TTF Logbook Saturday 19. January 2008 Night

prev next

shift summary

Tech. Coordinator	Run Coordinator(s)	Operators	Other Persons
	* Honkavaara, Katja	* Schlarb, Holger * Hannemann, Juergen * Woldt, Juergen * Pawlowski, Bernd	* T. Czarski, K.Pozniak, M.Linczuk, J. Szewinski, K. Korzunowi

Photon coordinator (s)	Photon Operators	Users
*	*	*

Goal	* LLRF Multi-cavity complex controller ACC1 * Coupler conditioning ACC5
Achievements	* Coupler condition done (gradient presently limited by klystron power) * Controller for ACC1 tested. MCC has been verified for each cavity of ACC1 and for the vector sum control for long flattop range = 800 us. Adaptive FF and feedback mode have been applied. The gain 300 has been reached for VS. The diverse filling ranges have been tested for different output trajectories: exp, linear, sinh (optimal). Adaptive FF and Self exciting Loop (SEL) have been applied as operational modes for different filling ranges.
Difficulties	* non
Comments for next shift	* ACC1 valve is closed
Summary from FEL users	

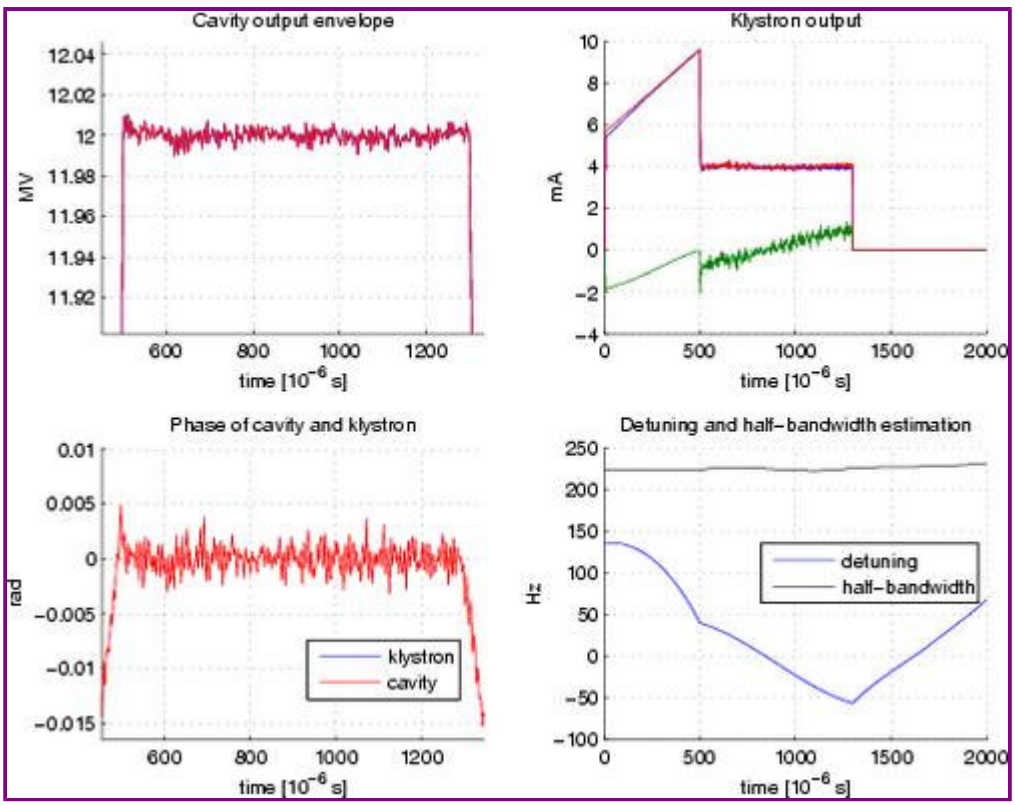
Operation statistics:

Development: 8.0 h

new

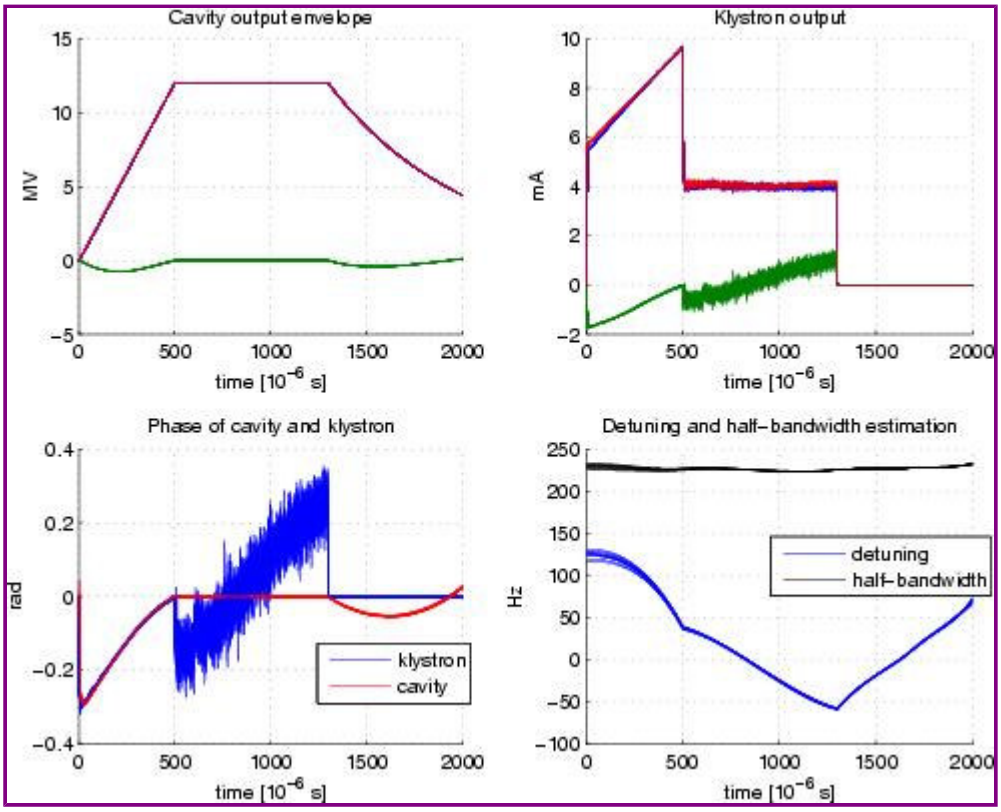
20.01.2008 06:46 — T. Czarski, M. Linczuk, K. Pozniak — **Multi-Cavity Complex Controller**

```
Vector-sum control FF and feedback (gain=50); zoomed flattop range
linear filling 500 us; flattop 800us;
```



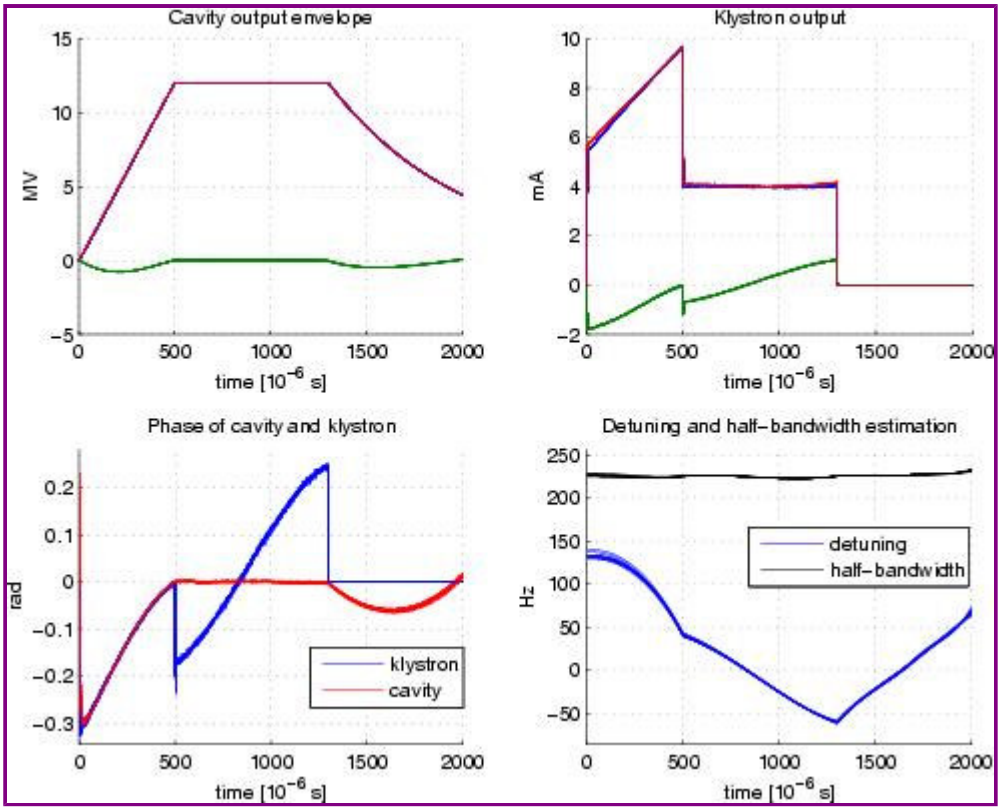
20.01.2008 06:36 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF and feedback (gain=50); 10 readouts
linear filling 500 us; flattop 800us;
```



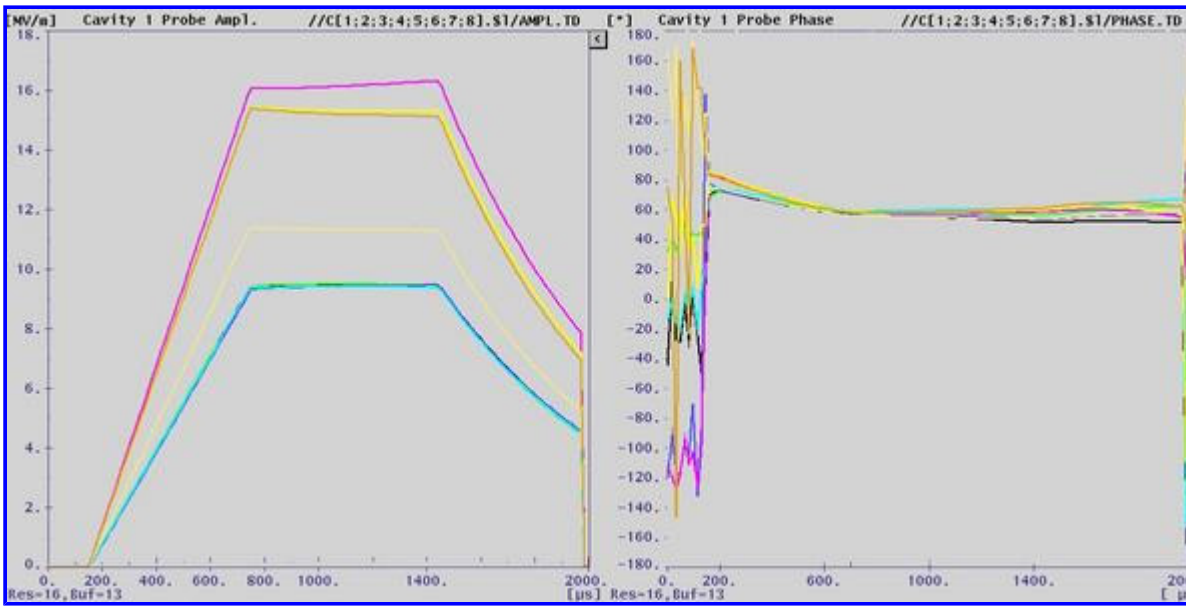
20.01.2008 06:27 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0); 10 repetition of readouts
linear filling 500 us; flattop 800us
```



