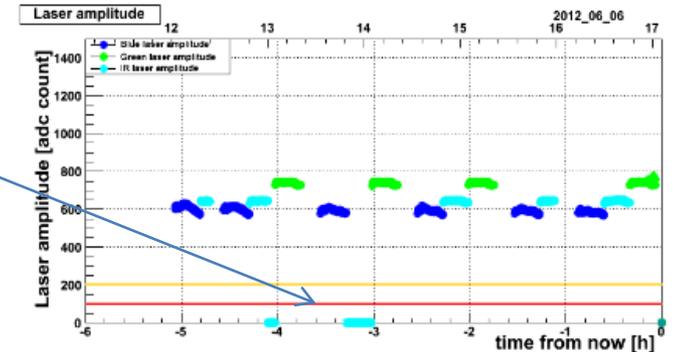


# Lasers status since 23 May

## 1) Incidents:

**6 June:** The dp2 shutter was out of control since 13:02 and recovered from 14:29. [elog769735](#)

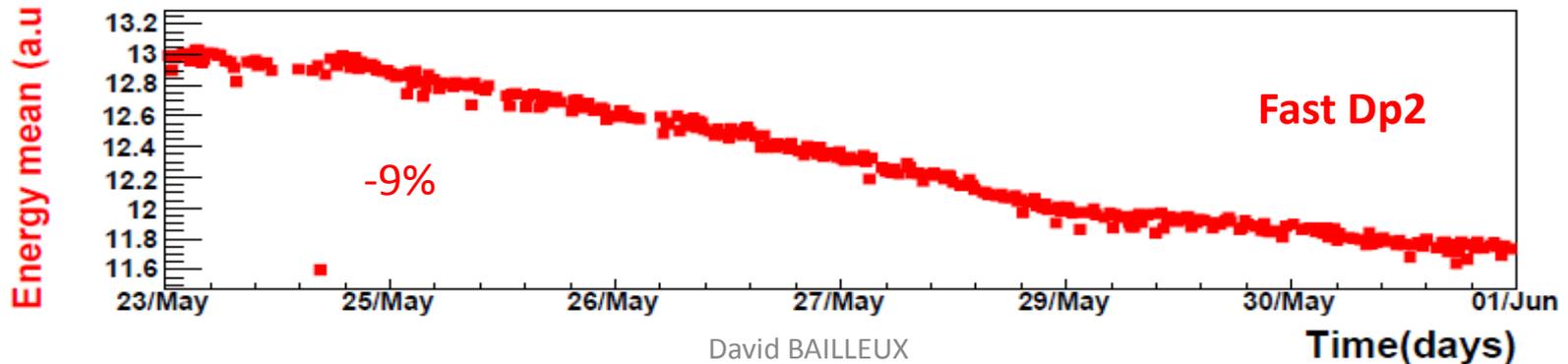
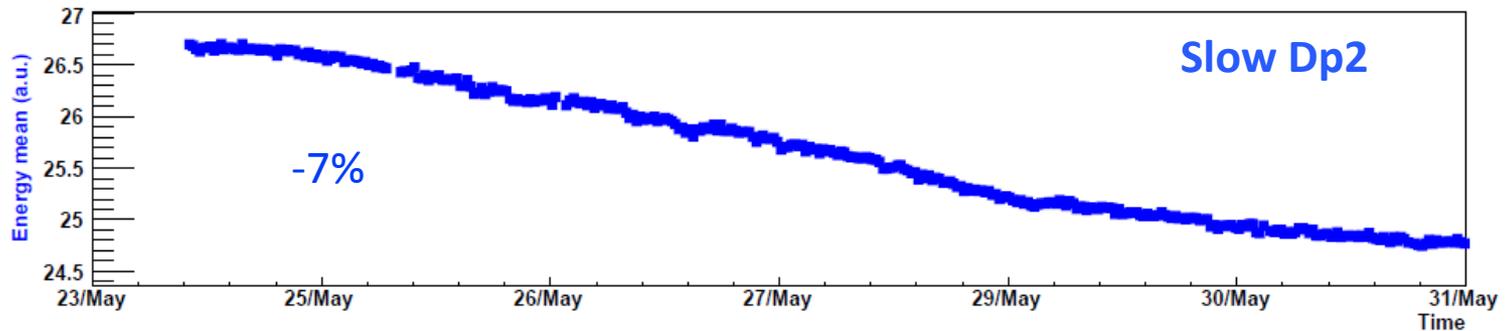
**7 June:** No more laser 1 during ~2.5hrs. same time as a CMS electrical glitch. Emanuele intervention : action on the YLF shutter itself solved the problem. [Elog770101](#)



Now is Wed Jun 6 17:05:57 2012

→ 1 month of smooth operation (Previous incidents dated of 9 May excluding the 'CMS glitches')

