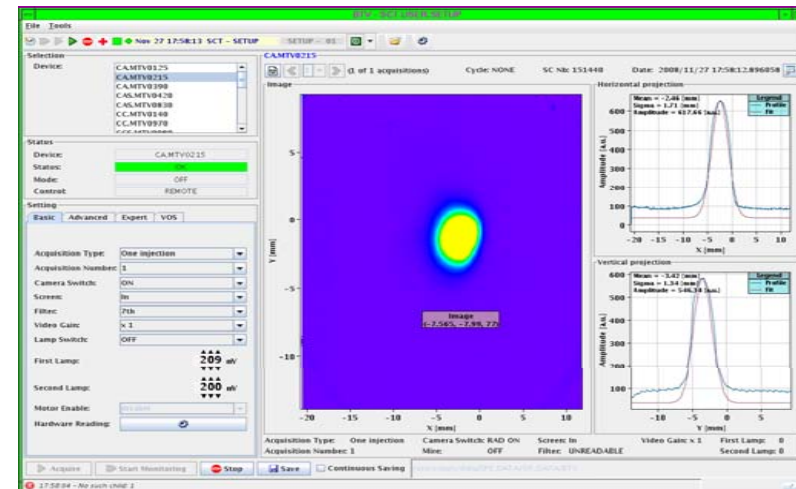
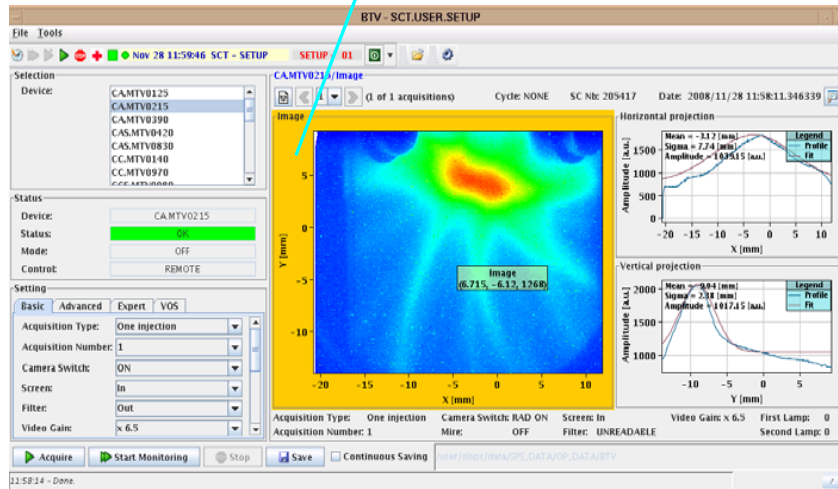
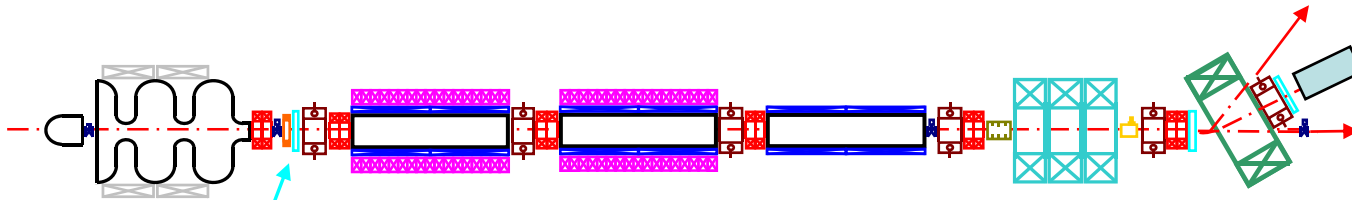


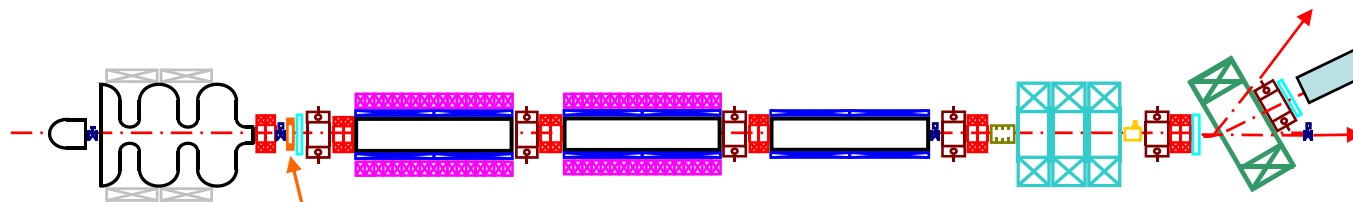
- CALIFES STATUS:
  - Commissioning started on 1<sup>st</sup> December