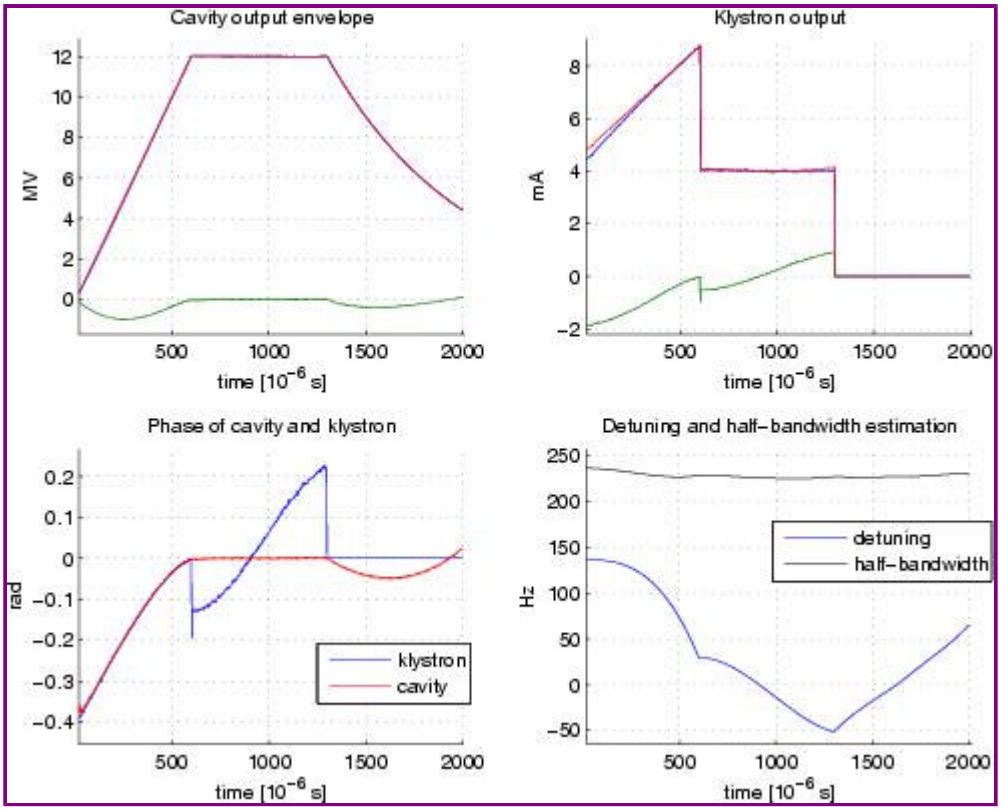
20.01.2008 05:53 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

vector-sum, FF only, 600 us linear filling



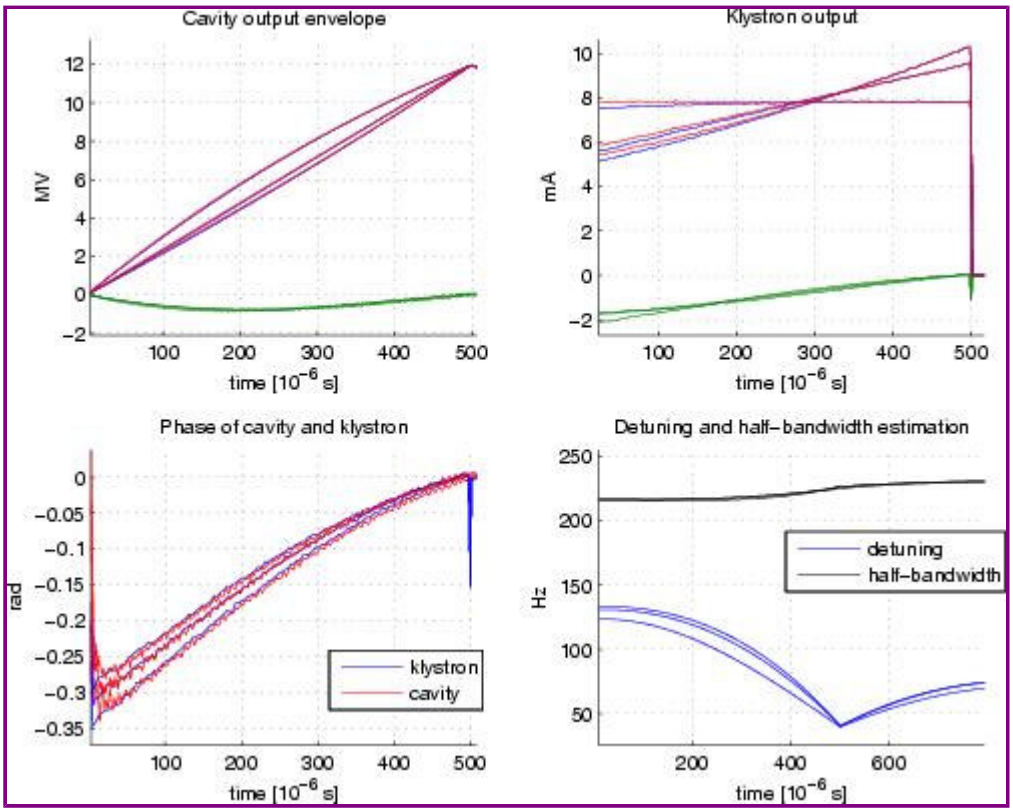
20.01.2008 05:46 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

Vector-sum control FF (gain=0)
linear filling 600 us; flattop 700us



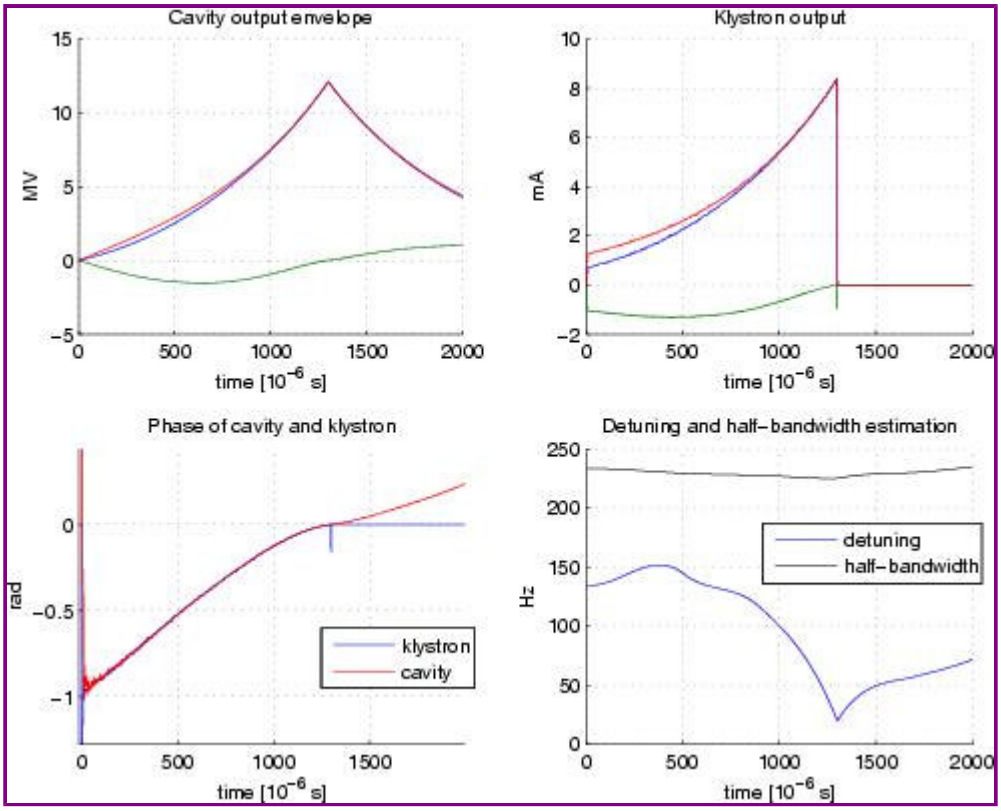
20.01.2008 05:43 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0)
three types of filling 500us: exp, lin, sinh (optimal)
```



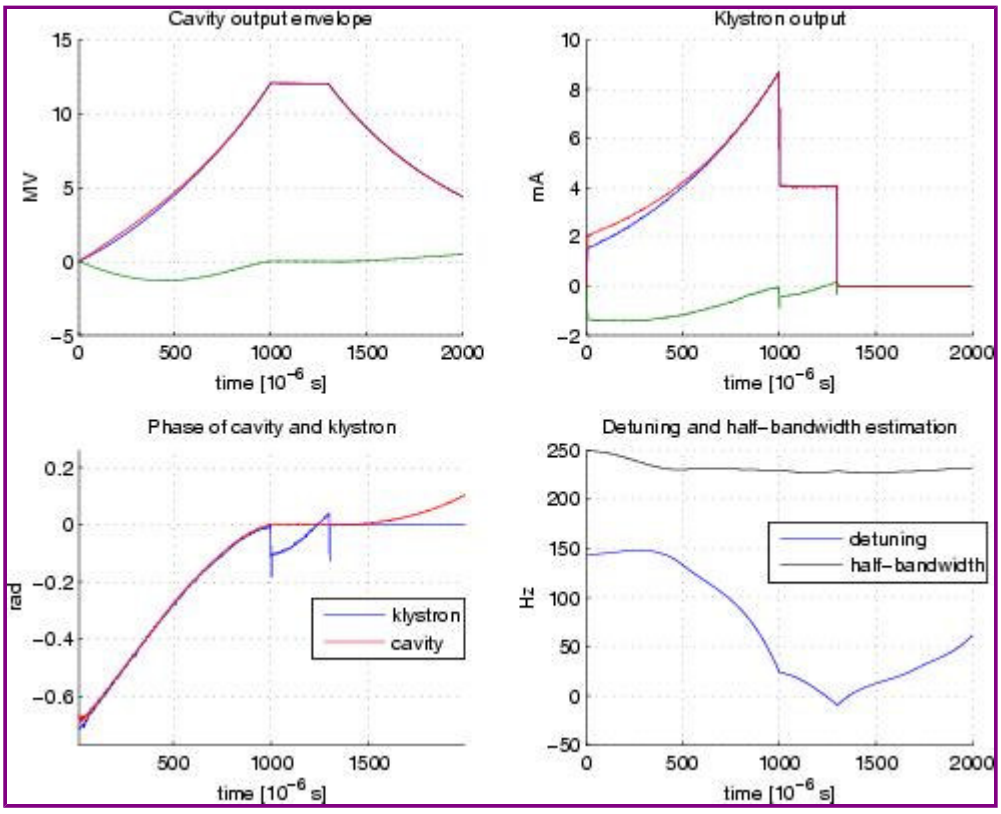
20.01.2008 05:20 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0)
sinh filling 1300 us
```



