probe Phase
• Cavity 1 ACC2 Pfor Phase
• Cavity 1 ACC2 Pref Phase
Cheers H.
This elogbook entry was sent to following experts:
Cichalewski



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T20:13:26-00.JPG

07.02.2011 20:23 schlarb, pfeiffer **Naming and channels for klystron power chain**

The klystron output is displayed using doocs properties such as I.KLY.ACC45, Q.KLY.ACC45. I suggest to change the location name to KLY.ACC45 and introduce similar properties as for the Vectorsum (I.TD/Q.TD/AMPL.TD/PHASE.TD).
This elogbook entry was sent to following experts:
Hensler Cichalewski



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T20:23:49-00.JPG

07.02.2011 20:46 S. Schreiber **TPS**

Zlatan finishes TPS
FEL2 single cannot be fixed
FEL1 and BYP2 are working

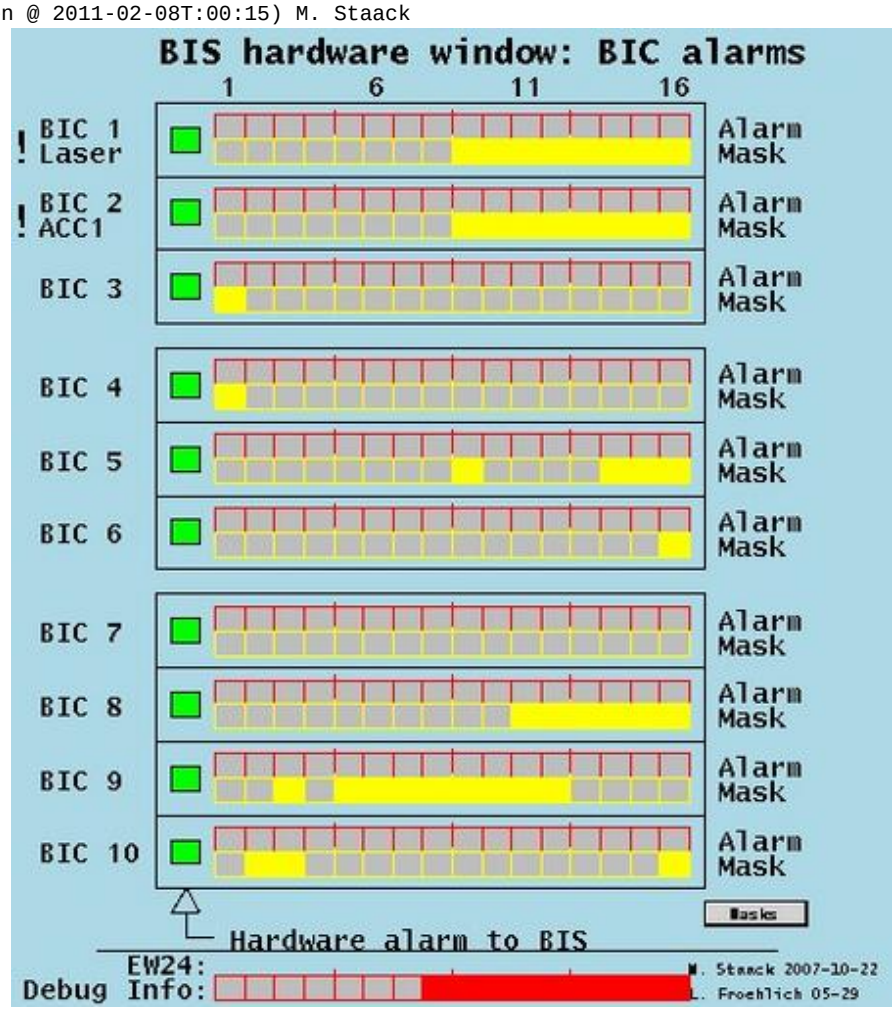
07.02.2011 20:53 S. Schreiber **3 MHz pulse train**

we start with 3 MHz long trains

07.02.2011 20:59 M. Staack **TPS FEL-2 not useable**

Siggi called me - TPS FEL-2 does not work as it should. Masking it did not help because the new featuere (mask at laser blocking / unmask at unblocking) overrides these settings. I will modify the BIS plc program tomorrow to avoid this tomorrow morning. During night operators

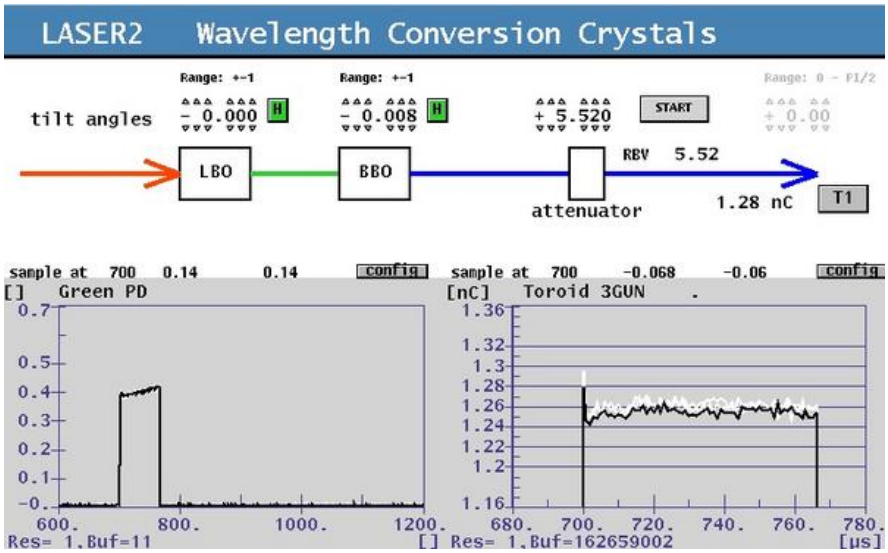
should avoid to use the "block laser" function.
But when a longer alarm (coupler interlock or something like this) should appear the BIS would detect "laser shutter closed" which would re-activate TPS FEL-2. I guess I have to rebuild this in a more flexible way, I am currently learning lessons for XFEL and FLASH-II. Hope the night shift is successful...
(comment written @ 2011-02-08T:00:15) M. Staack



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T20:59:39-00.JPG

07.02.2011 21:19 S. Schreiber **ttflinac@:laser_crystal_tuning**

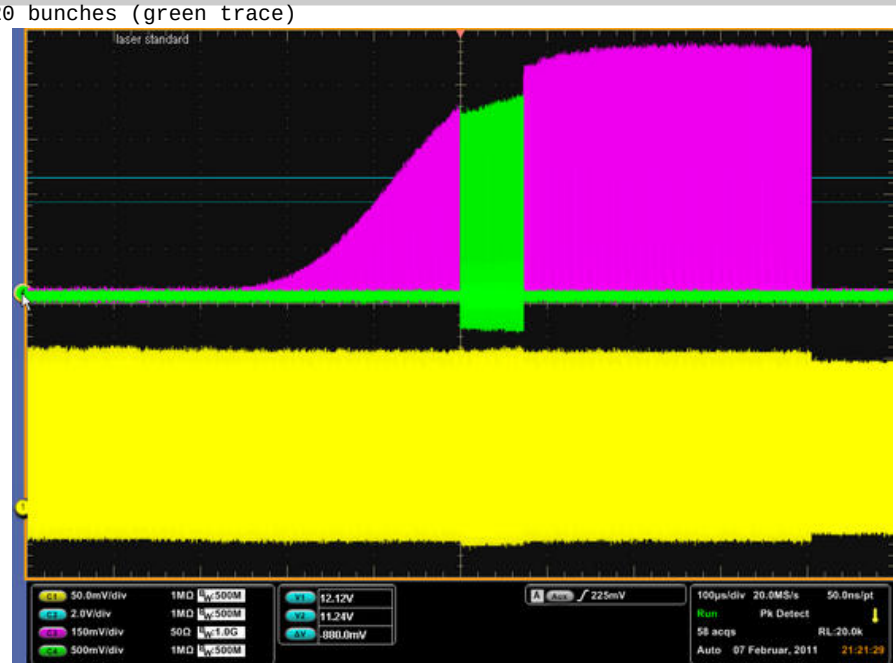
BBO angle adjusted



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:19:32-00.JPG

07.02.2011 21:20 S. Schreiber **laser 2**

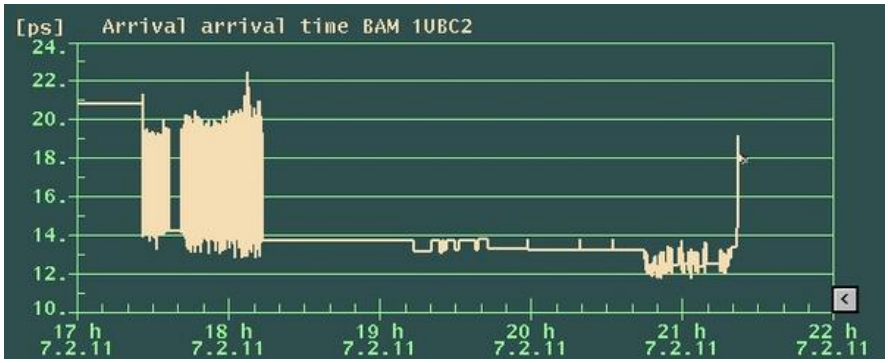
3 MHz train, 220 bunches (green trace)