## Beam was immediately observed at the exit on the RF gun

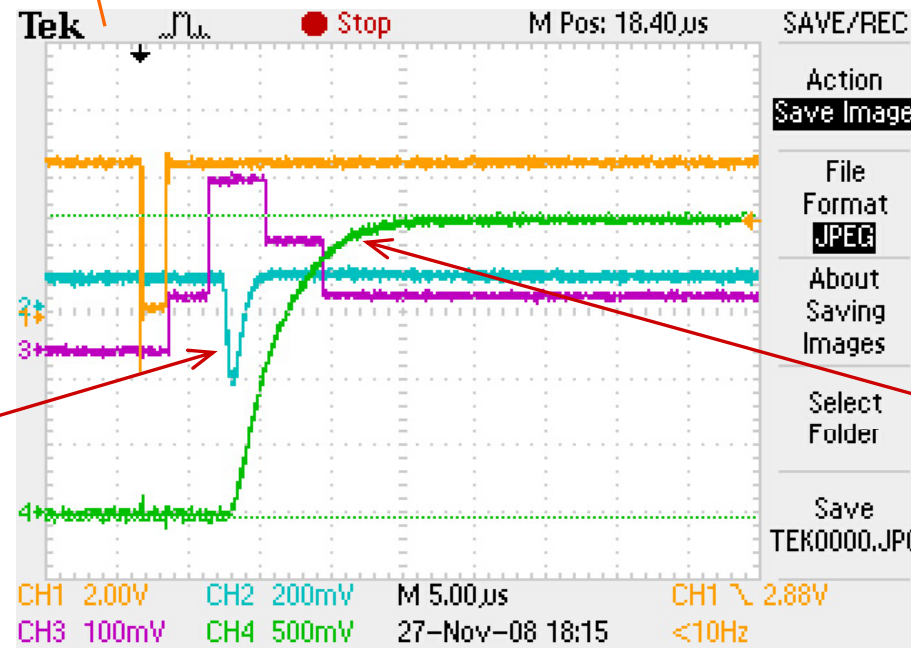


- **Dark Current** with 68 MW at the RF compression output  
 → around 6.5 MW in the gun  
 (notice: video gain is pushed at x 6.5, no filter)

- The beam with laser pulse train of 100 ns length (150 bunches)  
 (video gain x 1 and optical filter)

