

Laser monitoring @ CRAFT



# Some results on monitoring data taken during November-CRAFT

November 20th, 2014

1



1400 1200

Laser amplitude [adc <sup>000</sup> <sup>000</sup> <sup>000</sup>

Laser amplitude RMS [%]

600

400

12

10

6

# **Laser Quality**

up to 4PM but

**Photonics and Quantronics in the sequence** 



- DP2-2 Online
  - Good performances, but



-10

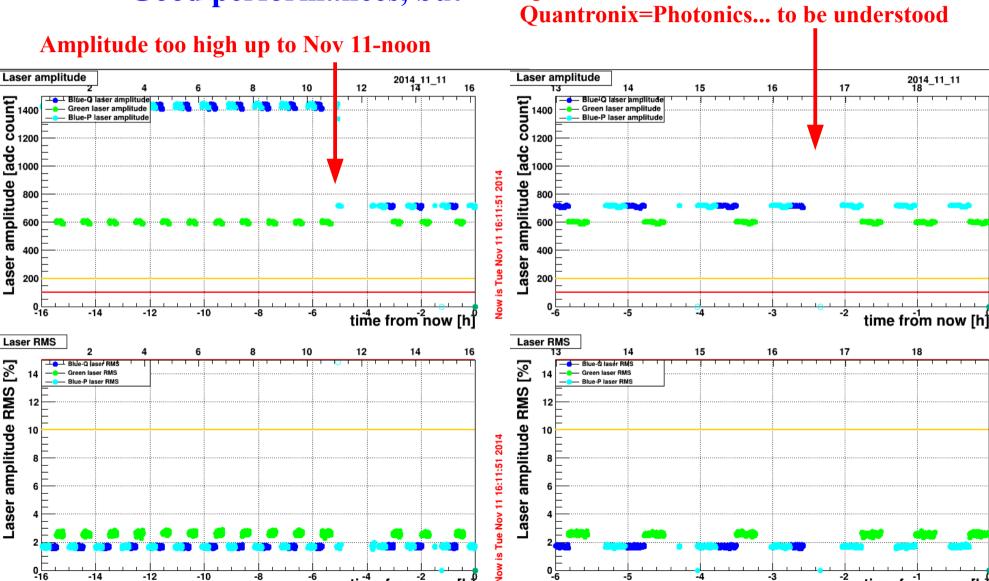
-8

-6

time from now [h]

-12

-14



-2

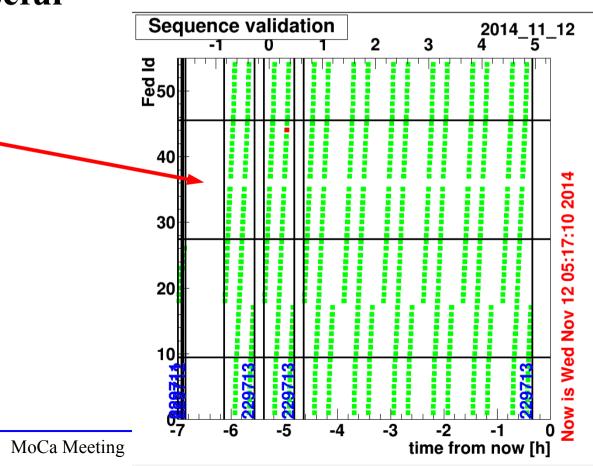
time from now [h]