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:20:25-00.png

07.02.2011 21:25 S. Schreiber **BAM UBC2**

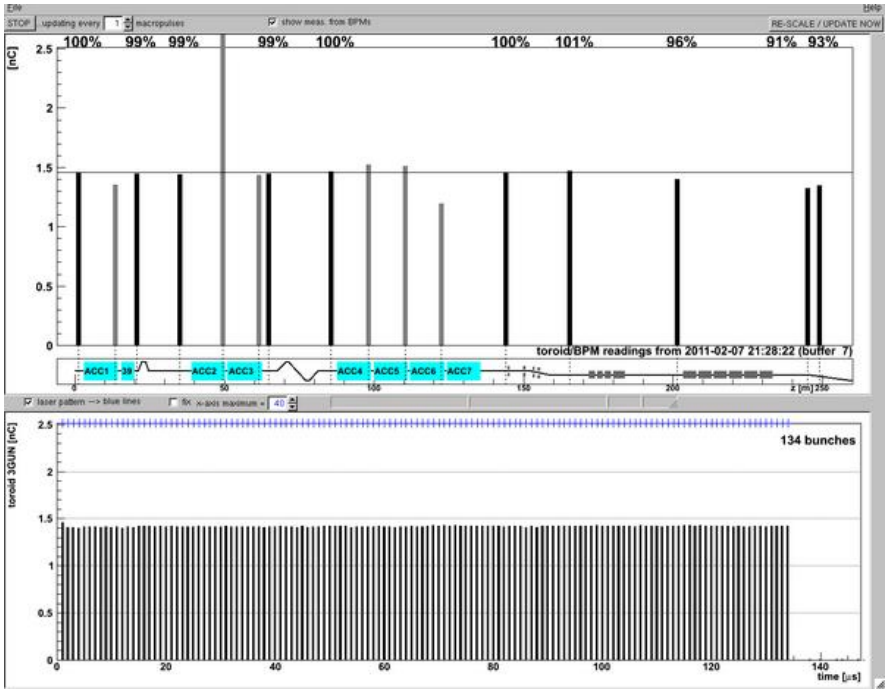
when BBO angles has been adjusted, the arrival time of the laser changed, recovered using the 1.3 GHz phase SP of the laser



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:25:24-00.JPG

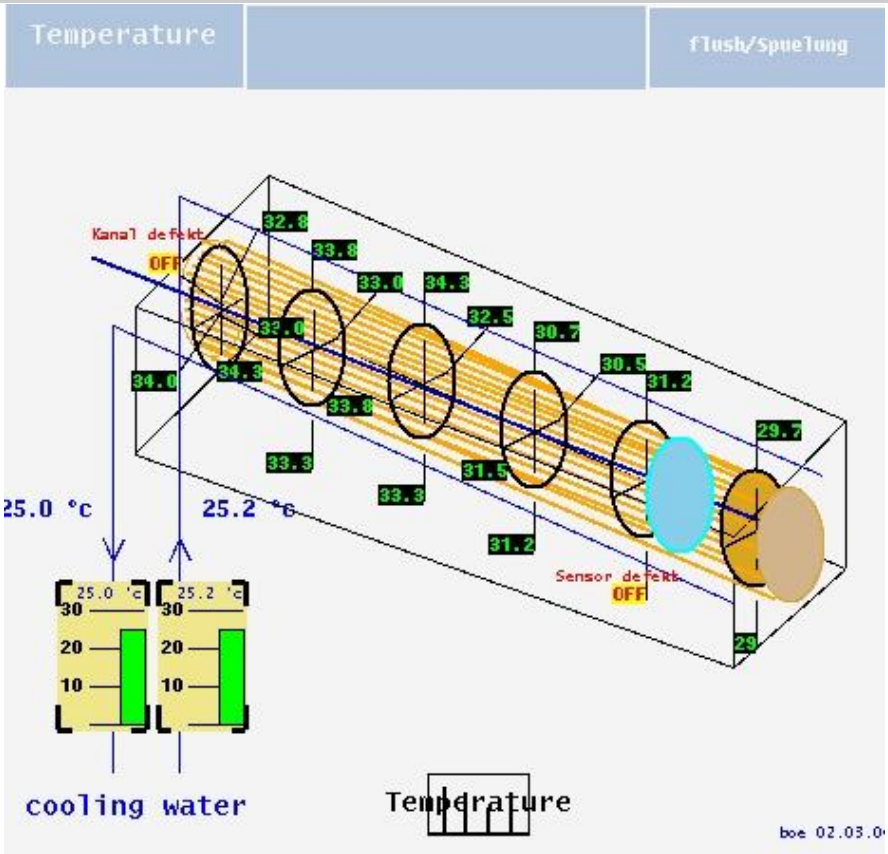
07.02.2011 21:28 S. Schreiber **toroid charge readings**

3 MHz, 400 bunches, 5 Hz



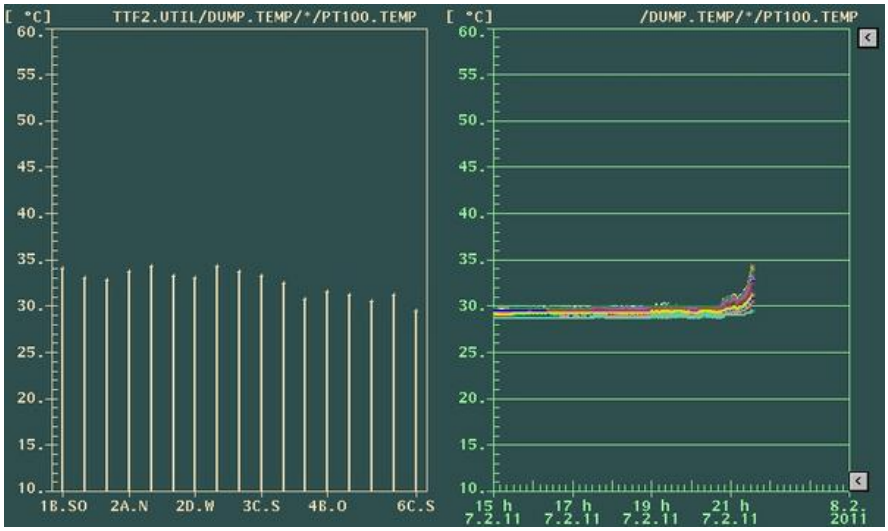
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:28:39-00.ps

07.02.2011 21:33 ttflinac **ttflinac@:ttf2_dumptemp_win**



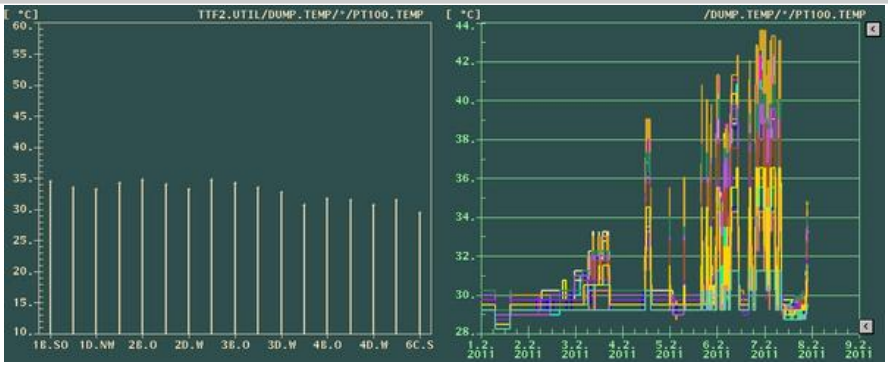
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:33:28-00.JPG