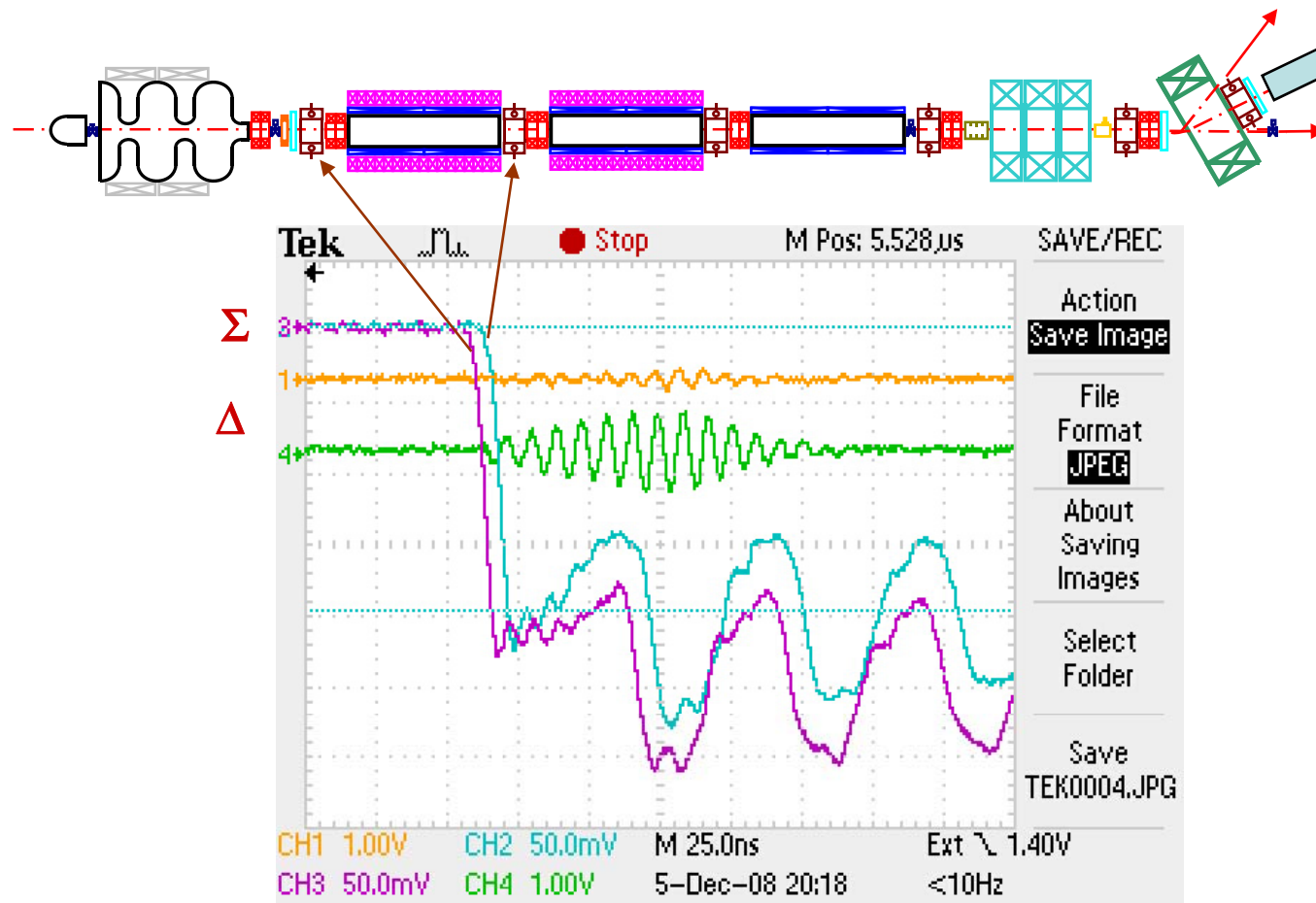


Toroidal transformer pulse

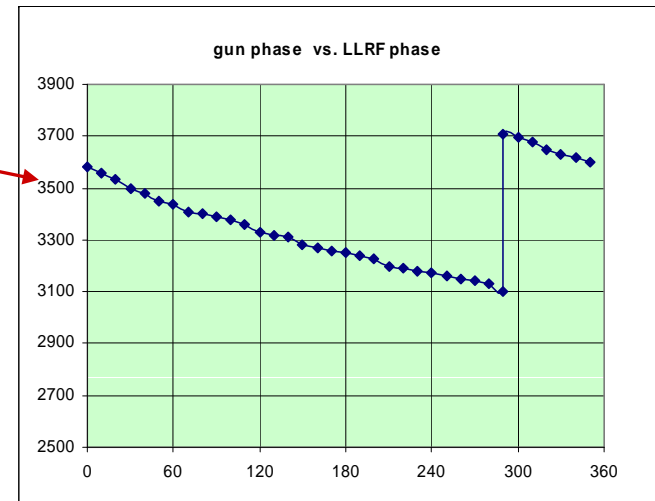
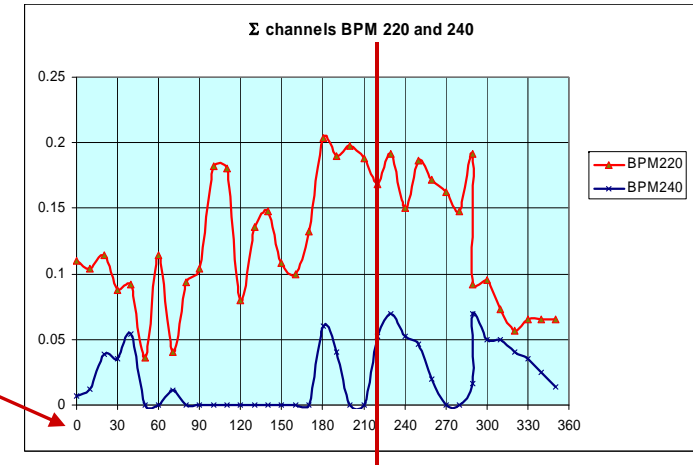
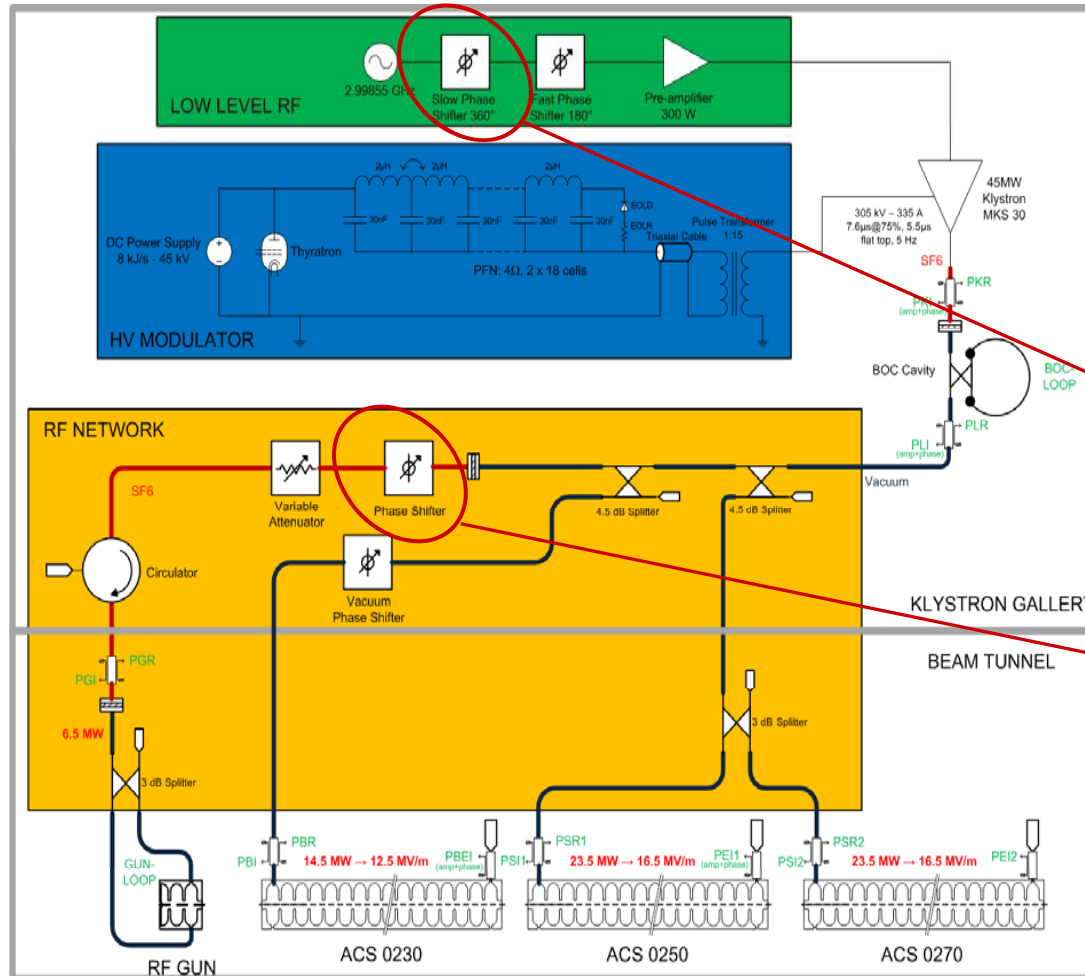
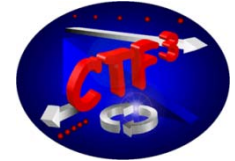


Integrated charge

- Beam Charge Monitor signal : 2.2 V corresponding to 11 nC  $\rightarrow$  0.073 nC per bunch
- Dark current was measured around 0.1 nC
- QE has been evaluated to approx. 1%