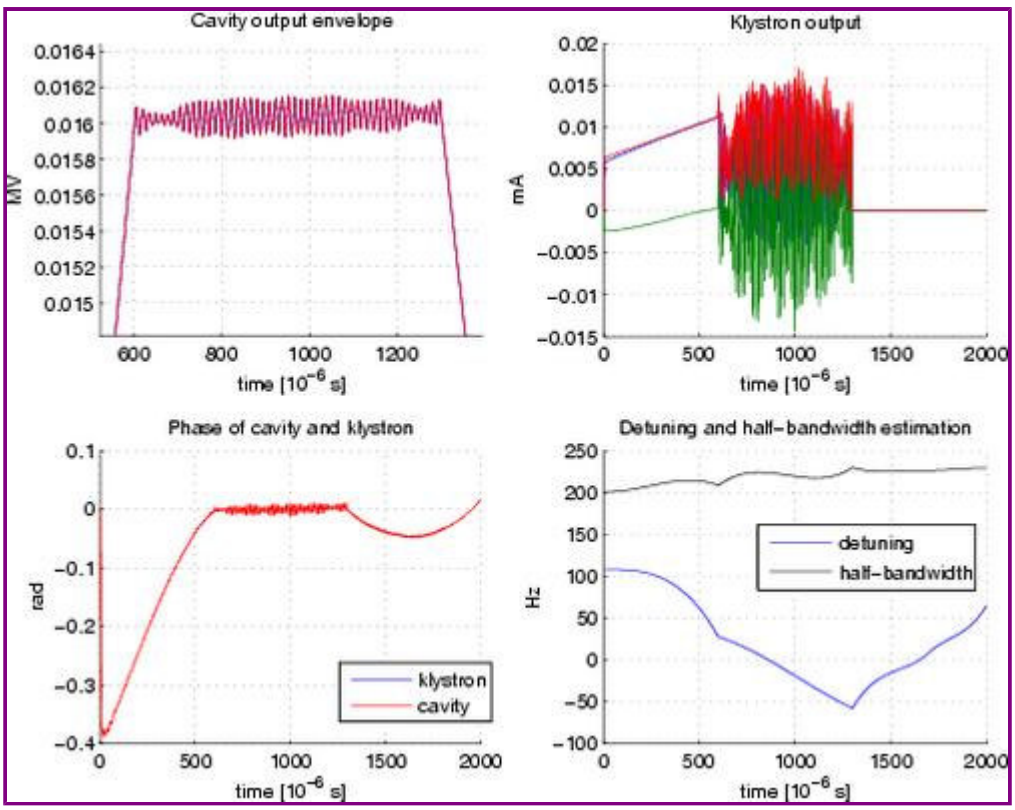
20.01.2008 05:15 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0)
sinh filling 1000 us; flattop 300us;
```



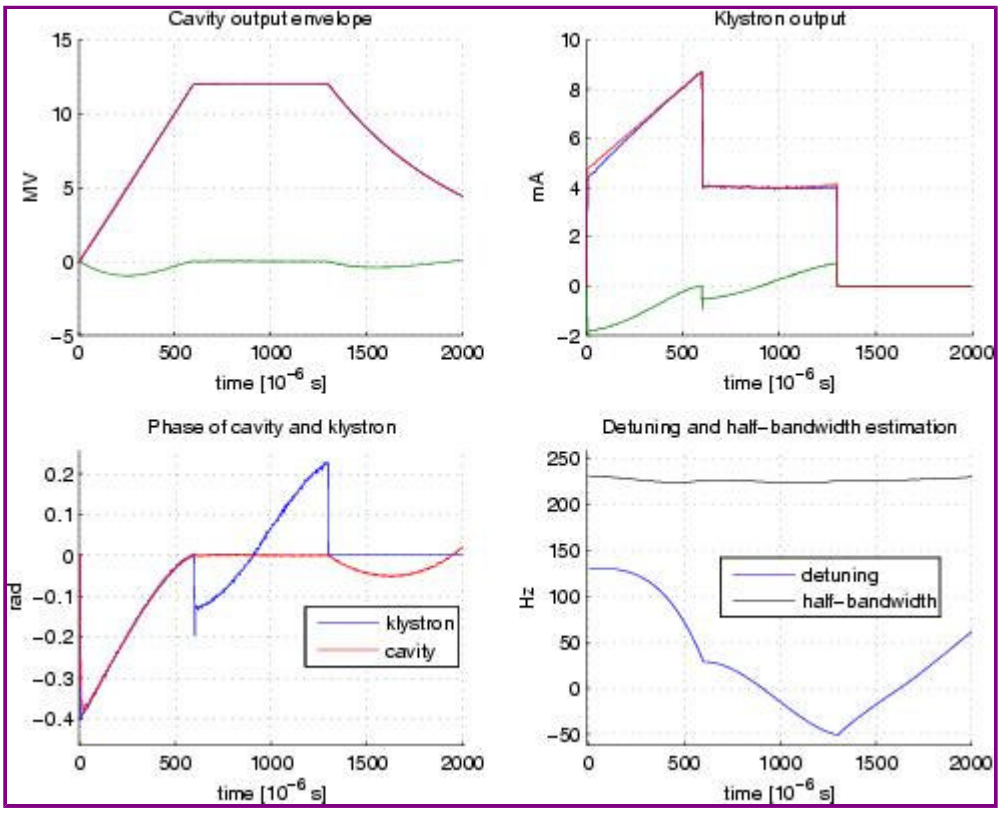
20.01.2008 05:02 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF and feedback (gain=300)on the limit of stability
linear filling 600 us; flattop 700us;
```



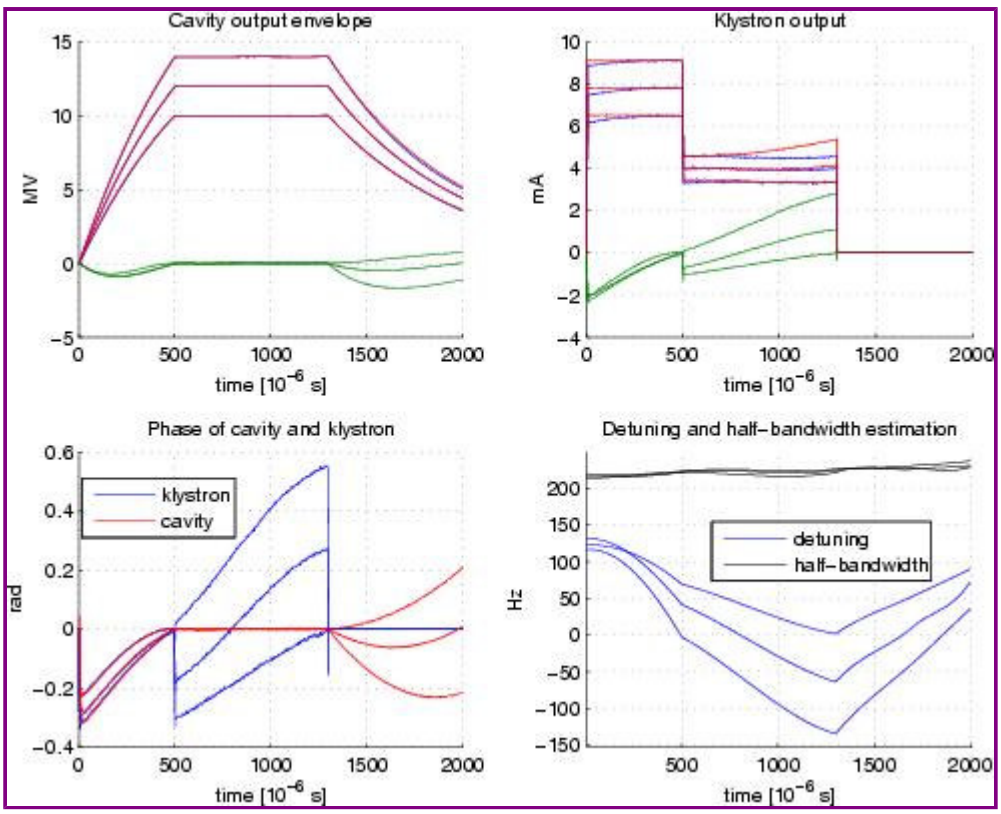
20.01.2008 04:48 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0); flattop 700us
linear filling 600 us;
```



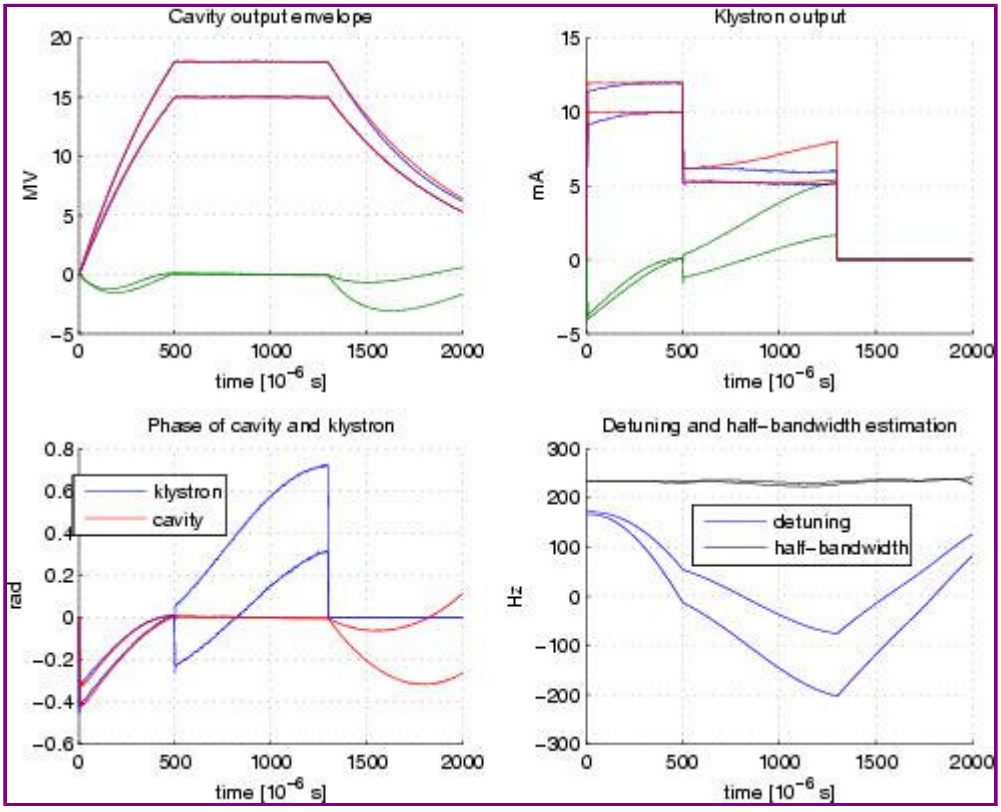
20.01.2008 04:25 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Vector-sum control FF (gain=0); flattop 800us
for 3 gradient levels (10, 12, 14 MV/m),
```



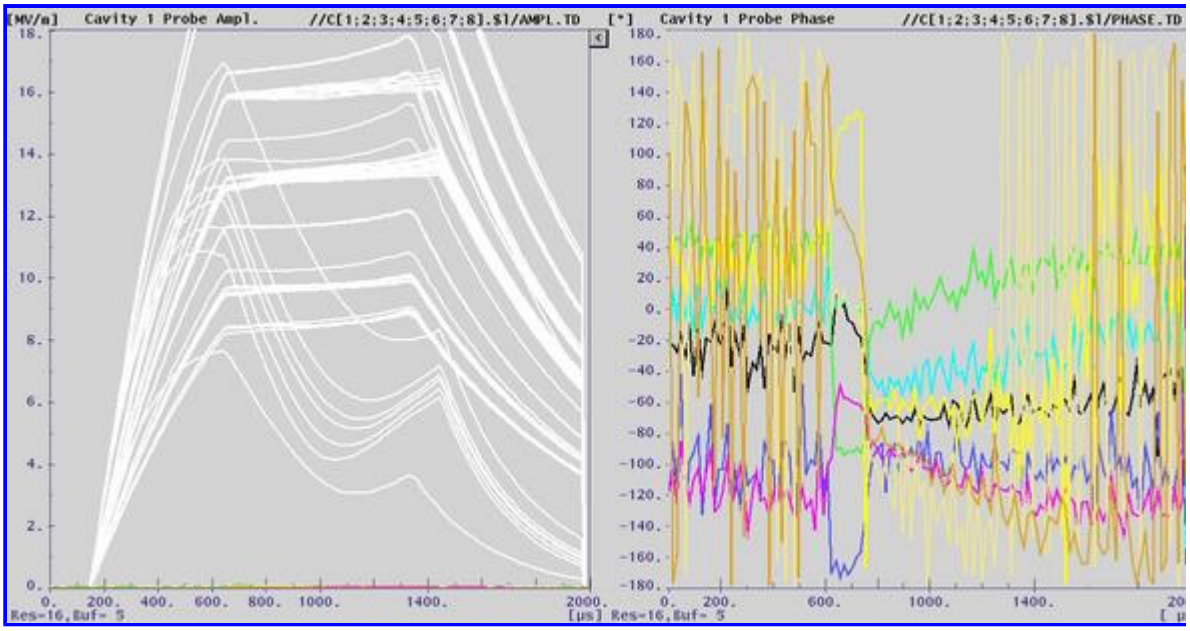
20.01.2008 03:38 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 8
FF (gain=0) flattop = 800 us
Two different gradients
```



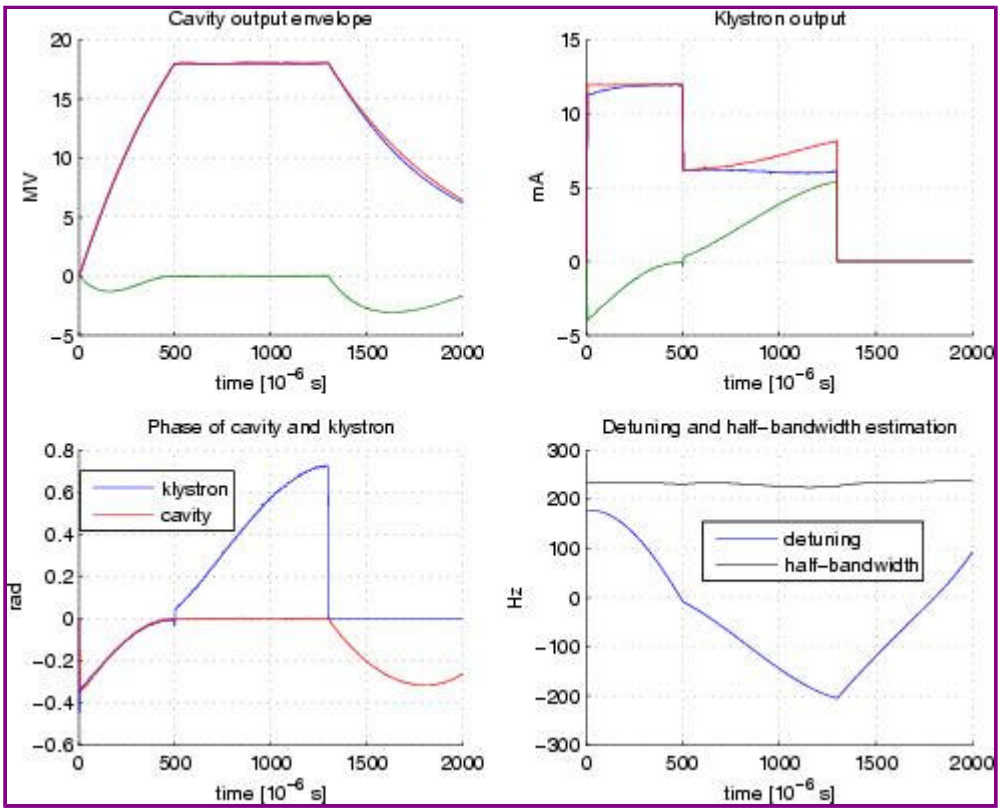
20.01.2008 02:59 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
Quenches
```



