

Preparation to VdM Scan

o. Novgorodova
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History:

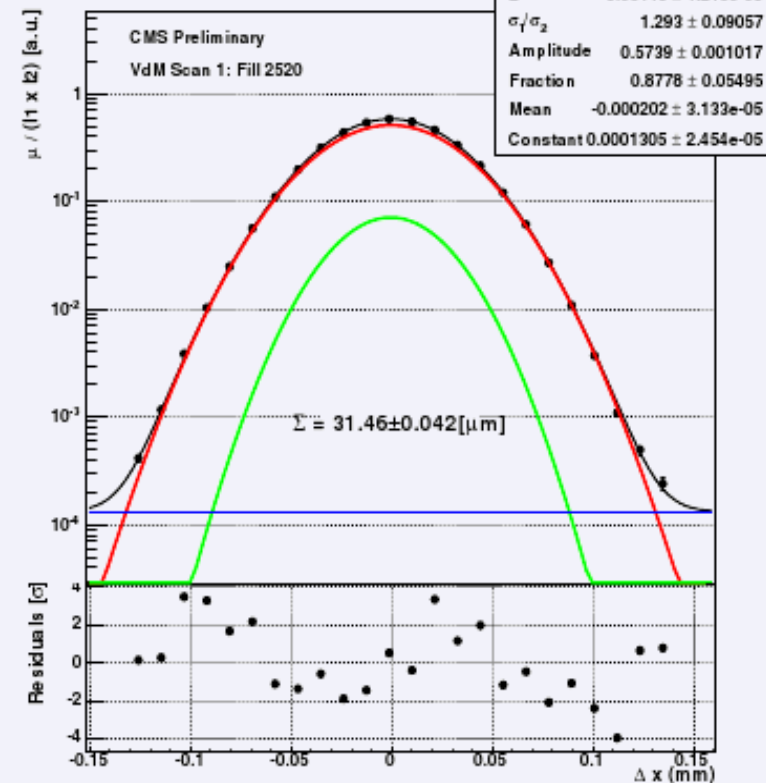
- ADC on-line measurements for the regular ADC measurements and simple analysis (ADC data files deleted after processing)
- Previously was working every hour, then update for the beam modes (Flat Top, Ramp, Squeeze, STABLE BEAMS). This reduce CPU time and increase the efficiency.
- Baseline is measured between the measurements of different beam modes not to overlap with stable beams measurements. Baselines also can be extracted from the stable beams measurements in the abort gap.
- This script and DIP baseline publishing are running with cronjob restarting procedure in case of crashes or restarting computer, this will restart work automatically every few hours.
- Everything has to be operated as brmpo user as it requires root and CAEN libraries.

VdM Scan

- We do VdM scan for luminosity corrections for BCM1F.
- Plus it allows studies of the beam halo and albedo due to special bunch structure provided (like 35 bunches per orbit)

Calibration

Bunch Crossing 1



Results of Van der Meer scan are fit to a component. The two gaussian component component is in blue, and the combined

How TO switch off ADOnline

- 1. To comment the cronjob lines:

```
>*/4 * * * /d1/brmp/ro/bin/bcm1fADCbeamMode start | tee -a /d1/brmp/ro/data/log/auto-start.log >/dev/null 2>&1
```

- Shut down the program:

```
>/d1/brmp/ro/bin/bcm1fADCbeamMode stop
```

- If to start it again: `>/d1/brmp/ro/bin/bcm1fADCbeamMode start`

- Check with the command

- `>ps -aux | grep DIP` that next programs are not present:

- `/d1/brmp/ro/sw/ADC/script.sh`

- main script starting startstop.sh

- `/nfshome0/olga/ADOnline/startstop.sh`

- Defines time of ADC measurements and provide the analysis and decides if to store or delete file.

- `/nfshome0/ringos/BCM1F/operateBCM1F/operateBCM1F`

- If one of the process is present

→ Next Slide

Kill processes

```
[brmp@BRMBCMCTRL3 ~]$ ps -aux | grep ADC
Warning: bad syntax, perhaps a bogus '-'? See /usr/share/doc/procps-3.2.3/FAQ
brmp  9286  0.0  0.0  5944 1096 pts/3    S   12:51   0:00 /bin/bash +x /nfshome0/olga/ADOnline/startstop.s
h
brmp  10177 0.0  0.0  5184  568 pts/3    S+  12:54   0:00 grep ADC
brmp  18928 0.4  0.4 65088 17948 ?        Sl   Jun28  25:03 /d1/brmp/sw/ADC//DIP_baselineRecord_read_2
[brmp@BRMBCMCTRL3 ~]$
```

- >kill Process Number (9286)
- To start it back use command:
 >/d1/brmp/bin/bcm1fADCbeamMode start
- To start VdM Scan first solution go to Ringos directory:
- >cd /nfshome0/ringos/BCM1F/operateBCM1F

```
[brmp@BRMBCMCTRL3 operateBCM1F]$ ./run_ADC.sh status
operateBCM1F is stopped
[brmp@BRMBCMCTRL3 operateBCM1F]$ ./run_ADC.sh start
nothing to do!
```

[FAILED]

```
[brmp@BRMBCMCTRL3 operateBCM1F]$ ./run_ADC.sh status
operateBCM1F (pid 13203) is running...
[brmp@BRMBCMCTRL3 operateBCM1F]$ ./run_ADC.sh stop
Shutting down operateBCM1F :
[brmp@BRMBCMCTRL3 operateBCM1F]$ ./run_ADC.sh status
operateBCM1F is stopped
[brmp@BRMBCMCTRL3 operateBCM1F]$
```

[OK]

Second Solution:

- It is for making things a bit easier. Go to directory /nfshome0/olga/VdMscan_July2012

```
[brmpro@BRMBCMCTRL3 VdMscan_July2012]$ ./VdMscan_start.sh
/nfshome0/brmdev/software/root/lib:/local/lib
The ADC measurements will start now:
nothing to do!

Now status command will be called - has to be running.
operateBCM1F (pid 24156) is running...
Program for starting ADC finished. To stop ADC use ./VdMscan_stop.ch
[brmpro@BRMBCMCTRL3 VdMscan_July2012]$ ./VdMscan_stop.sh
/nfshome0/brmdev/software/root/lib:/local/lib
First test if ADC is running:
operateBCM1F (pid 24156) is running...
Now Stop the ADC:
Shutting down operateBCM1F :
Now file will be renamed to VdM_scan_data...
last file -> data_2012-07-02_13-29-14_Mon.root
new file name -> VdM_Scan_data_2012-07-02_13-29-14_Mon.root
Program for stopping ADC finished, thank you!
[brmpro@BRMBCMCTRL3 VdMscan_July2012]$
```

[FAILED]

[OK]

- In the end file will be generated and saved in /d2/brmpro/data/bcm1f/ADC/CASTOR/2012/.

Test Pulses procedure

There is a procedure to run test pulses measurements in the moment beam is dumped. It runs 1 and 2 minutes ADC and creates 2 files in the next folder:

Is /d2/brmpro/data/bcm1f/ADC/CASTOR/2012/

Files will be named like this:

TestPulses_data_2012-07-02_12-22-56_Mon.root

To run it procedure from “How TO switch off ADCOnline” slide has to be done and that beam is dumped fulfilled than just run next command:

```
>/nfshome0/olga/TestPulses/TPscript.sh
```