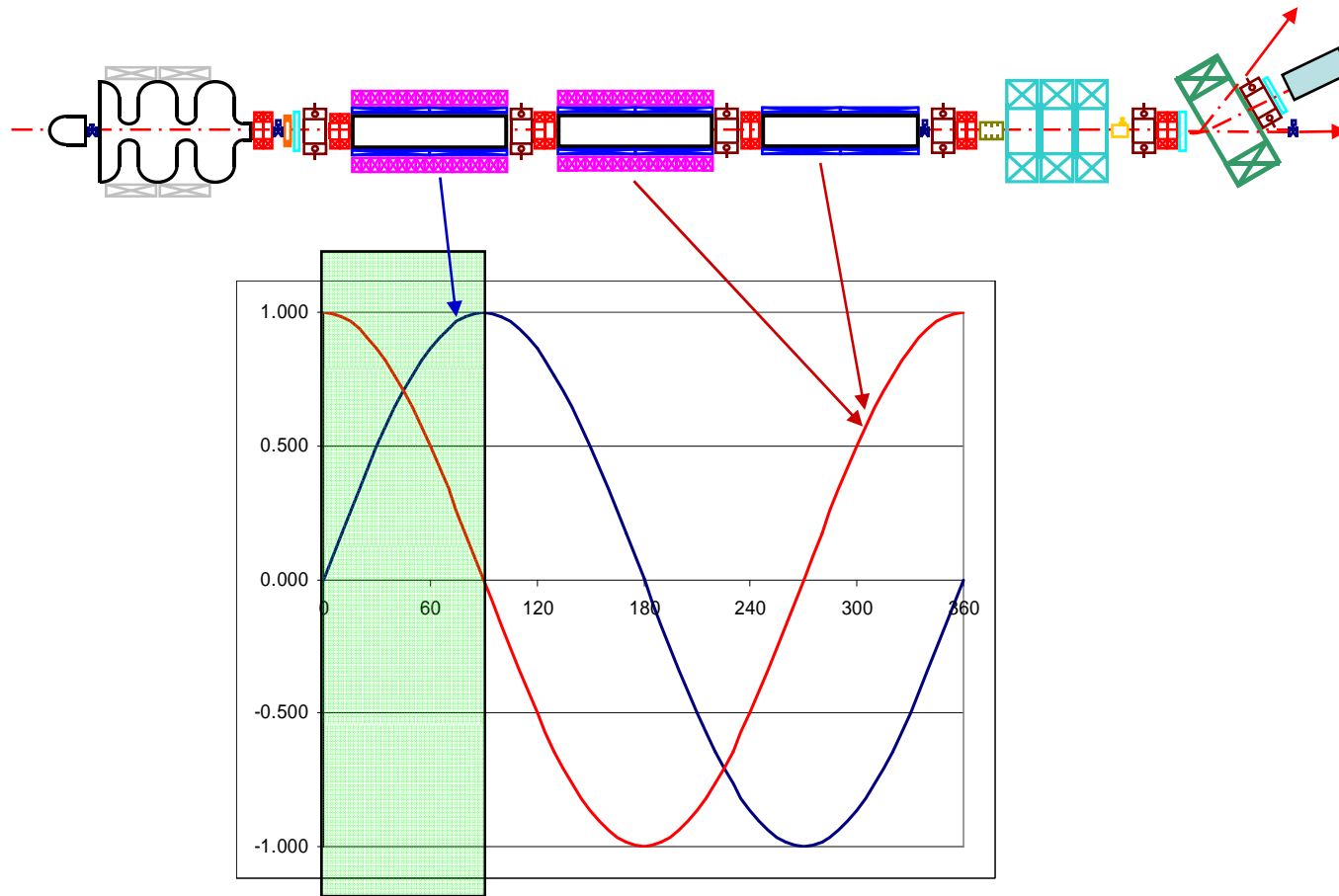
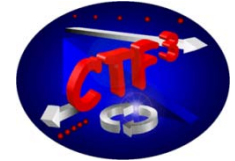


**Nearly 100% transmission was obtained through the first section (bunching),  
But not yet further downstream.**

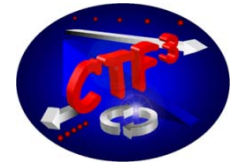


**For each LLRF phase (maintaining best signal level on the BCM via the gun phase-shifter), try to find transmission through the first section.**