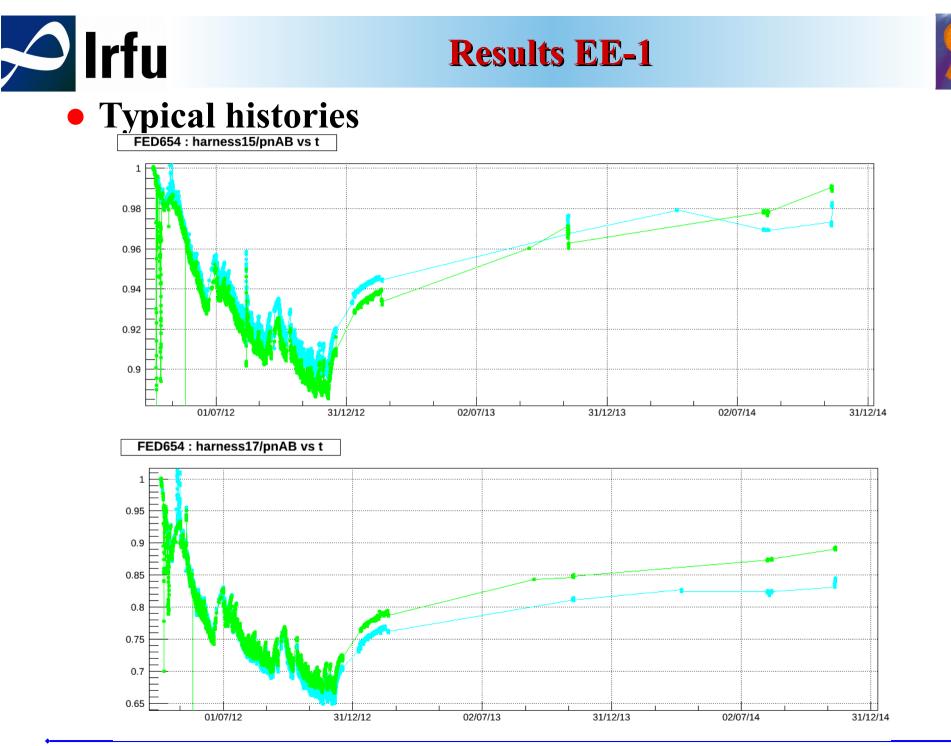
-3





- Physics data in calibration stream
  - Not foreseen in various analysis programs
    - Data not usable
  - Corrected at run 229704
- Very few runs really useful
  - But enough to make a monitoring point
  - EB+9 missing





Service de Physique des Partic





• EE transparency loss (log scale)

### **End 2012**

### **End 2013**

#### **End 2014** Transparency loss at end 2012 w.r.t. begining 2012 Transparency loss at end 2013 w.r.t. begining 2012 Transparency loss at end 2014 w.r.t. begining 2012 100 1 100 1 50 50 10<sup>-1</sup> 10<sup>-1</sup> 10<sup>-1</sup> n 10<sup>-2</sup> 10<sup>-2</sup> 10<sup>-2</sup> -50 -50 10<sup>-3</sup> 100 10<sup>-3</sup> 100 10<sup>-3</sup> -20 20 40 -40 0 -40 -20 20 40 -40 -20 20 40 n

November 20th, 2014

MoCa Meeting





**End 2014** 

# • EE transparency

### End 2012



#### Transparency at end 2012 w.r.t. begining 2012 Transparency at end 2013 w.r.t. begining 2012 Transparency at end 2014 w.r.t. begining 2012 100 100 0.98 0.98 0.9 0.96 0.96 50 50 0.94 0.94 0.8 0.92 0.92 0.7 n 0.9 0.9 0.88 0.88 0.6 0.86 0.86 -50 -50 0.84 0.84 0.5 0.82 0.82 100 0.4 0.8 100 0.8 -20 20 40 -40 0 -40 -20 20 40 -40 -20 20 40 0 0