07.02.2011 21:33 ttflinac **ttflinac@:ttf2_dumptemp_plot_win**



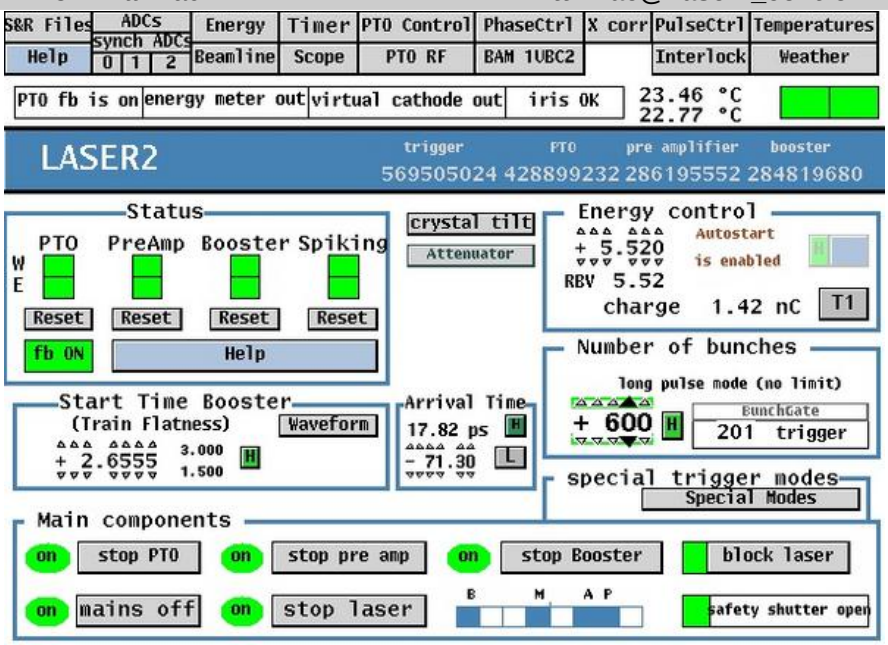
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:33:34-00.JPG

07.02.2011 21:35 ttflinac **ttflinac@:ttf2_dumptemp_plot_win**



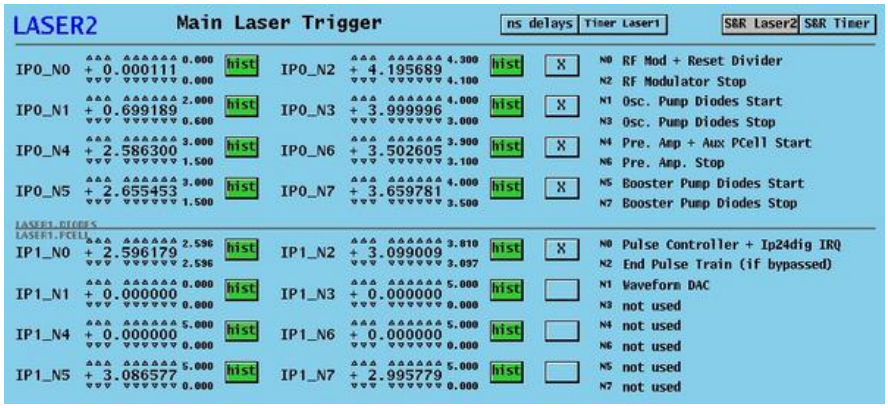
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:35:02-00.JPG

07.02.2011 21:37 ttflinac **ttflinac@:laser2_control**



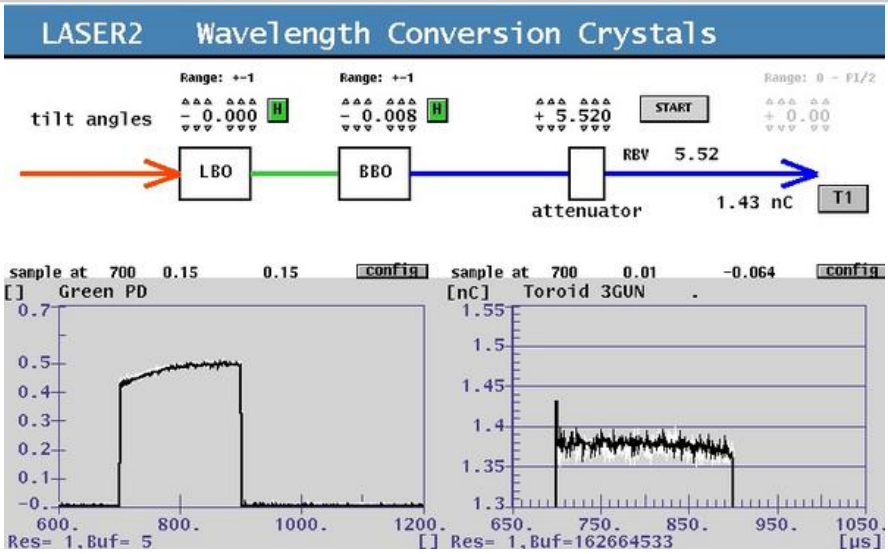
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:37:39-00.JPG

07.02.2011 21:37 ttflinac **ttflinac@:Laser_Timer**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:37:46-00.JPG

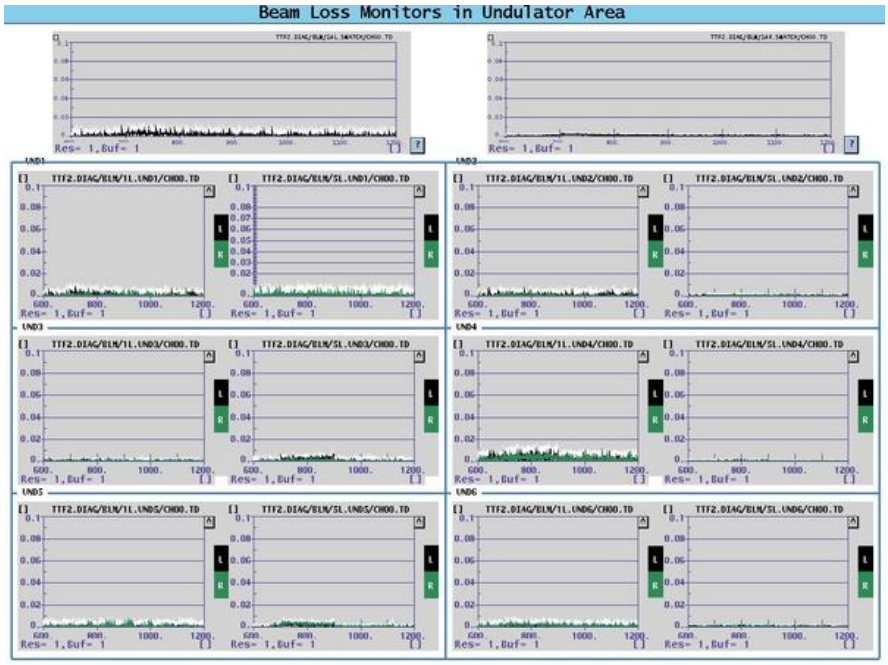
07.02.2011 21:37 ttflinac **ttflinac@:laser_crystal_tuning**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:37:56-00.JPG

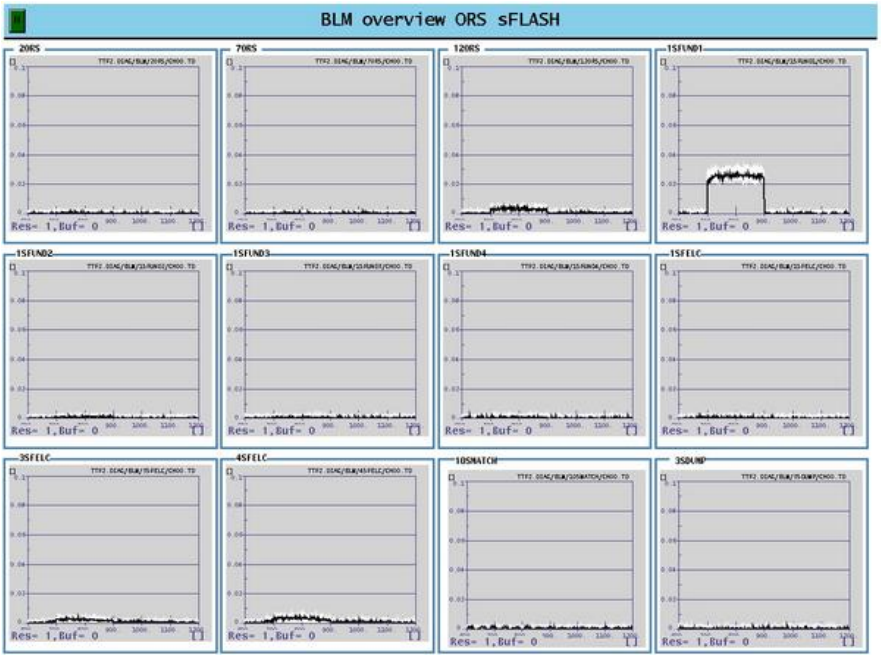
07.02.2011 21:38 S. Schreiber **ttflinac@:BLM_UNDULATORS**