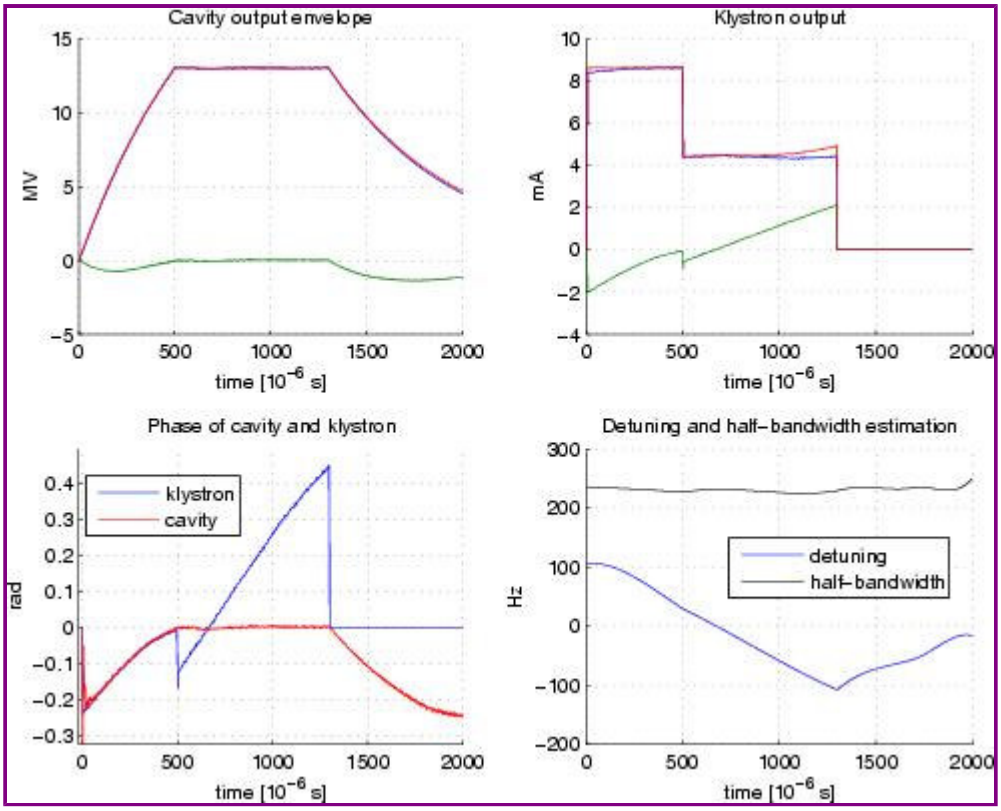
20.01.2008 02:25 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 8
FF (gain=0) flattop = 800 us
```



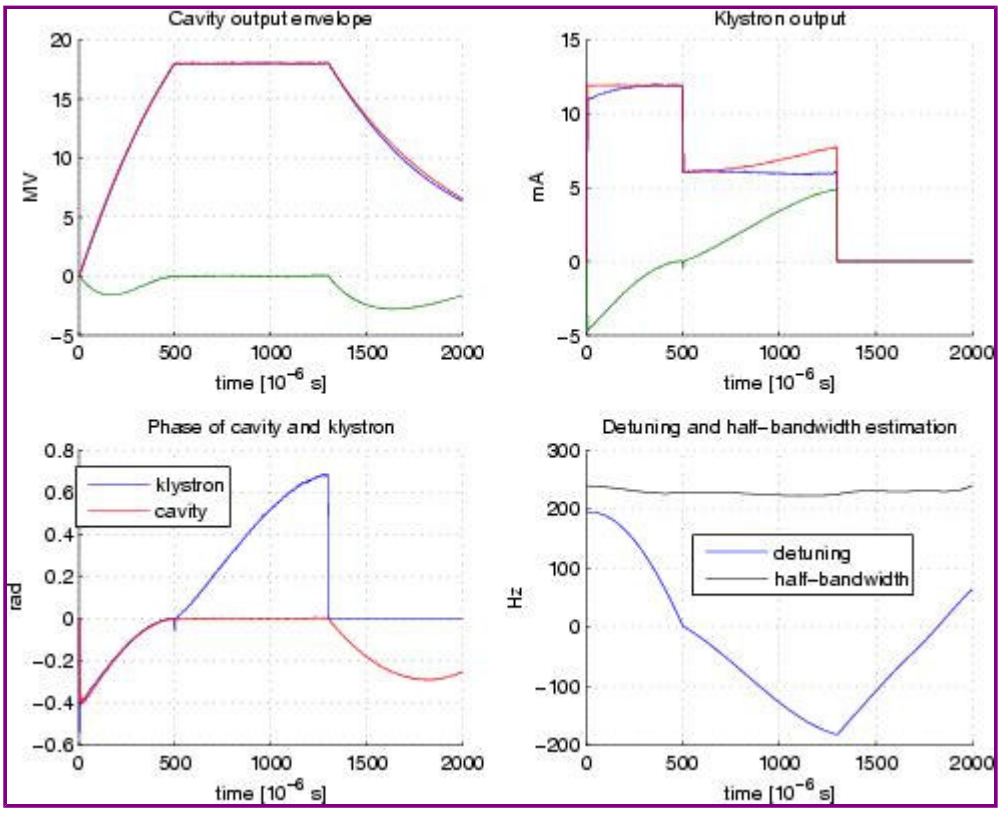
20.01.2008 02:21 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 7
FF (gain=0) flattop = 800 us
```



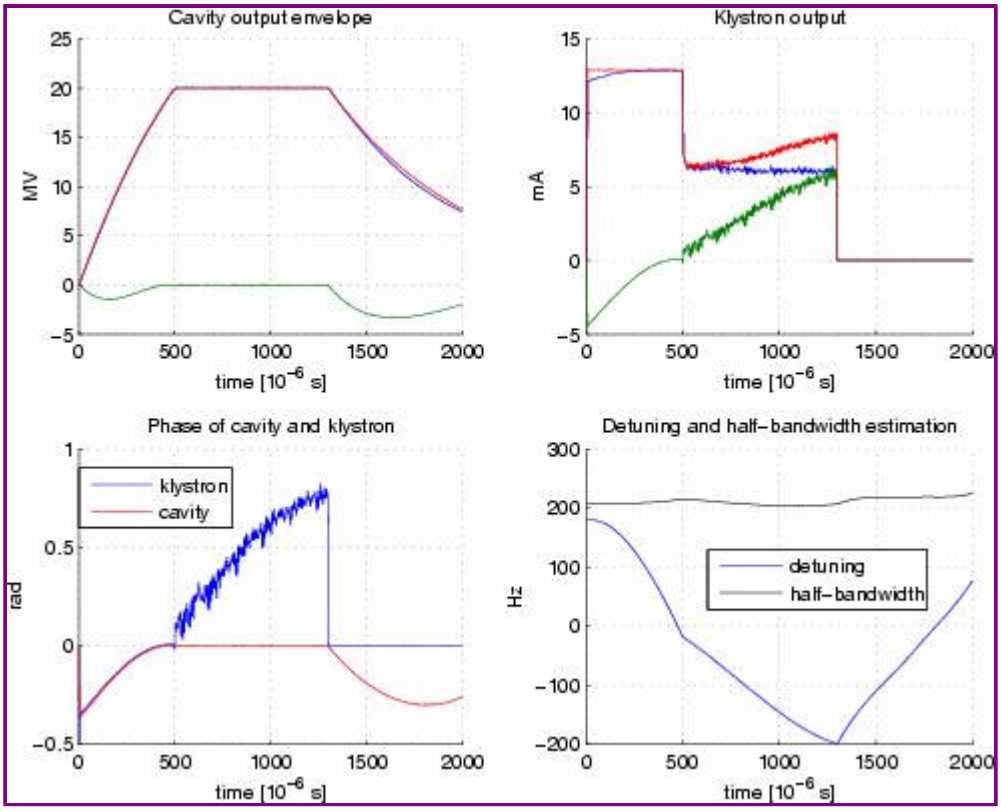
20.01.2008 02:15 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 6
FF (gain=0) flattop = 800 us
```



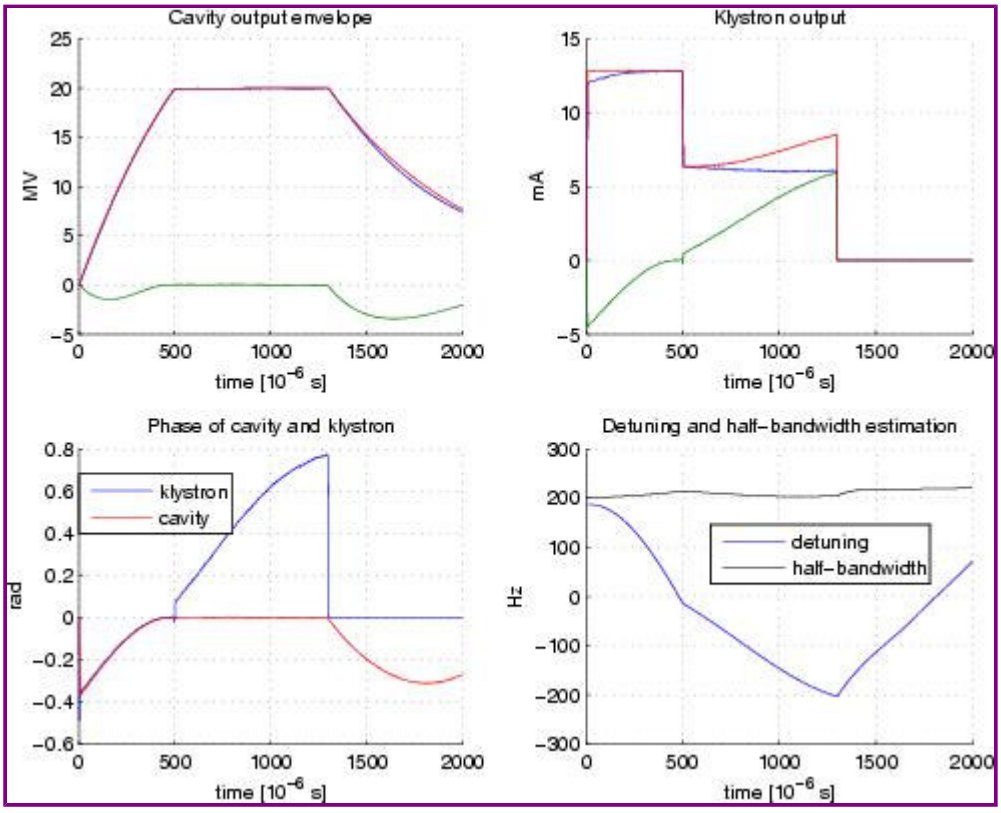
20.01.2008 02:11 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 5
FF ansd feedback (gain=50); flattop = 800 us
```