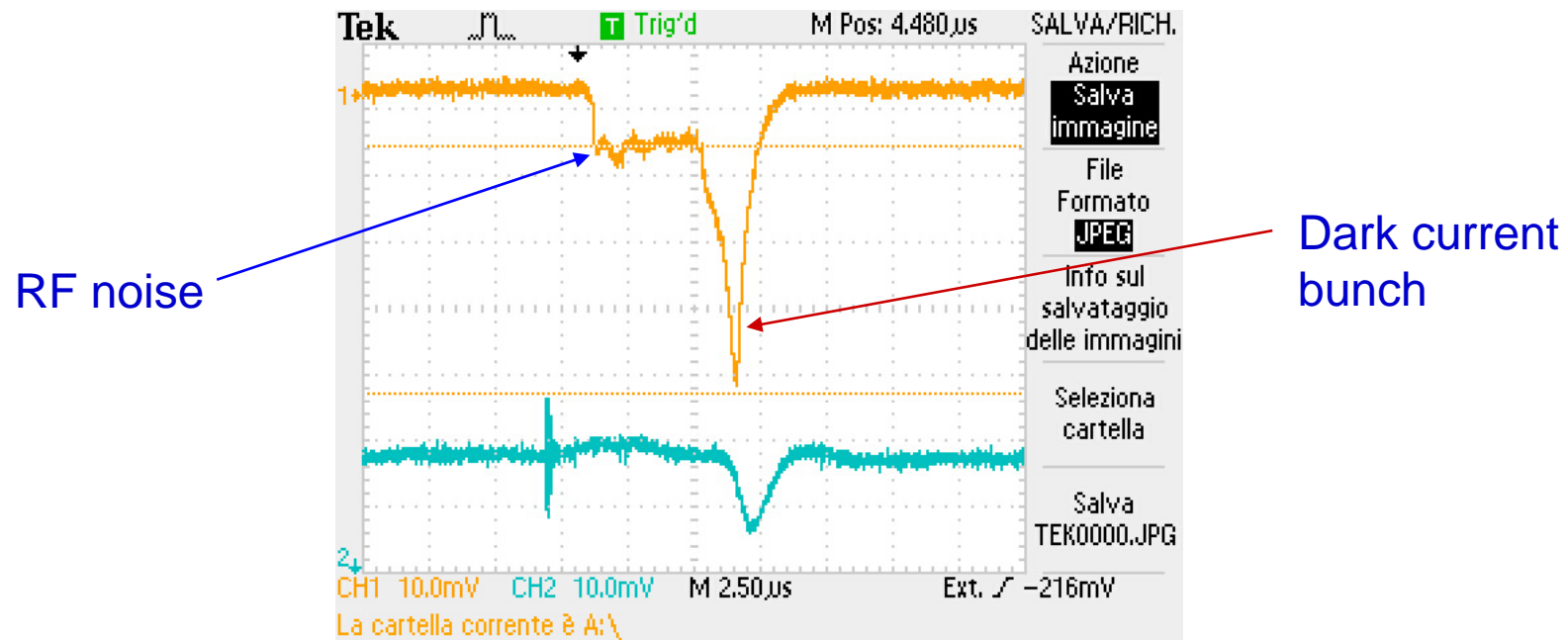
# Why no signal through the 2 last sections ?



Unfortunately, the first section power phase shifter is missing  
 Phases have been fixed via the waveguide lengths and should be checked

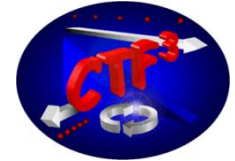


- Laser has worked continuously without any problem during more than one month (since PHIN commissioning).
- We are waiting for electronics parts from Austria.
- Meanwhile, we try to operate with the dark current only, but we need to improve the RF noise rejection.



Dark current signals on the first BPM and on BCM

# Conclusion



- We work done up to now has already produced a long list of tasks to be done during the shutdown.
- If this first commissioning is not achieved, uncertainties remain on the completeness of this list.
- The power phase shifter is “mandatory”.
- We have to consider the possibility to resume the commissioning before the 20<sup>th</sup> May 08.