## 2) Photonics:



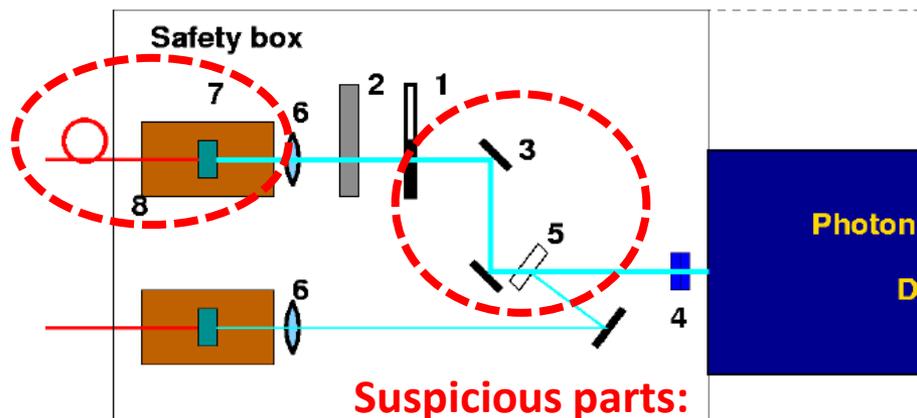
# Lasers status since 23 May

**11 June:** New chiller on the morning. [Elog770688](#)

	26 April	16 May before intervention	11 June
1) DP2-447 output:	87 mW	84 mW	89 mW
2) Before shutter :		70 mW <i>-0.8dB</i>	<b>67.3 mW <i>-1.2dB</i></b>
3) After shutter:	82mW	65 mW <i>-1.1dB</i>	62.3 mW <i>-1.55 dB</i>
4) After 1m fibre:	61 mW <b>-1.54 dB</b>	48 mW <b>-2.43 dB</b>	<b>fibre untouched.</b>

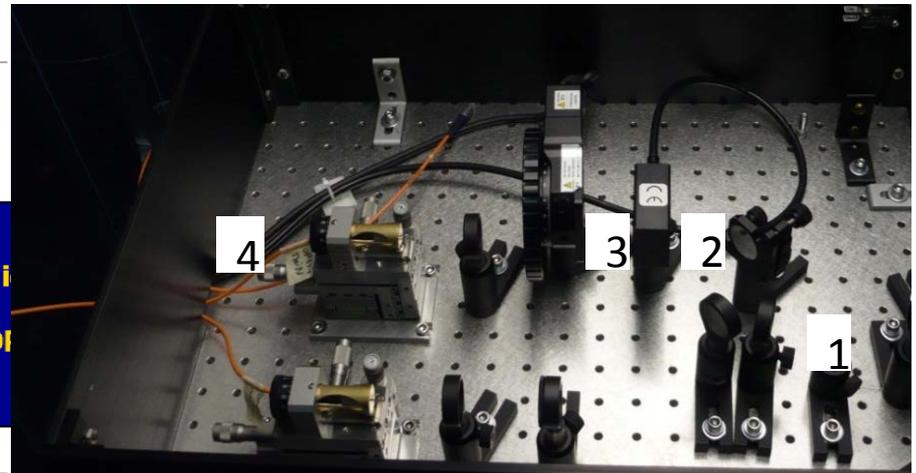
Same power before and after chiller replacement

Power is quite consistent with 16 May and the power loss since 16 May doesn't explain the overall loss since 26 April. → 2 suspicious places : from optics but also from fibre again.



**Suspicious parts:**

**2 Fold mirrors & Beam sampler**



# Lasers status since 23 May

Chiller filter found with dust:



**From Photonics: this condition is not a good sign; an indication of algacide.**

But Non-foaming algacide added to the coolant at time of CERN installation ! Under investigation..

**12 June**: investigation during the beam dump at 5pm 11

1. Repeat full power measurement before touching parts.
2. Low power after 1 m fibre.
3. Main loss between linear attenuator (hard to put power head, no place, to be review) : before 70mW and after attenuation 37mW ! Attenuation = 100% remotely.
4. Change value to 50% : half of power so OK.
5. Reset the attenuator position with the driver: 'ORIGIN' button (not on the software). The Origin is 0% and thus no power but on the software is display 100% !
6. Write 100% again on the software -> attenuator was moving. Power OK !
7. Clean main fibre