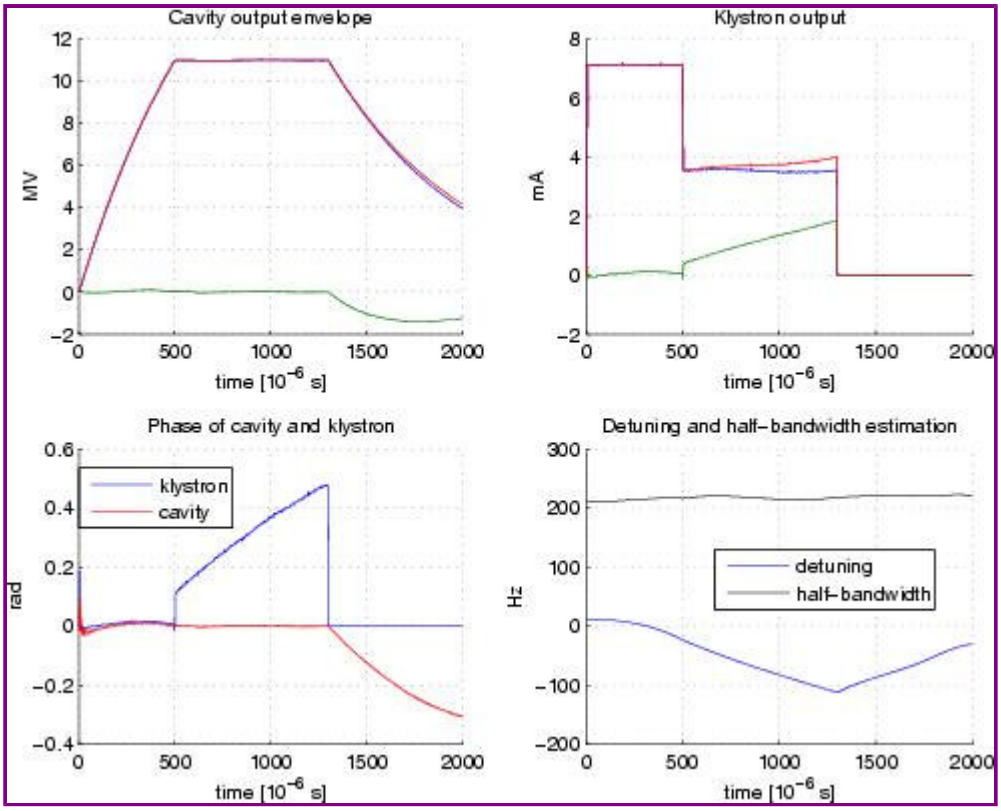
20.01.2008 02:09 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 5
FF (gain=0) flattop = 800 us
```



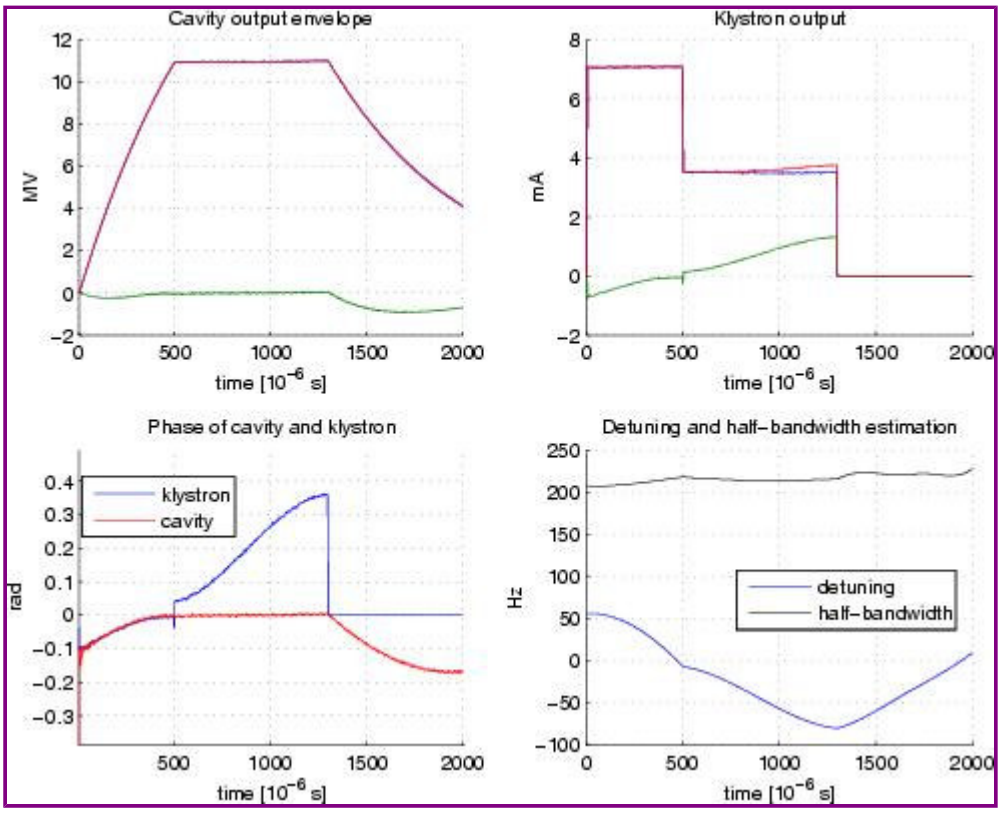
20.01.2008 02:02 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