loss for documentation



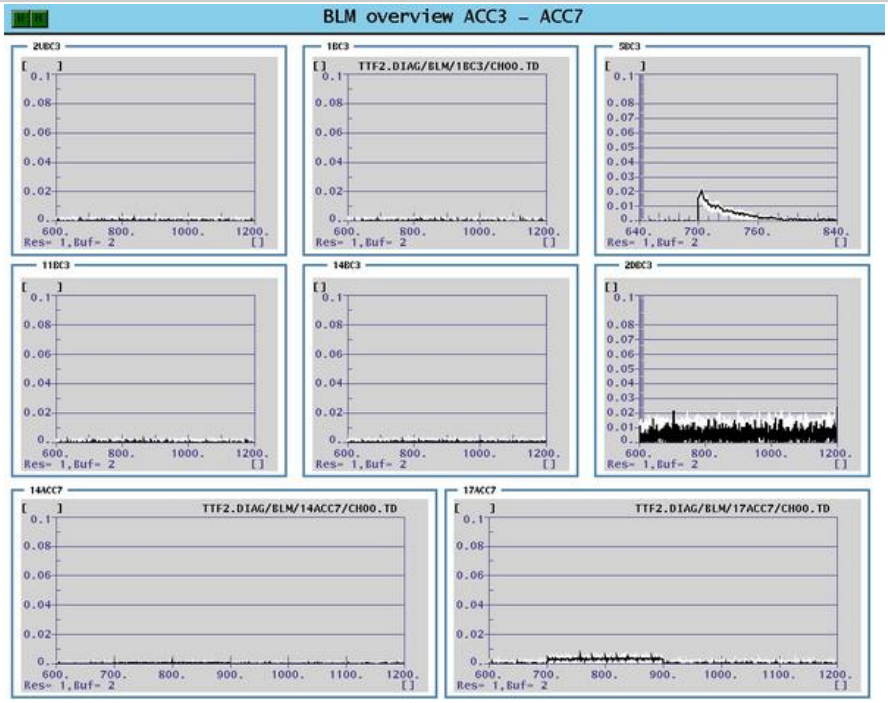
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:38:46-00.JPG

07.02.2011 21:38 ttflinac **ttflinac@:blm_overview_ORS**



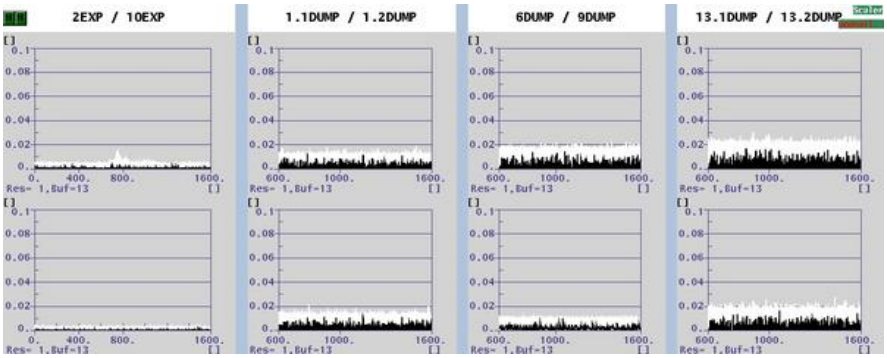
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:38:56-00.JPG

07.02.2011 21:39 ttflinac **ttflinac@:BLM_ACC3_ACC7**



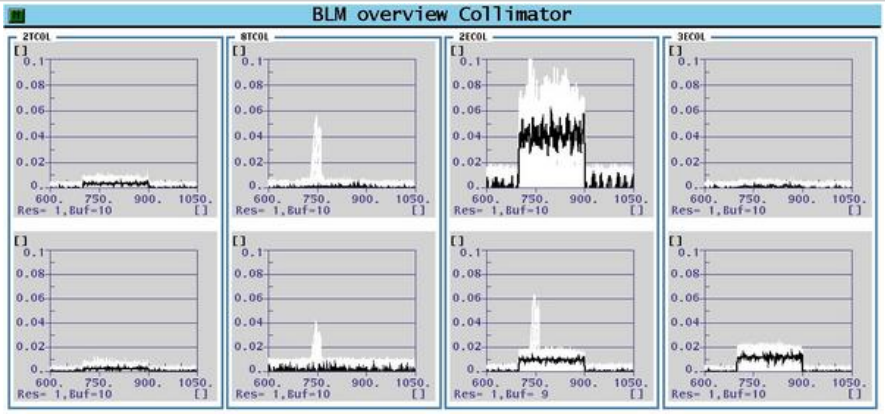
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:05-00.JPG

07.02.2011 21:39 ttflinac **ttflinac@:blm_overview_Exp_DUMP**



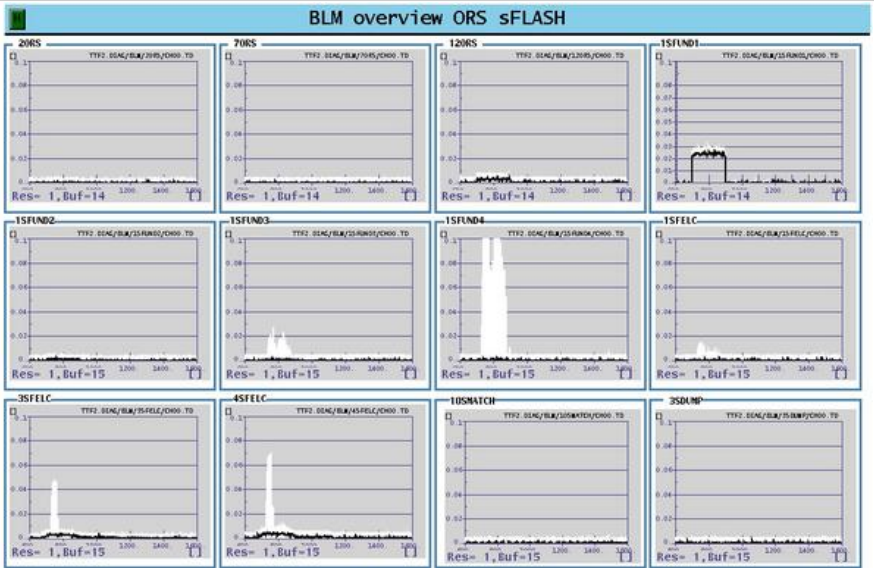
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:15-00.JPG

07.02.2011 21:39 ttflinac **ttflinac@:blm_overview_COL**



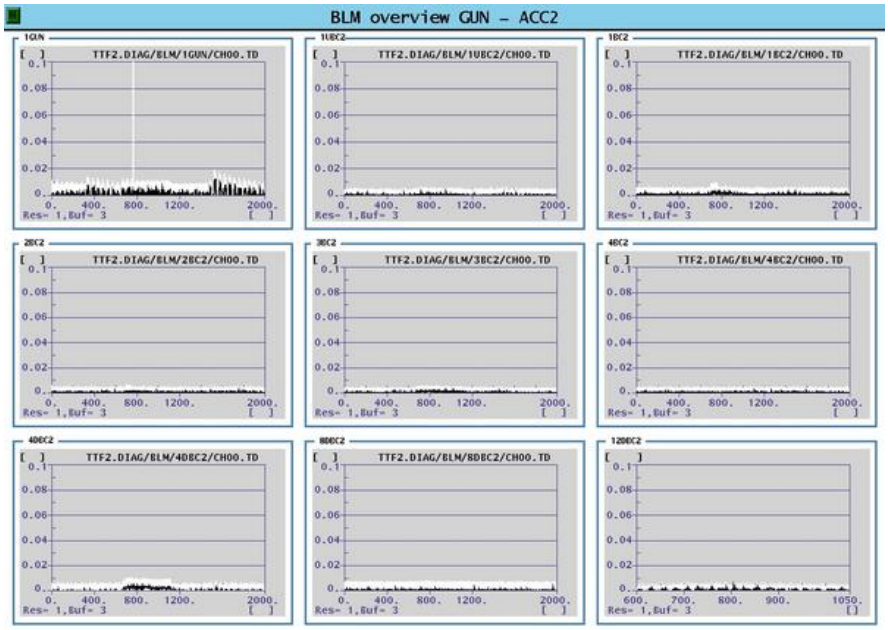
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:23-00.JPG

07.02.2011 21:39 ttflinac **ttflinac@:blm_overview_ORS**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:30-00.JPG