# Lasers status since 23 May

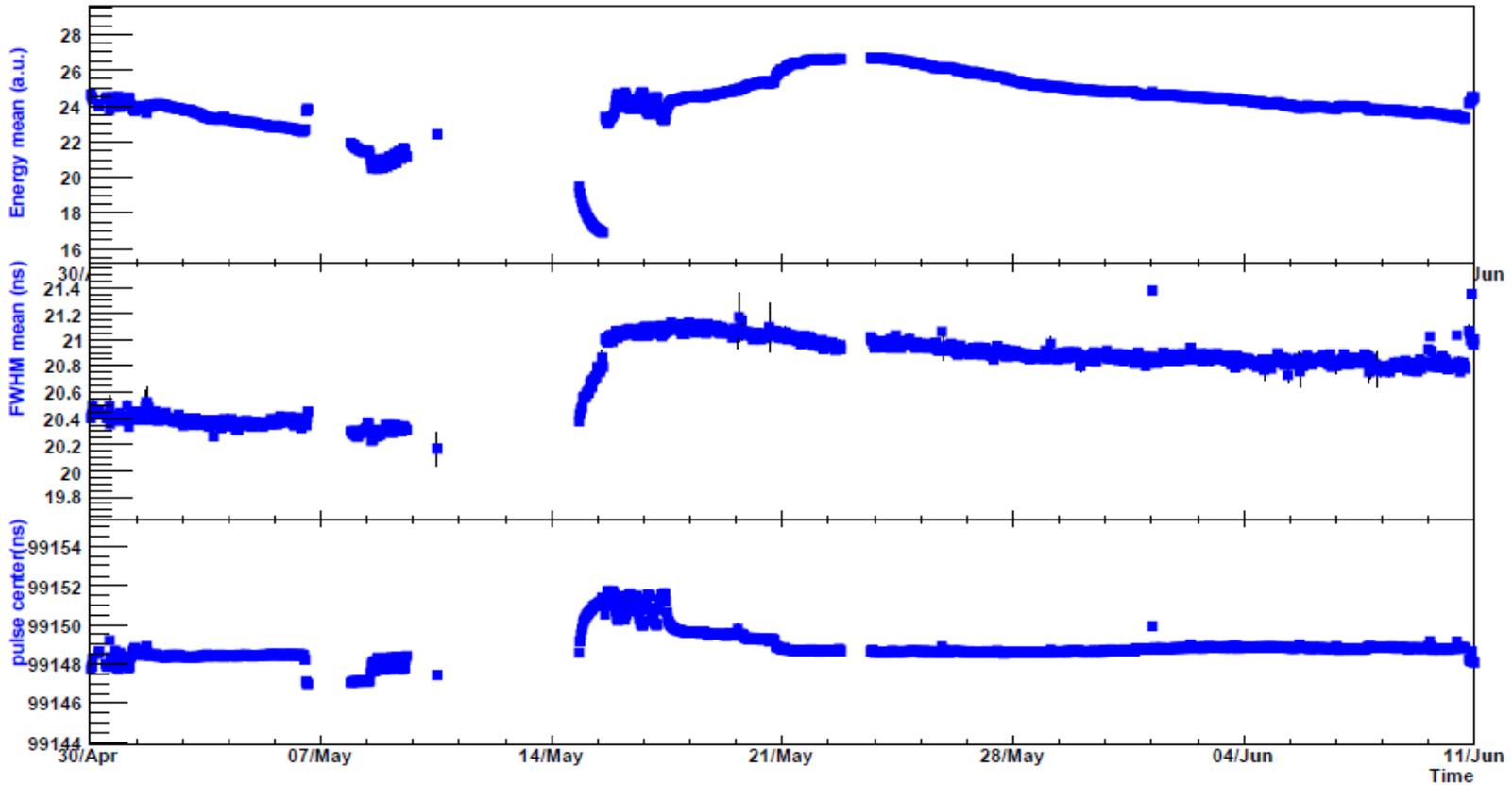
## Conclusion:

- Linear attenuator went in faulty – unknown position. Nothing was touch the 11 June ! Power was well consistent when operating remotely (from 40 to 80% as 11 June). The regular degradation over time could be linked to this attenuator if position was not fixed or problem at 40%..
- To be included a reset button on the DP2 GUI as for the main linear attenuator.
- Wrong origin value on the GUI: origin is 0% not 100%.
- Suspicious part: 3 optical mirrors.

	26 April (polished fibre)	16 May (chiller temp. +fibre)	11 June (New chiller)	12 June before intervention	12 June after intervention
1) DP2-447 output	87mW	84mW	89mW	92mW	92mW
2) Before shutter		70mW (-0.8 dB)	67.3mW (-1.2 dB)	71.5mW	71.5mW (-1.1dB)
3) After shutter	82mW	65mW	62.3mW	69mW	70mW
4) After 1m fibre	61mW (-1.54dB)	48mW (-2.43dB)		28mW	47mW (-2.9dB)

# Lasers status since 23 May

DP2-447 history



SLOW