```
CAVITY 4
FF (gain=0) flattop = 800 us
```



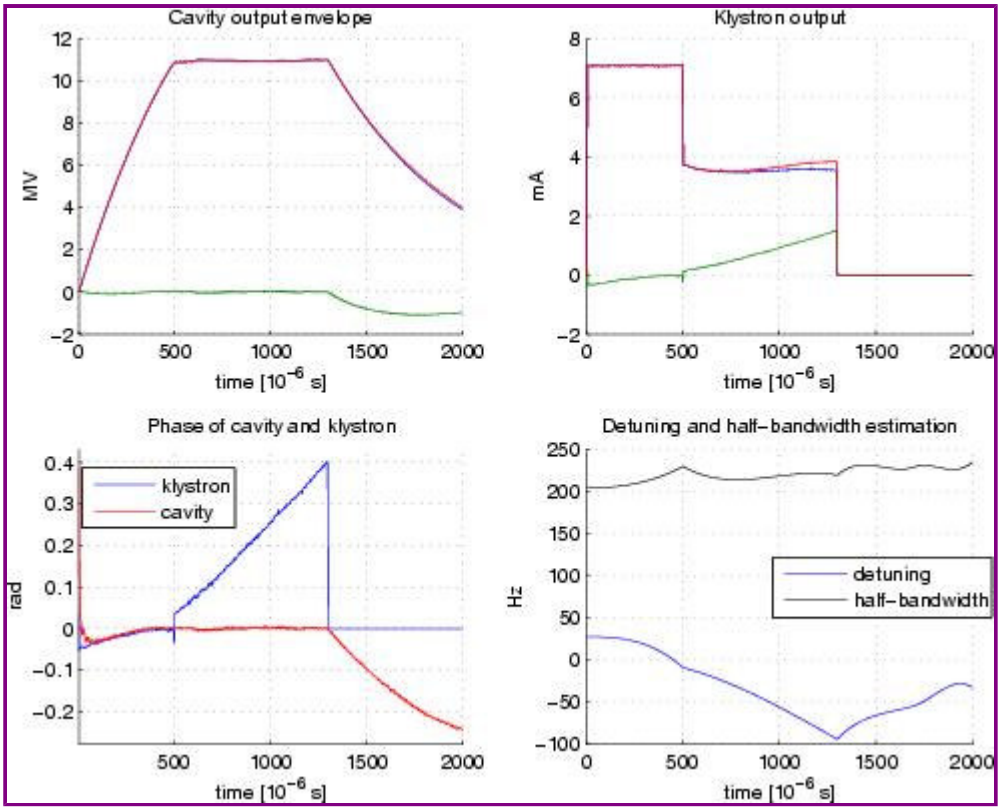
20.01.2008 01:55 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

CAVITY 3
FF (gain=0) flattop = 800 us



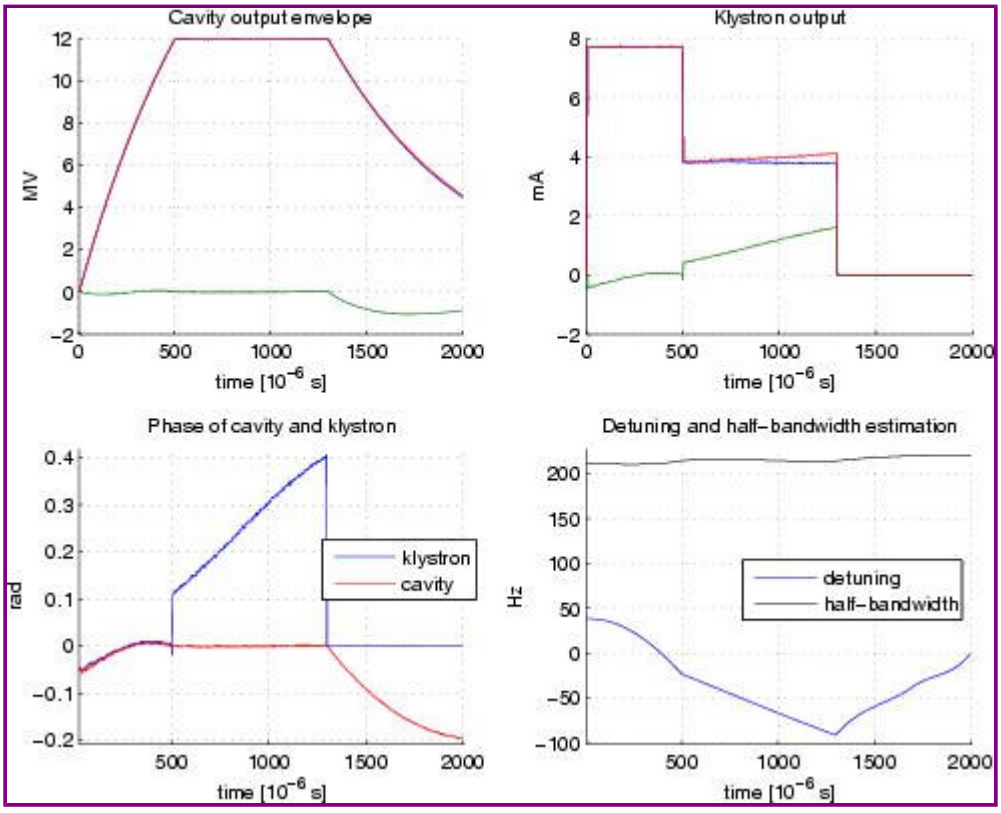
20.01.2008 01:49 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

CAVITY 2
FF (gain=0) flattop 800us



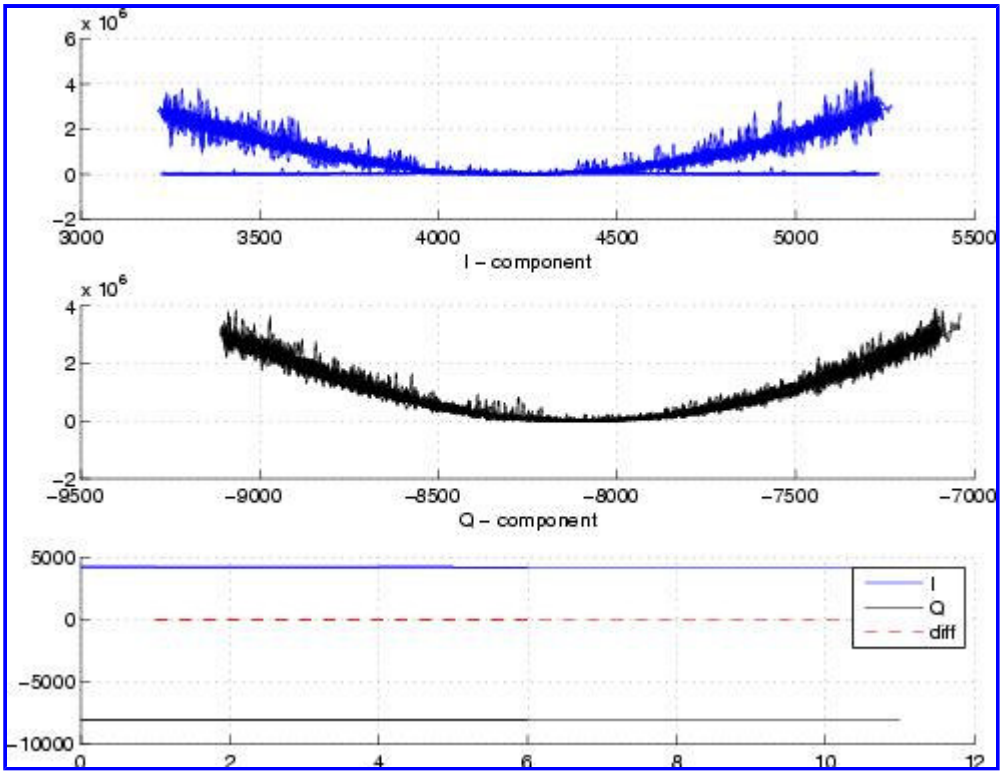
20.01.2008 01:46 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

CAVITY 1
FF (gain=0) flattop 800us



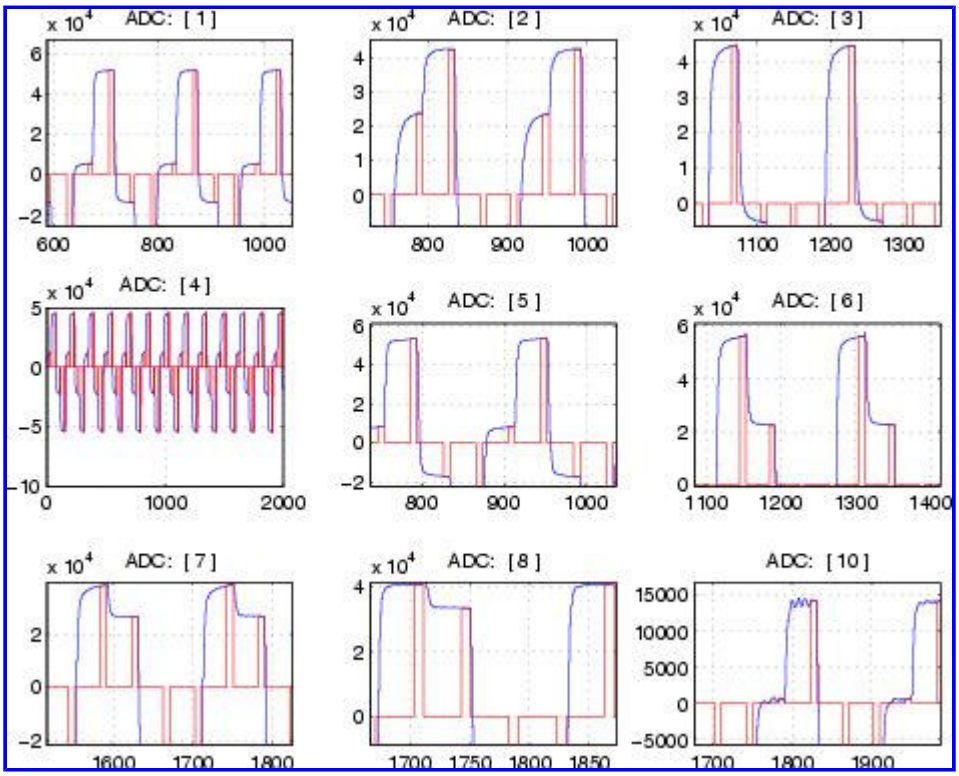
20.01.2008 01:44 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

Offset compensation



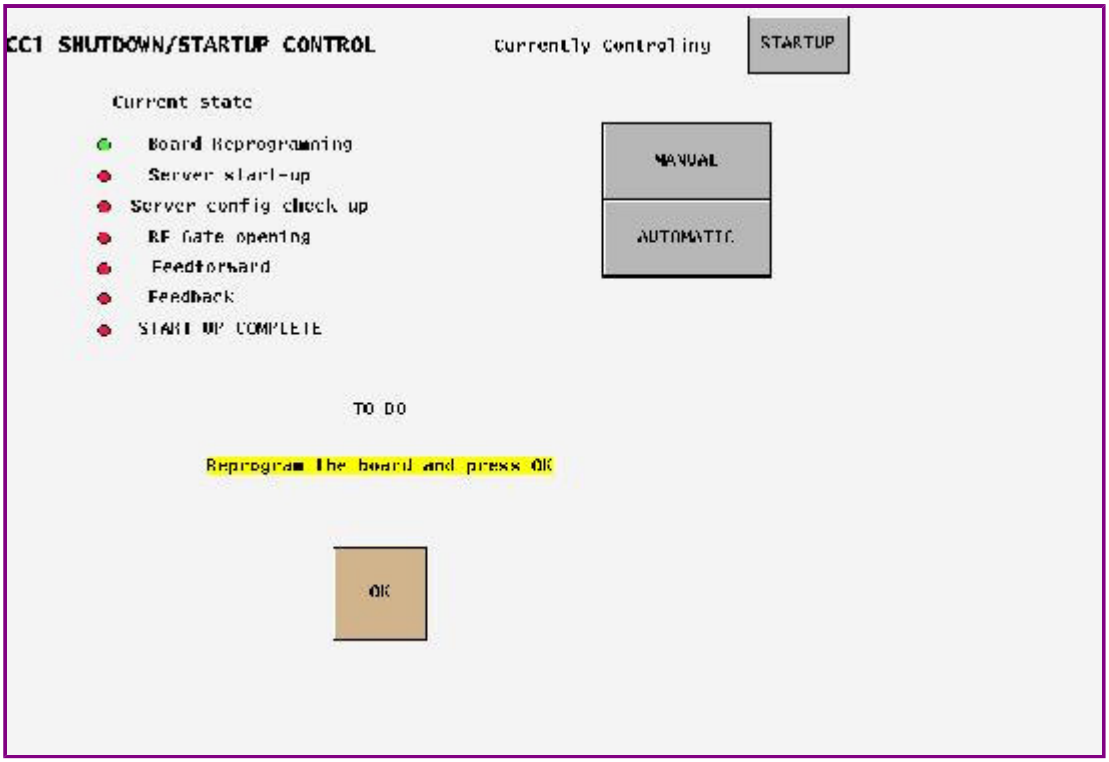
20.01.2008 01:41 T. Czarski, M. Linczuk, K. Pozniak **Multi-Cavity Complex Controller**

ADC fast readout

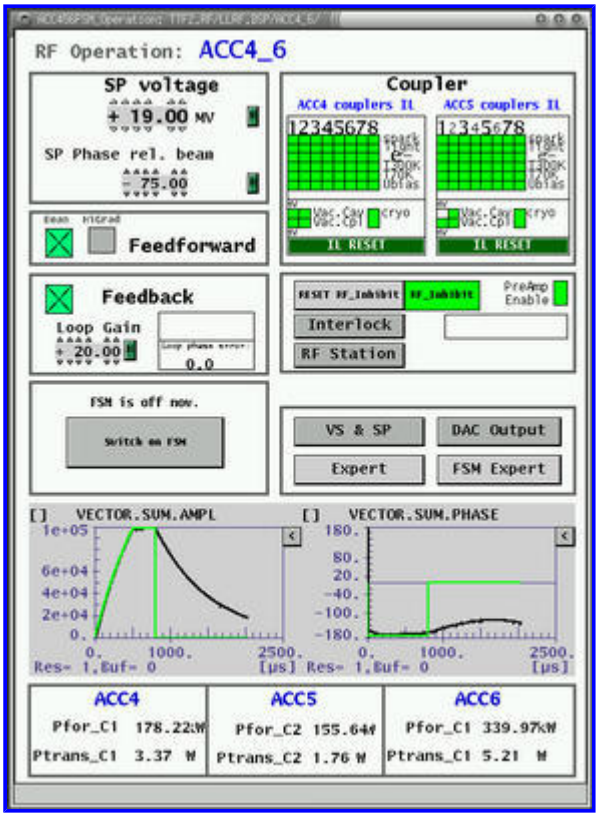


20.01.2008 01:00 K. Korzunowicz, J. Szewinski **/tmp/acc1_sym_shut_start_1200787239.ps**

Test panel for experimental ACC1 sequencer



20.01.2008 01:00 Andre Goessel **Acc4.5.6**



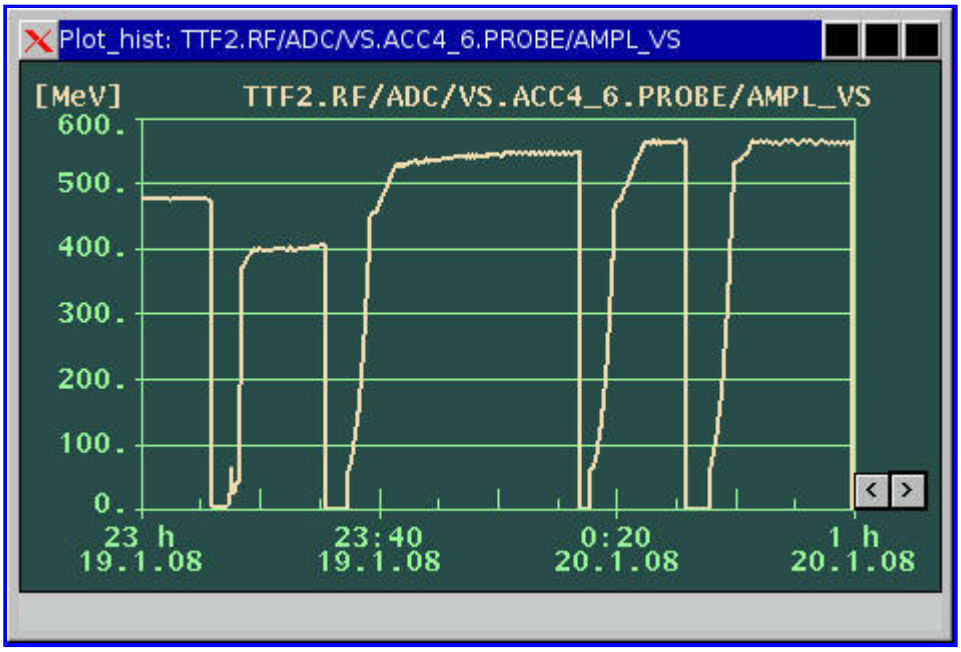
20.01.2008 01:00 Andre Goessel **Acc4.5.6 coupler conditioning finished**

```
The conditioning works smooth, without any coupler interlock event.
We are limited in X direction (pulselength: 500+300us) by the kly4 gun voltage puls
And we are limited in Y direction by the power limitation on kly4 (open loop):
Pfor_acc4c1= 181kW
Pfor_acc5c2= 154kW
Pfor_acc6c1= 345kW
```