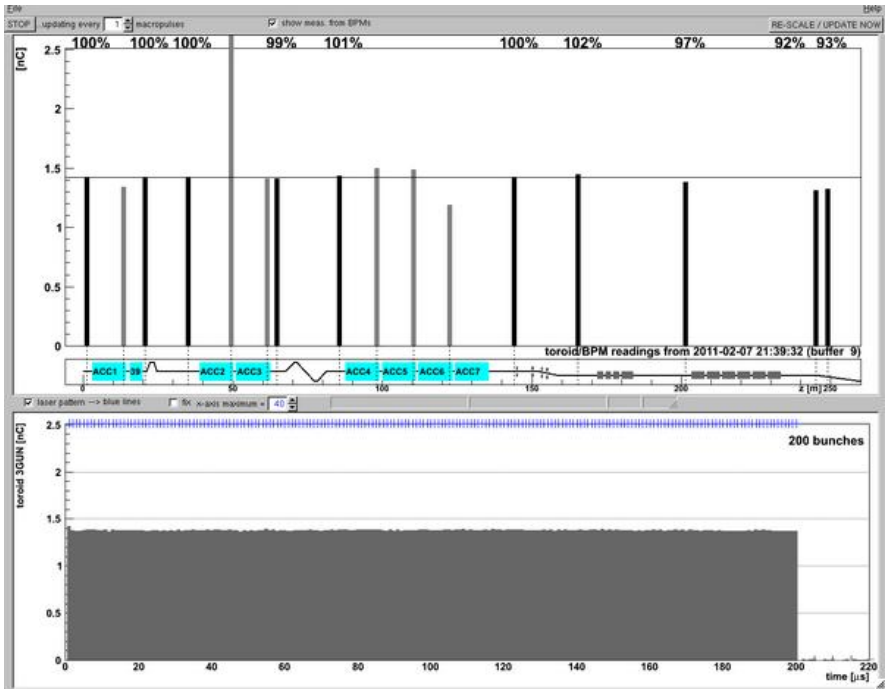
07.02.2011 21:39 ttflinac **ttflinac@:blm_overview_from_GUN_to_ACC2**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:39-00.JPG

07.02.2011 21:39 S. Schreiber **toroid charge readings**

3 MHz, 5 Hz 1 GeV 1.5 nC 600 bunches -> 4.5 kW



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:39:51-00.ps

07.02.2011 21:40 ttflinac **Main linac parameters**

600 bunches full transmission 1 GeV 5 Hz 3 MHz beam

Laser

Number of bunches 600
Bunch frequency ..... 3000 kHz
Macropulse rep'rate .... 5.0 Hz
Pump time_3 ..... 0.0030 ms
Pump current_3 ..... 5.00 V
Pre-amp start time ..... 2.59 ms
Booster start time ..... 2.66 ms
Attenuator SP 5.52
Iris diameter ..... 17088 steps
Iris diameter ..... 2.36 mm

Gun

Feedforward/Feedback ... on/on
FSM ..... on
Pfwd SP 3.64
VS ampl. 18.37
Phase SP ..... -10.30 deg
VS phase ..... 5.59 deg
Pfwd (peak) ..... 3.836 MW
Prefl (peak) ..... 2.825 MW
Pfwd sample point 700
Pfwd (at sample point) . 18.375 MW
Prefl sample point 720
Prefl (at sample point) 5.905 MW

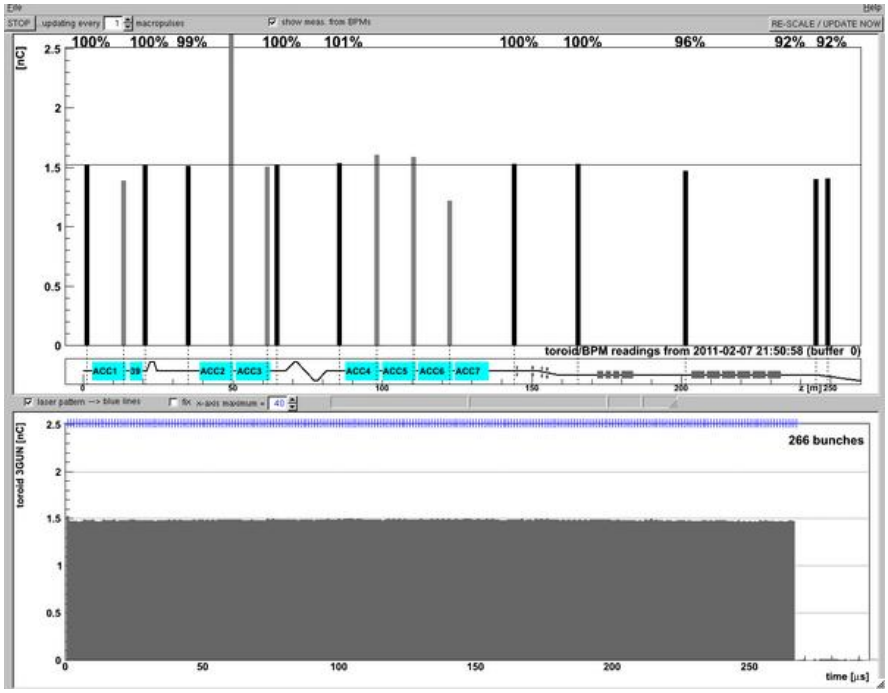
```
                                                Flat top ............... 460 us
                                                Water temperature SP ... 72.32 deg C
                                                Main solenoid (RBV) .... -301.04 A
                                                Bucking coil (RBV) ..... 20.70 A
                                                Gun dipole (RBV) ....... 0.000 A
                                                Charge 3GUN(T1) ........ 1.42 nC
                                                DC kicker delay ........ 6.80 ms
                                                DC kicker HV ........... not local
                                                DC kicker HV ........... enabled
                                                DC kicker HV ........... on
                                                DC kicker SP ........... 0.00 V
                                                DC kicker start ........ 124.00 ns
ACC1                                            ACC39
Feedforward/Feedback ... on/on                  Feedforward/Feedback ... on/on
Feedback gain .......... 2.0                    Feedback gain .......... 8.0
Pfwd SP ................ 164.10               Pfwd SP ................ 19.00
Pfwd RBV ............... 164.06               Phase SP ............... 114.00 deg
Phase SP ............... 2.40 deg             Pfwd C1.ACC39 .......... <error>
Phase RBV .............. 2.42 deg             Flat top ............... 800 us
Pfwd C1.ACC1 ........... 184.9 kW
Pfwd C5.ACC1 ........... 177.2 kW
Flat top ............... 800 us
Dipole BC2 (RBV) ....... 73.11 A
Pyro 9DBC2.1 ........... -0.0804 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 ................ 345.00
Pfwd RBV ............... 295.89               Pfwd RBV ............... 344.95
Phase SP ............... -2.00 deg            Phase SP ............... -8.90 deg
Phase RBV .............. -1.58 deg            Phase RBV .............. -8.37 deg
Pfwd C5.ACC2 ........... 128.16 kW            Pfwd C1.ACC4 ........... 164.53 kW
Pfwd C1.ACC3 ........... 225.54 kW            Pfwd C2.ACC5 ........... 172.51 kW
Flat top ............... 450 us               Pfwd C1.ACC6 ........... 0.61 kW
Dipole BC3 (RBV) ....... 56.00 A               Flat top ............... 800 us
Pyro 4DBC3.1 ........... -0.0128 V
Pyro 4DBC3.3 ........... 0.0018 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 ................ 183.50               RF vector sum ALL ...... 776.0 MeV
Pfwd RBV ............... 180.33               Charge 16BYP ........... 0.00 nC
Phase SP ............... -5.00 deg
Phase RBV .............. -3.90 deg
Pfwd C1.ACC6 ........... 119.78 kW
Pfwd C1.ACC7 ........... 133.90 kW
Flat top ............... 800 us
Collimator                                      Undulator
Dipole D1ECOL (RBV) .... 176.89 A               1SFUND1 gap RBV ........ 220.0 mm
Energy dogleg .......... 998.6 MeV              1SFUND2 gap RBV ........ 220.0 mm
Charge 7ORS ............ 1.45 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) .... 210.60 A               PTO feedback ........... on
Rotator RD13DUMP (RBV) . 9.13 A
Charge 9DUMP ........... 1.33 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 2011-02-07T21_40_07+01
Orbit reference for the root tool saved in /home/ttflinac/measurements/xy_jitter/2011-02-07T214007
```

```
also in 'save and restore' files:
Magnets saved to: /home/ttflinac/save_restore/Magnets/autosaved/all_Magnets_20110207T214007.sr
uMovers saved to: /home/ttflinac/save_restore/Micromovers/autosaved/uMovers_20110207T214007.sr
from computer: flashbkr2
```