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MoCa Meeting



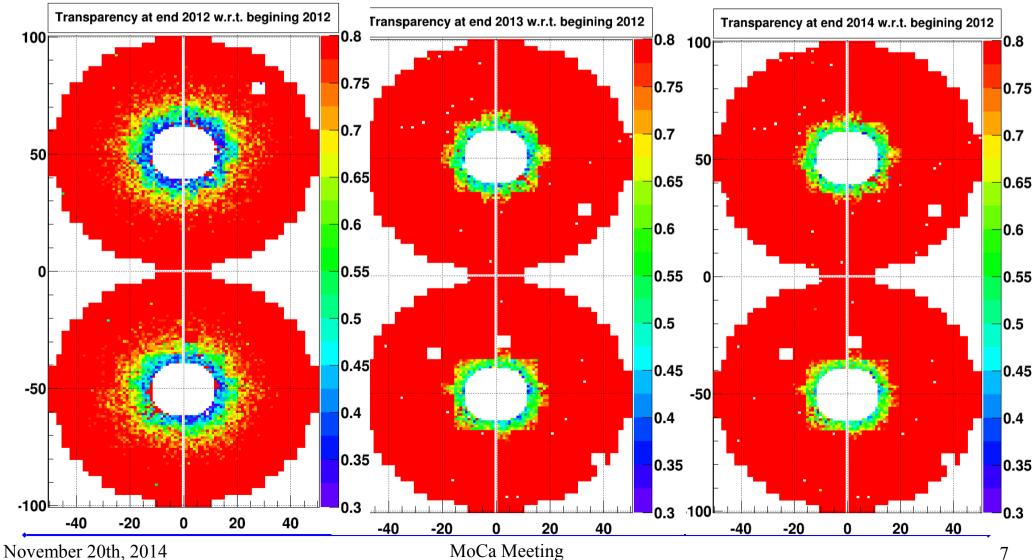


**End 2014** 

### • EE transparency – zoom on central region

### **End 2012**

### **End 2013**



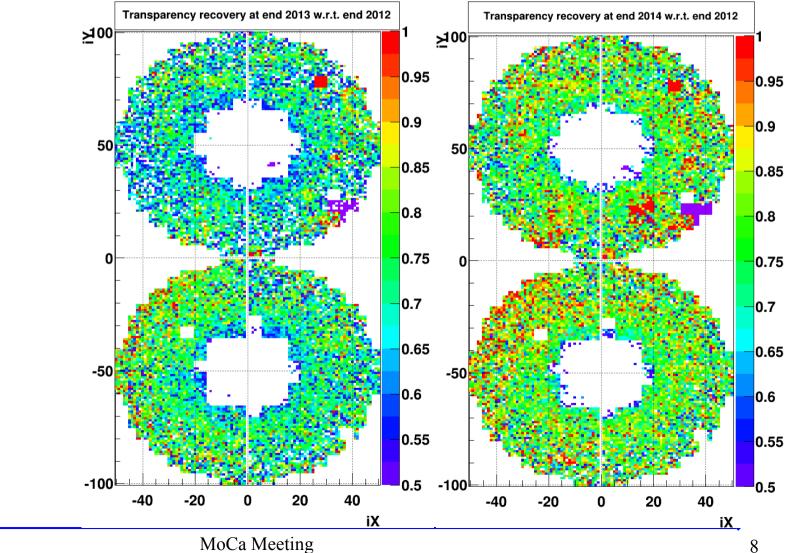




# • EE fraction of recovery

End 2013





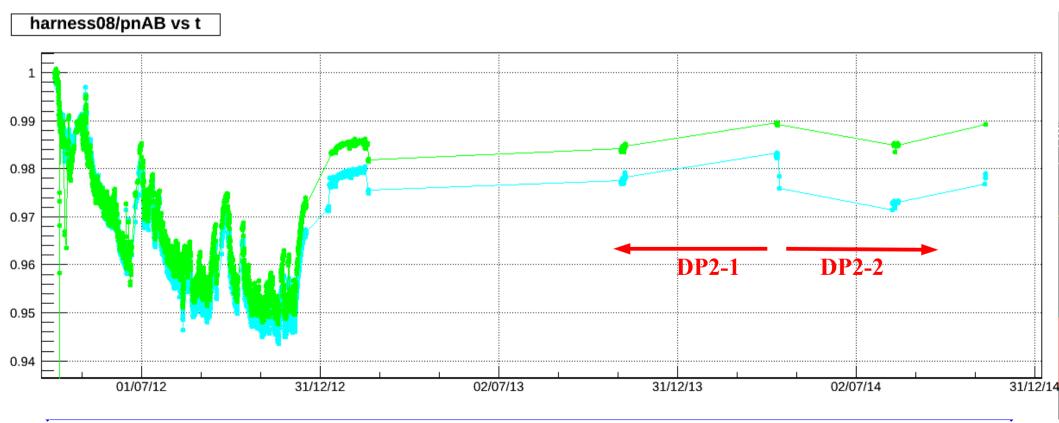
November 20th, 2014





# • Typical history

- 5/1000 step at DP2-1/DP2-2 swap
  - Hard to make a precise recovery study
  - Need to be understood or calibrated
  - **Take sequence with both lasers (trig DP2-1 with Quantronix trigger)**







- Some useful data taken during craft
  - Whole detector running except EB+9
- EE still slowly recovering
  - Big fraction of non recovering defaults at high eta
- Need to understand/correct/calibrate DP2-1/DP2-2 effect
- At some point, we will need the whole detector in the sequence !
  - Generate correction factors for run 2