```
Thats all so far. We are switching back the DSP for parameter settings and closed l
SP (limited by kly4): 19.00MV
Pfor_acc4c1= 178kW
Pfor_acc5c2= 155kW
Pfor_acc6c1= 339kW
(if you get too many kly4 (pwr limit) IL events, reduce the SP a little bit)
```

!

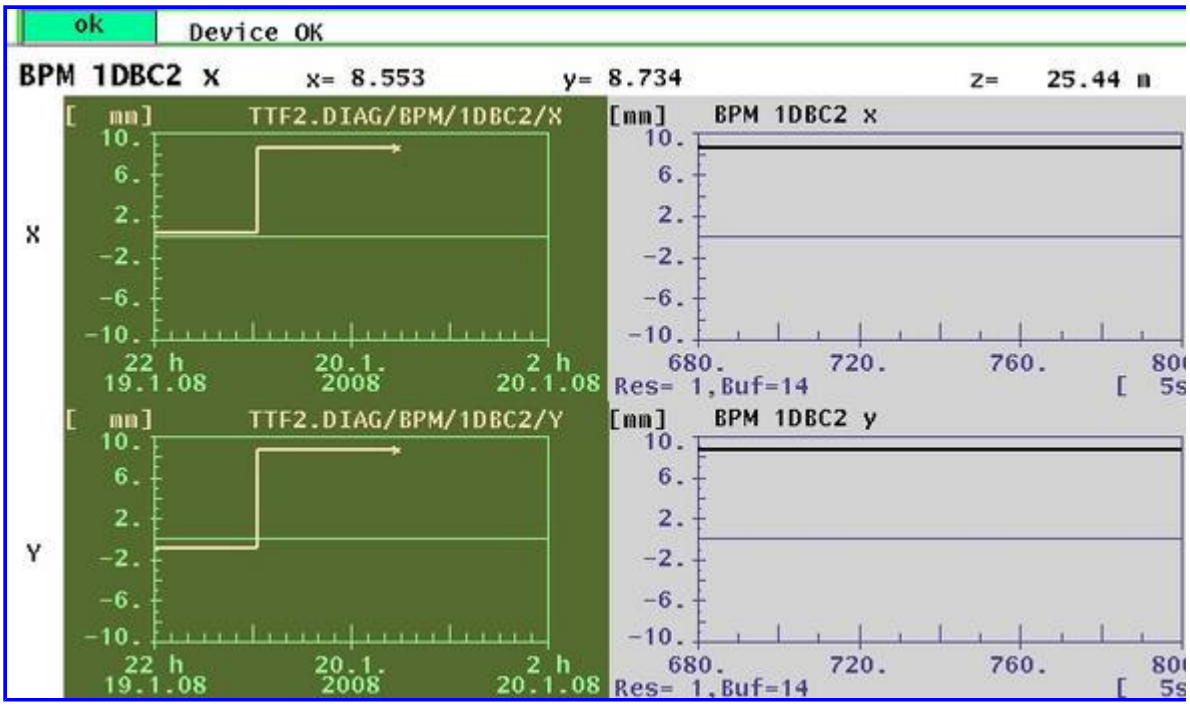
```
Siggi
This elogbook entry was send to following experts:
Schreiber Honkavaara Faatz
```



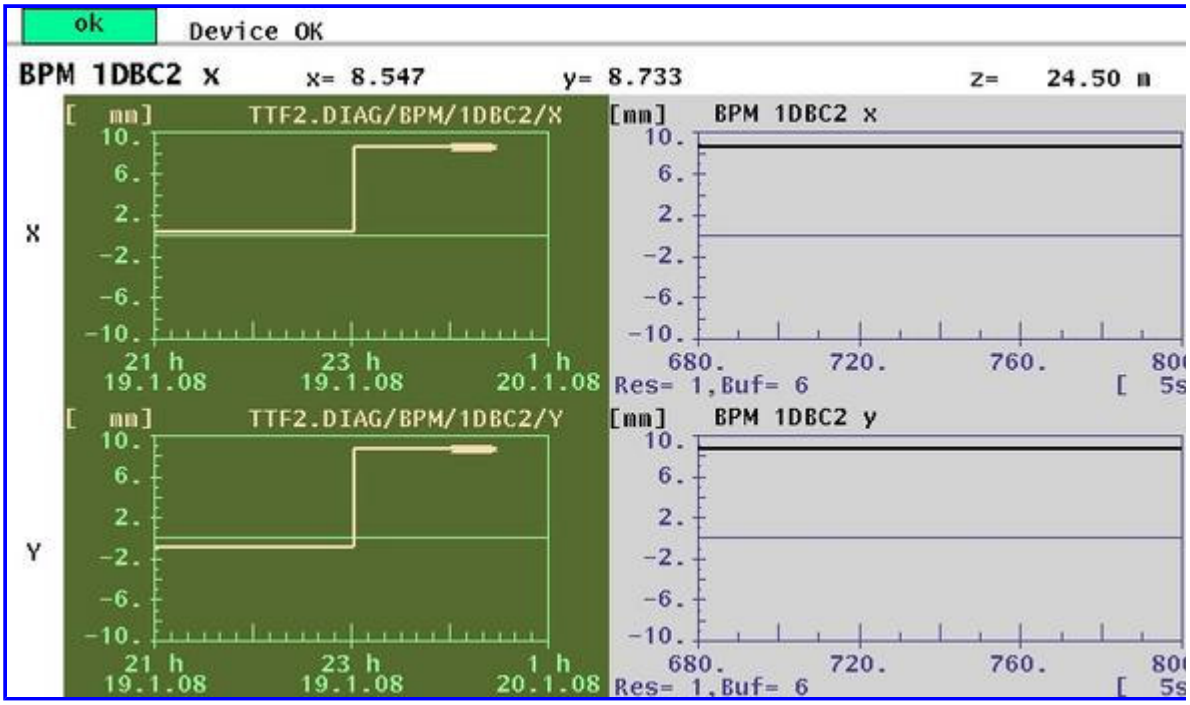
20.01.2008 00:54	K. Korzunowicz, J. Szewinski	**Test of sequencer for start-stop automation performed**

```
Initial test of sequencer for starting up, shutting down servers and reconfiguring
 performed successfully on vmedsp1.
```

20.01.2008 00:28	ttflinac	**/tmp/BPM_win_1200785300.jpg**



20.01.2008
00:27 ttflinac **/tmp/BPM_win_1200785247.jpg**

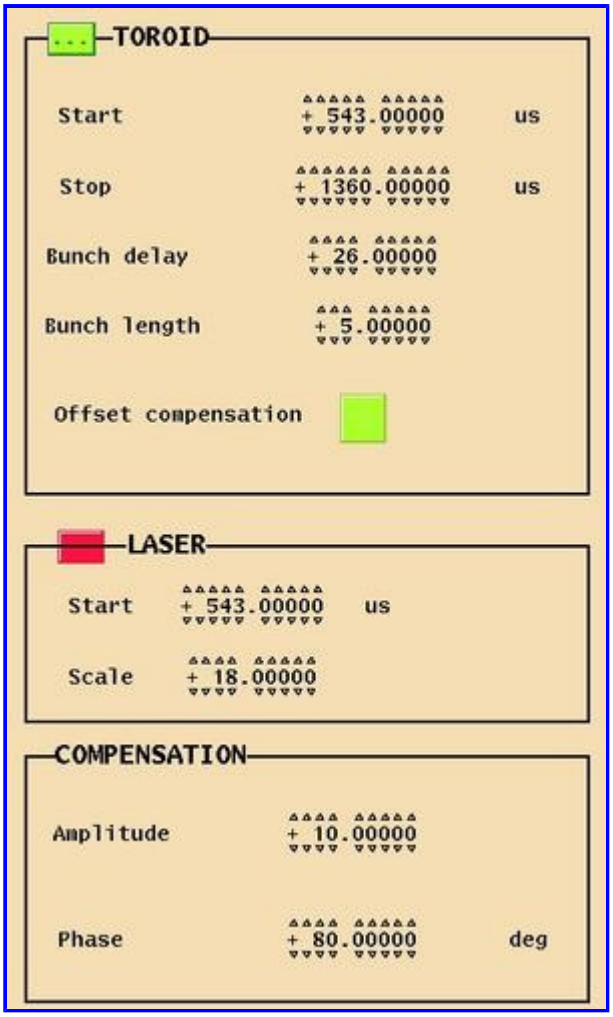


19.01.2008
23:10 Andre Goessel **Acc4.5.6 coupler conditioning started**

```
Today we found a closed valve on Acc5.C6, so there is again some hope ...
400us, 5Hz, works already without any problems up to the power limitation on kly4:
Pfor_acc4c1= 177kW
Pfor_acc5c2= 148kW
Pfor_acc6c1= 342kW
```

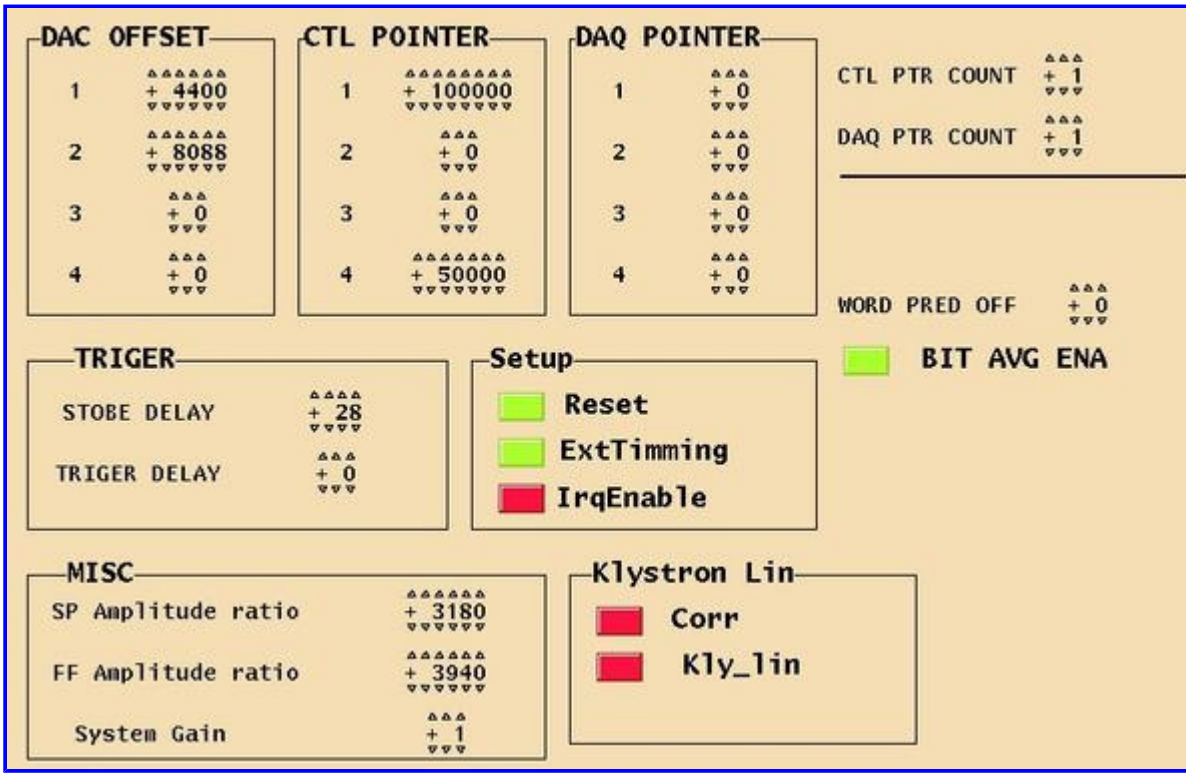
19.01.2008
23:09 T. Czarski, K. Pozniak, M. Linczuk **Multi Cavity Complex Controller**