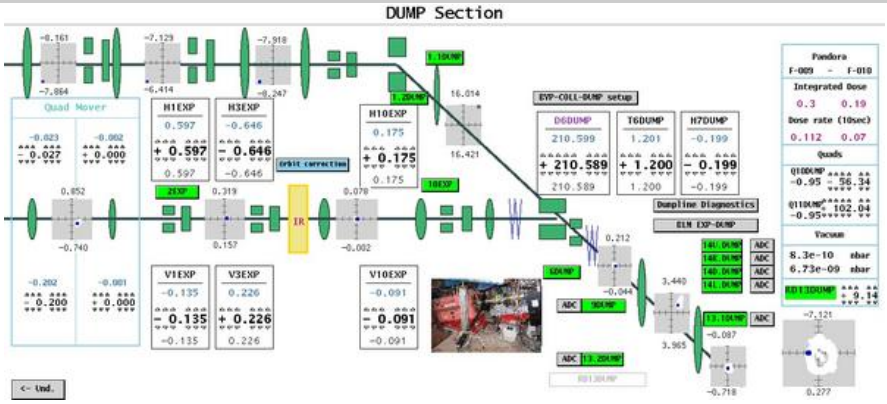
07.02.2011 21:51 S. Schreiber **toroid charge readings**

800 bunches -> we now have some integration alarms of the TPS, some tuning required



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:51:19-00.ps

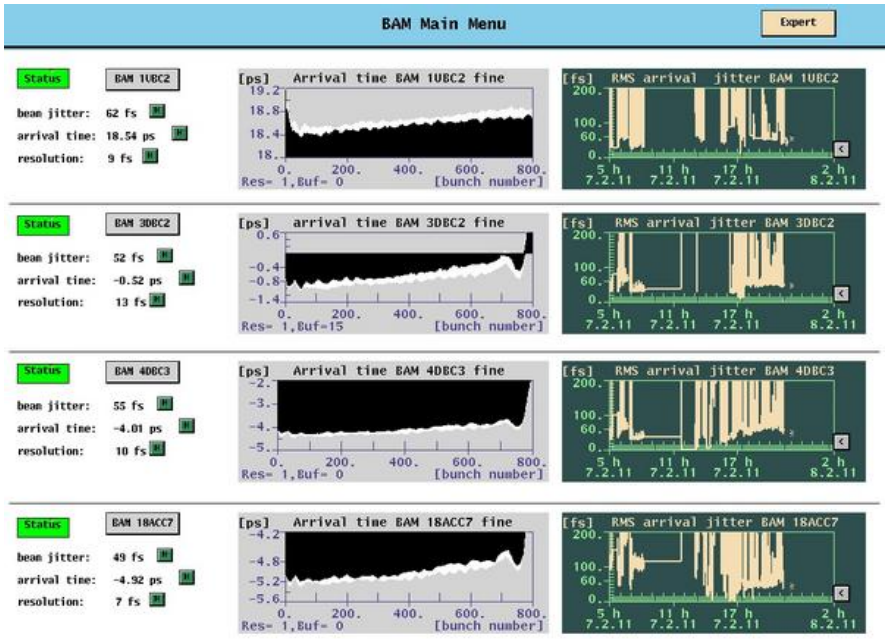
07.02.2011 21:54 ttflinac **ttflinac@:orbit_corr_dump**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T21:54:25-00.JPG

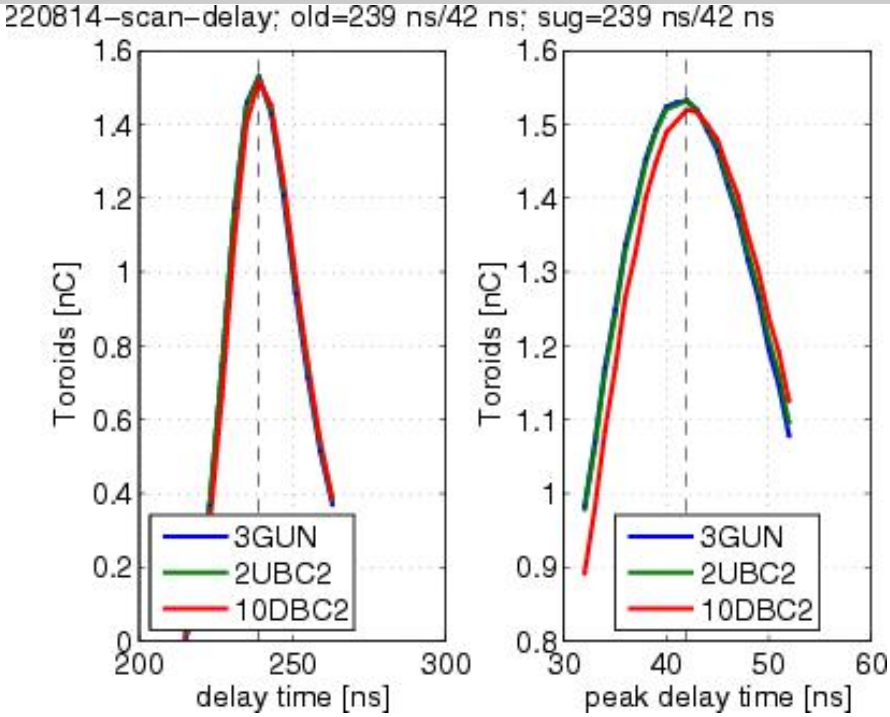
07.02.2011 22:07 schlarb **Arrival time variation and jitter for 4.8mA and 800 bunches**

- arrival time variation across the macro-pulse amounts to typically 0.5ps peak-to-peak
- last 120 bunches are worse since the beam loading table is set to 400 us. The effect is gone when 1200 bunches are used.
- arrival time jitter of macro-pulse amounts to 50fs at the end of the accelerator
- the BAM shows every bunch of the macro-pulse but the display is limited to 800 bunches.



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:07:29-00.JPG

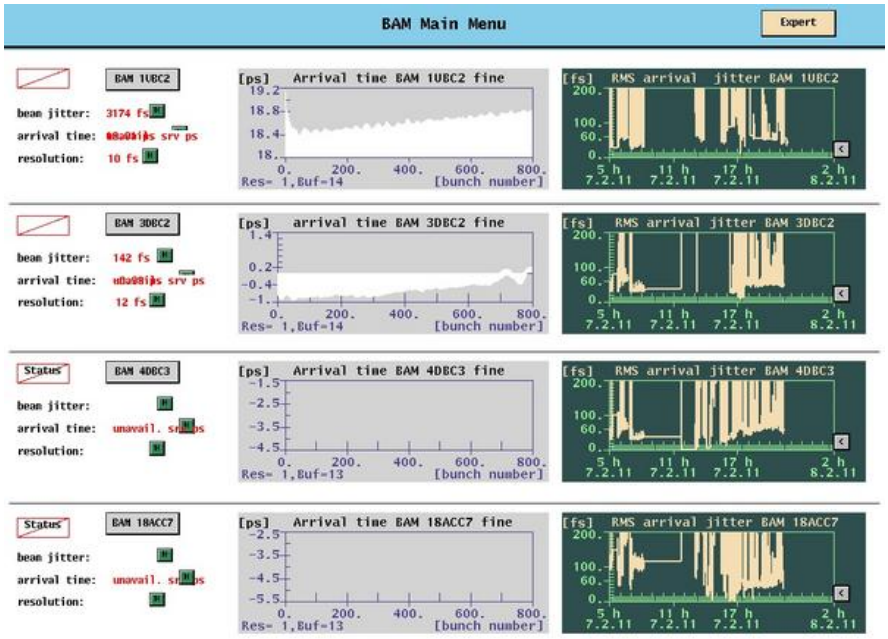
07.02.2011 22:16 ttflinac **Toroid timing scan**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:16:10-00.ps

07.02.2011 22:19 schlarb **BAM server crash when more than 800 bunches are applied**