```
Initial parameters
```



19.01.2008 23:08 T. Czarski, K. Pozniak, M. Linczuk **Multi Cavity Complex Controller**

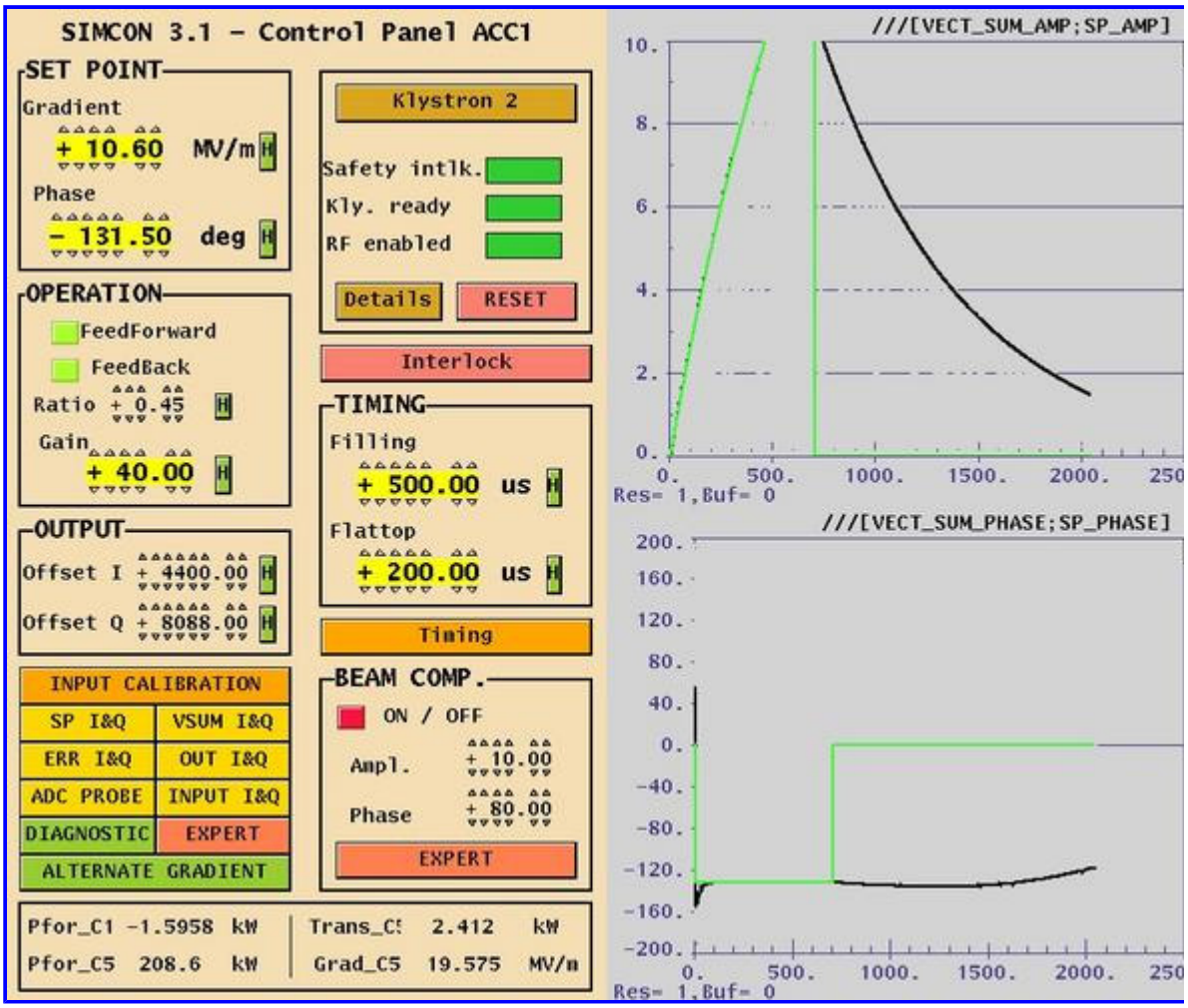
Initial parameters



19.01.2008 T. Czarski, K. Pozniak, M.

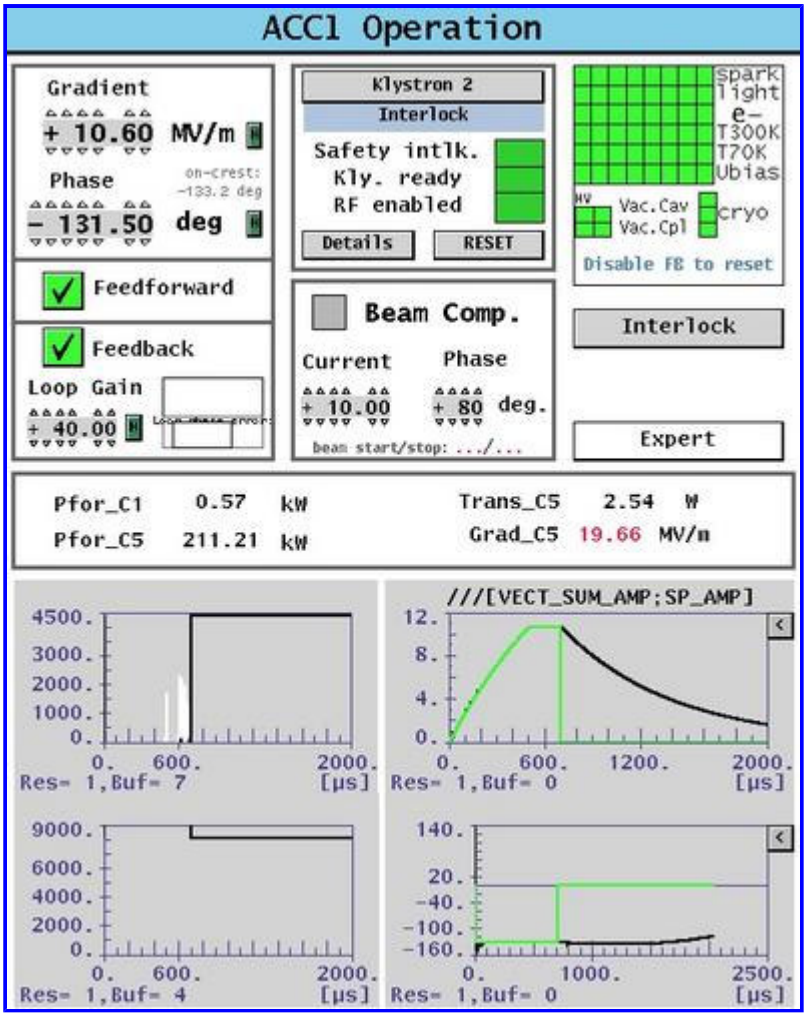
23:08 Linczuk **Multi Cavity Complex Controller**

Initial parameters



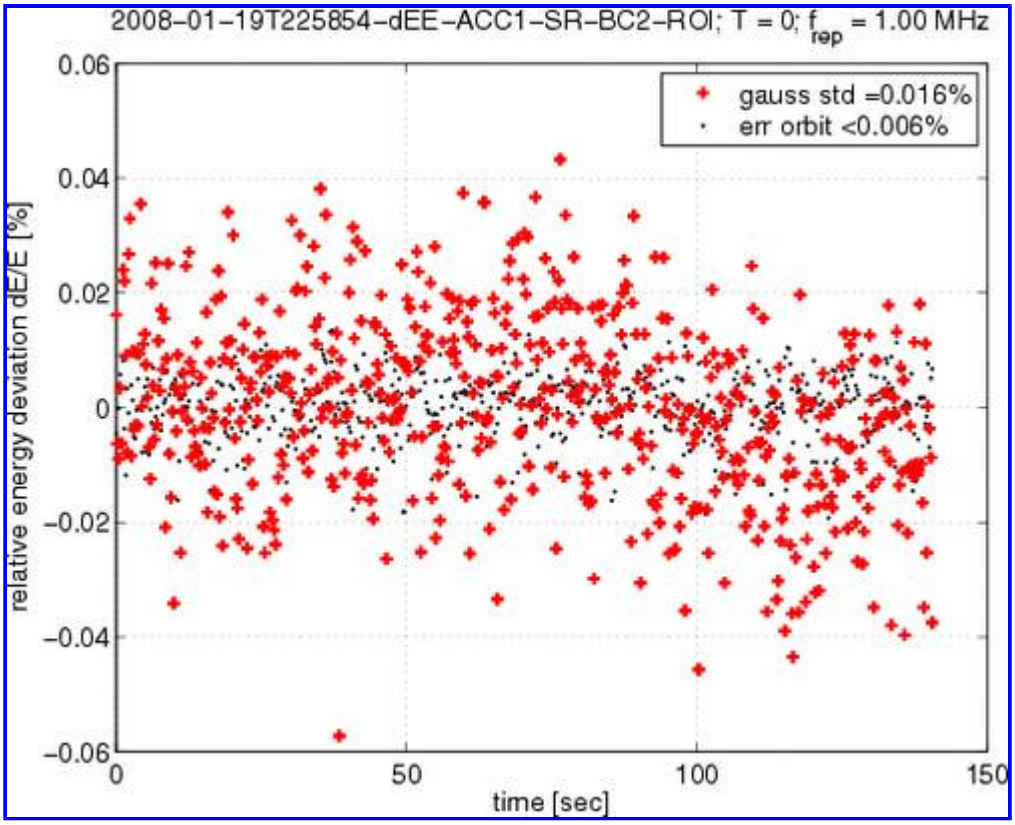
19.01.2008 23:07 T. Czarski, K. Pozniak, M. Linczuk **Multi Cavity Complex Controller**

Initial parameters

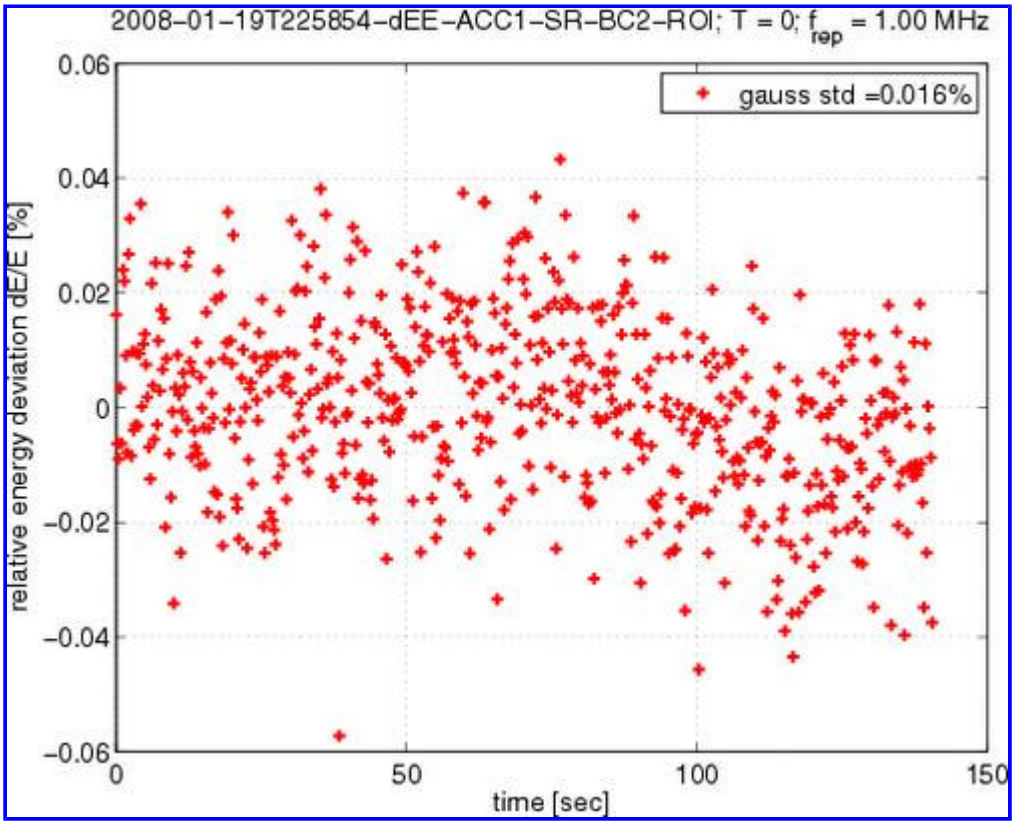


19.01.2008 23:05 schlarb **Energy stability and error estimate due to o**

```
The orbit jitter measured with BPMs up- and downstream the BC2 chicane indicate an
 for the energy measurement. This is not yet a limitation. To confirm the result, a
 bpm calibration is required together with an orbit scan while recording the SR cam
Program estimating the orbit error:
 take_data_dEE_SR_BC2_ROI_OR.m
```



19.01.2008 23:02 schlarb **Energy stability ACC1**

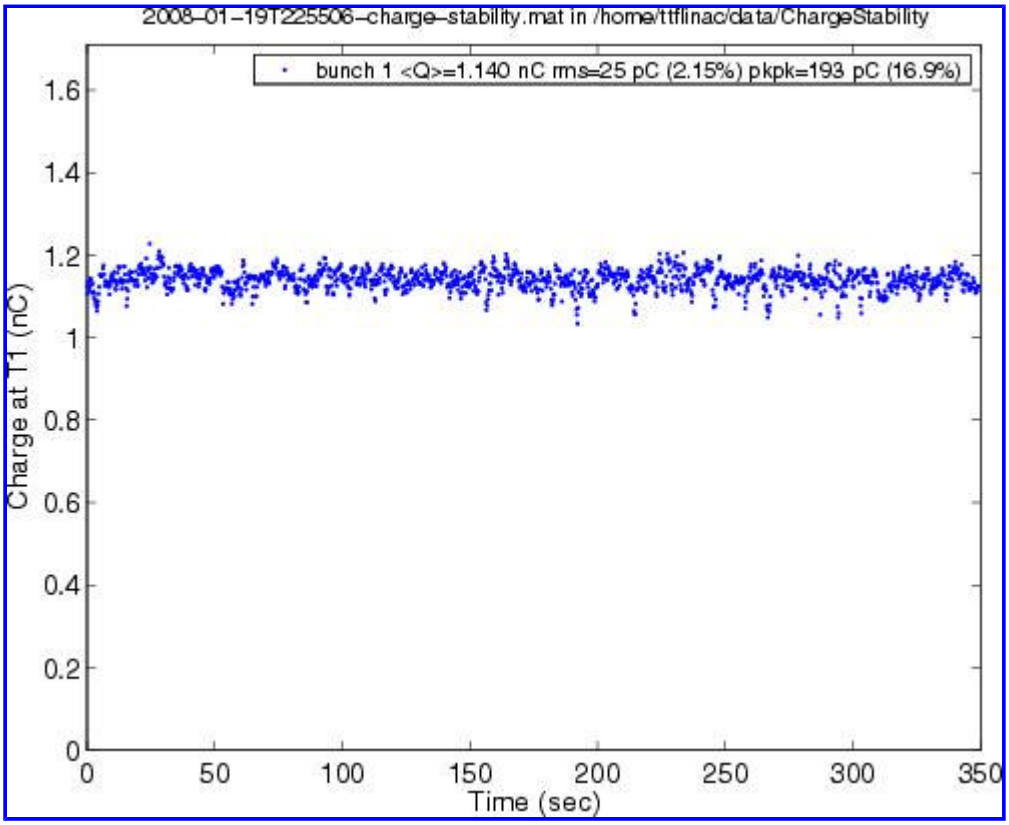


19.01.2008 23:01 schlarb **Charge stability beginning of shift**

```
Shift docu see end of last shift.
```

```
I could not optimize the laser pulse energy stability after the last change of flas
```

Needs to be done if required.
Siggi.



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