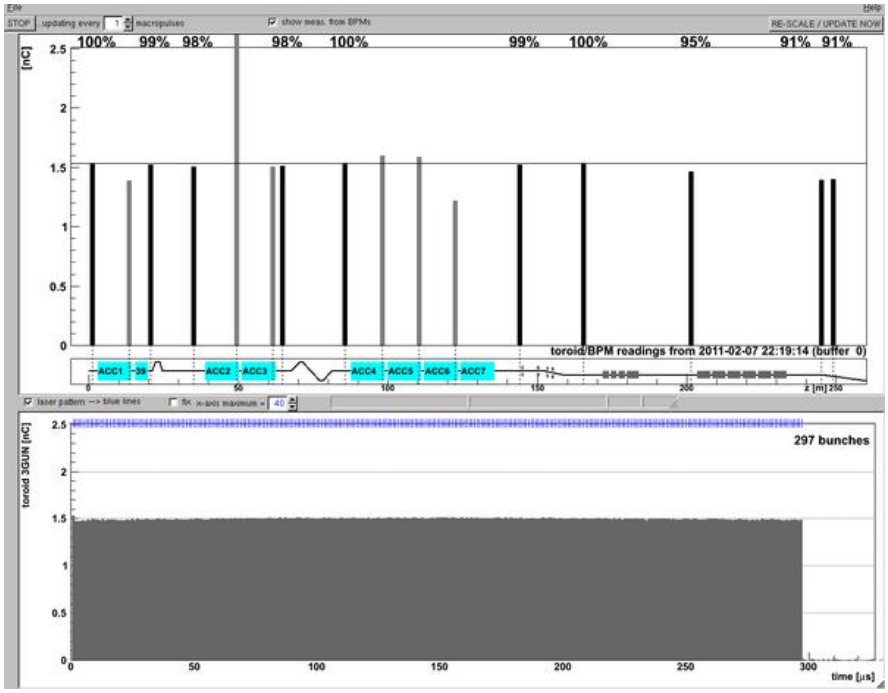
```
This elogbook entry was sent to following experts:
patrick.gessler@desy.de
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:19:28-00.JPG

07.02.2011 22:19 S. Schreiber **toroid charge readings**

890 bunches, 3 MHz



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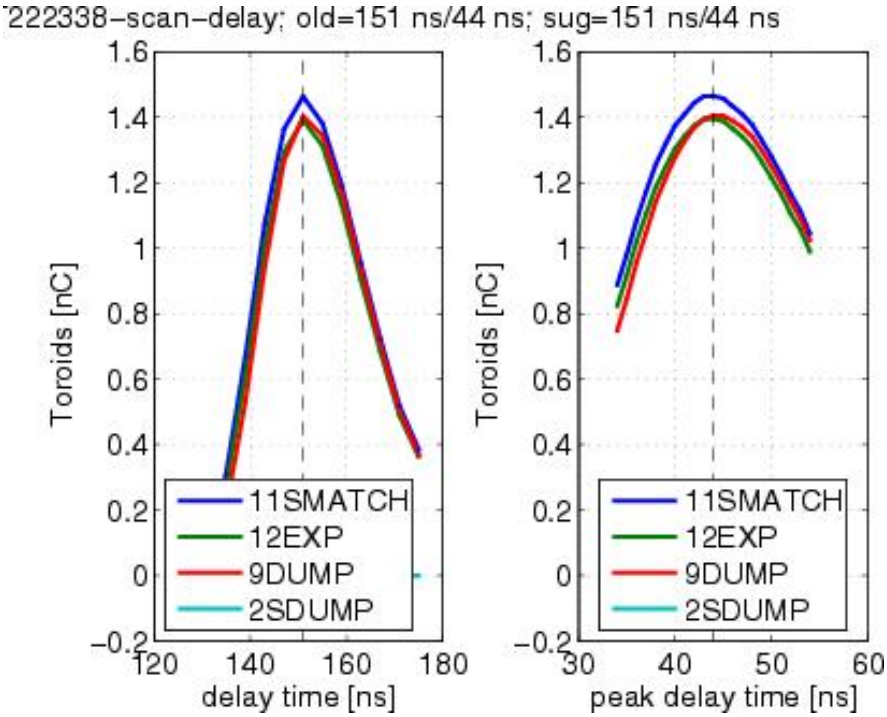
07.02.2011 22:20 S. Schreiber, Z. Pisarov **TPS**

we don;t see much losses
so we decided to increase the integration threshold of BYP2 from 50 to 75 nC
(nominal 70 nC)

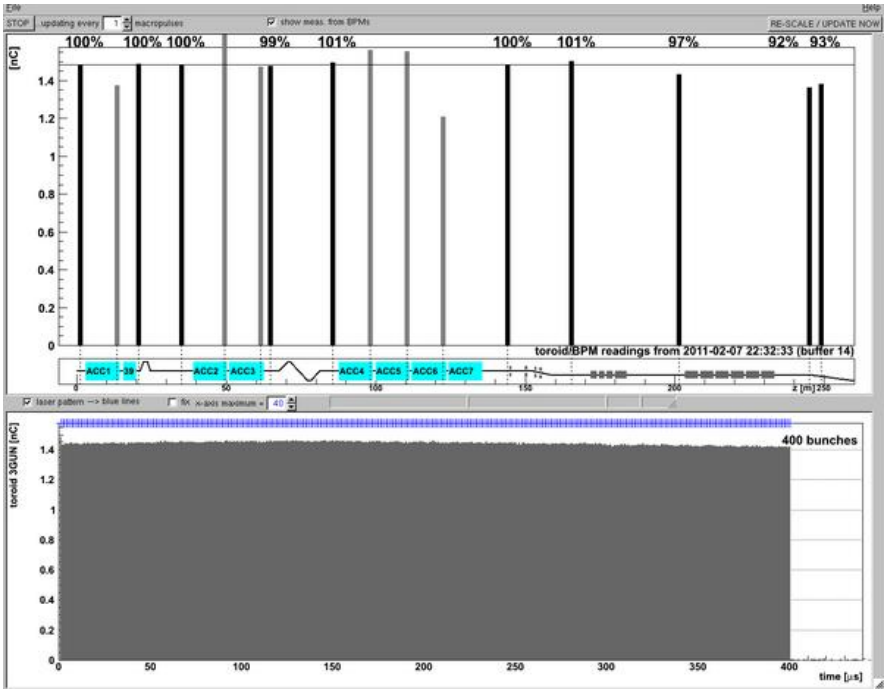
07.02.2011 22:26 ttflinac **Toroid timing scan**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:26:40-00.ps

07.02.2011 22:32 S. Schreiber et al **toroid charge readings**

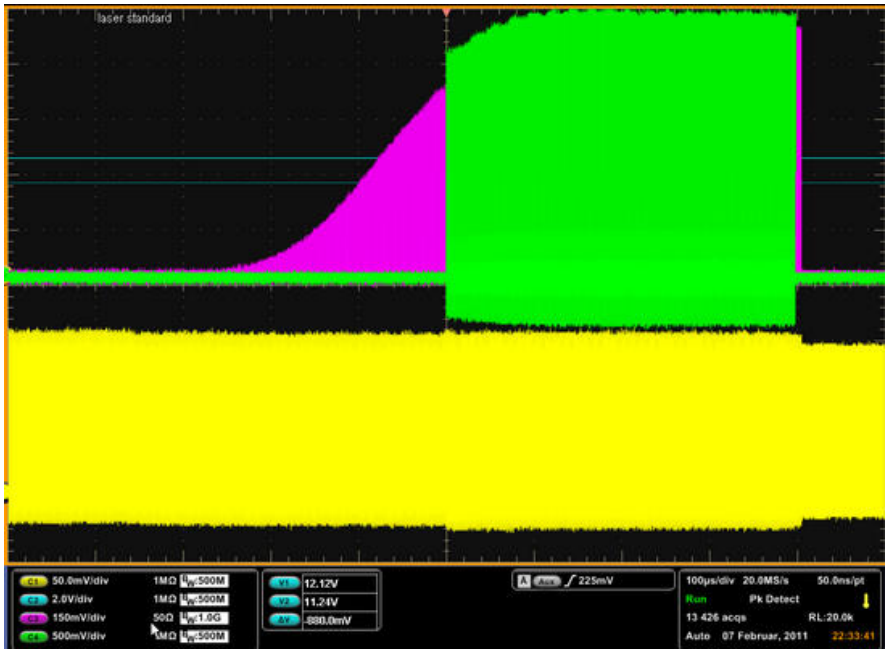
```
1200 bunches, 3 MHz, 5 Hz, 1 GeV, 1.5 nC = 9 kW
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:32:57-00.ps

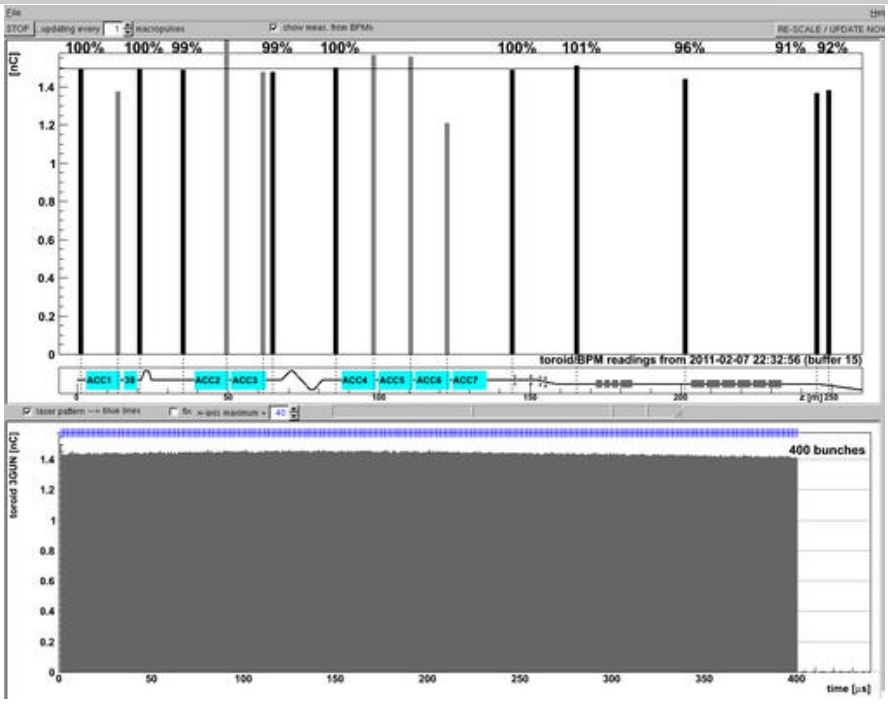
07.02.2011 22:36 S. Schreiber et al **Laser 2**

```
1200 bunches at 3 MHz
```



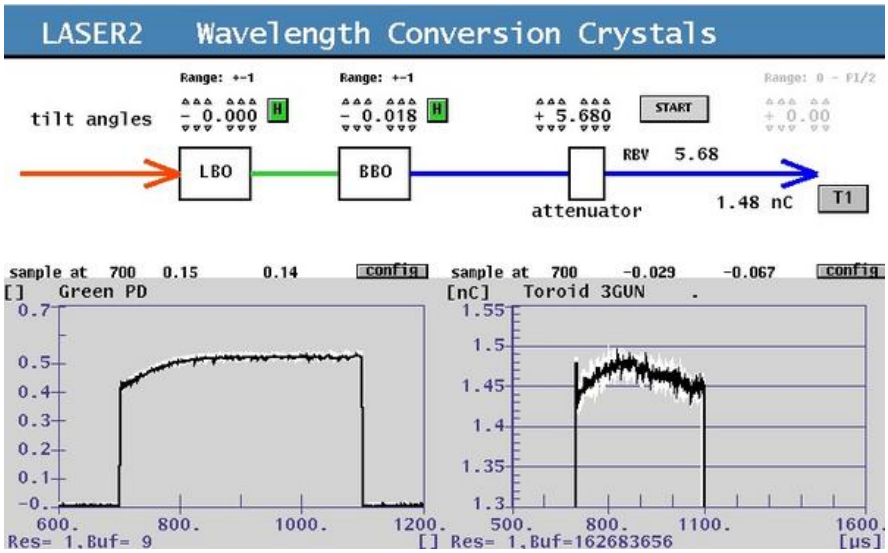
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:36:08-00.png

07.02.2011 22:36 S. Schreiber et al



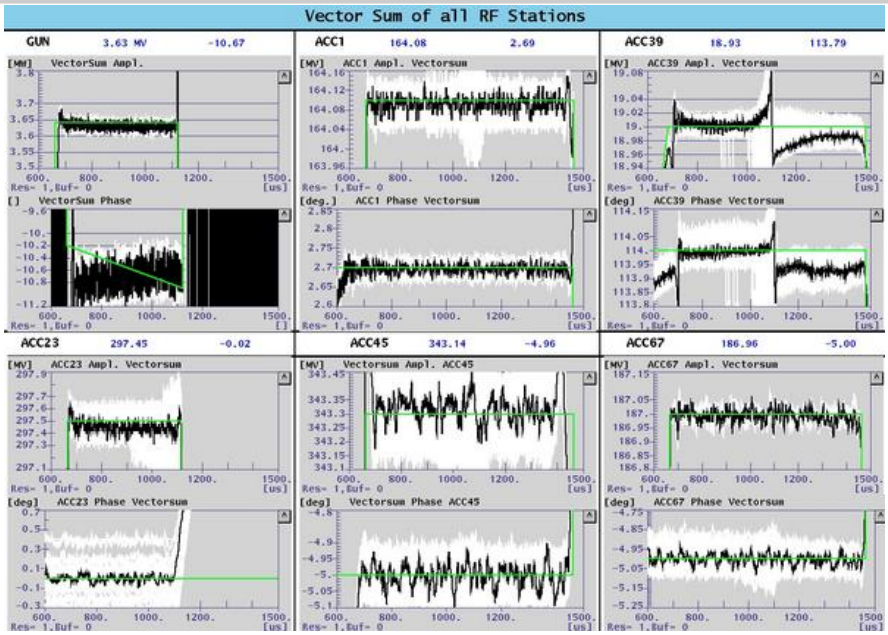
File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:36:39-00.png

07.02.2011 22:41 ttflinac **ttflinac@:laser_crystal_tuning**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:41:42-00.JPG

07.02.2011 22:49 ttflinac **ttflinac@:LLRF_OVERVIEW**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:49:29-00.JPG

07.02.2011 22:52 klose **BIC 9 maskes set for long bunch operation**

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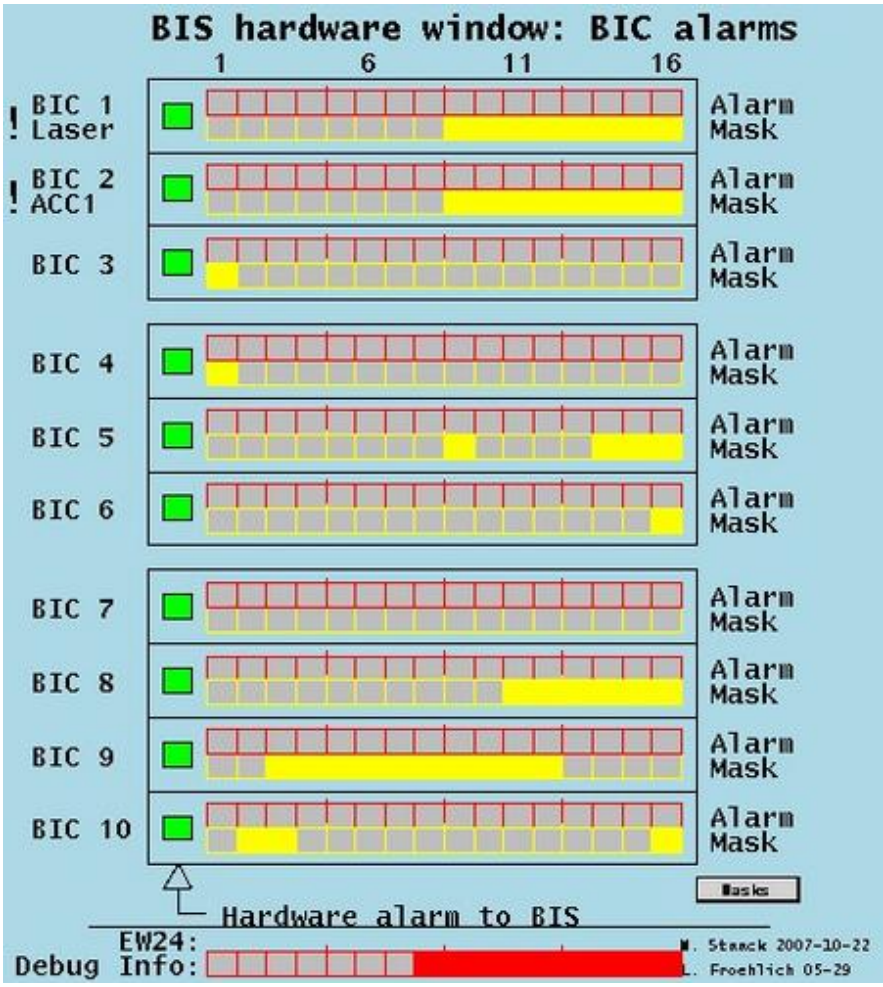
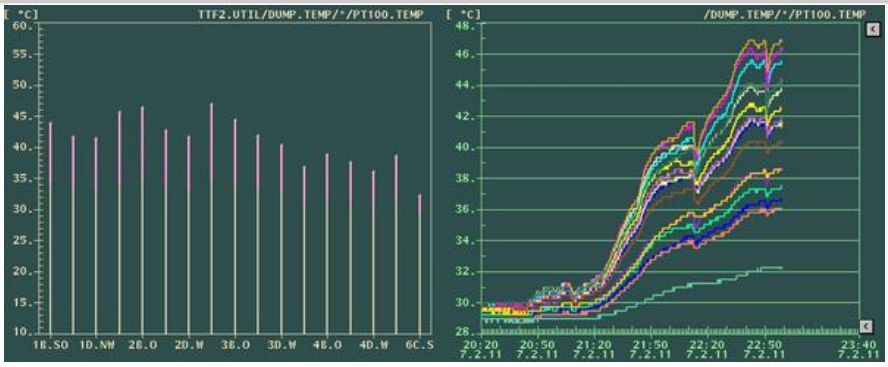
This elogbook entry was sent to following experts:
Goerler
```



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:52:19-00.JPG

07.02.2011	22:59	ttflinac	**ttflinac@:ttf2_dumptemp_plot_win**



File: http://ttfinfo.desy.de/TTFelog/data/2011/06/07.02_a/2011-02-07T22:59:28-00.JPG