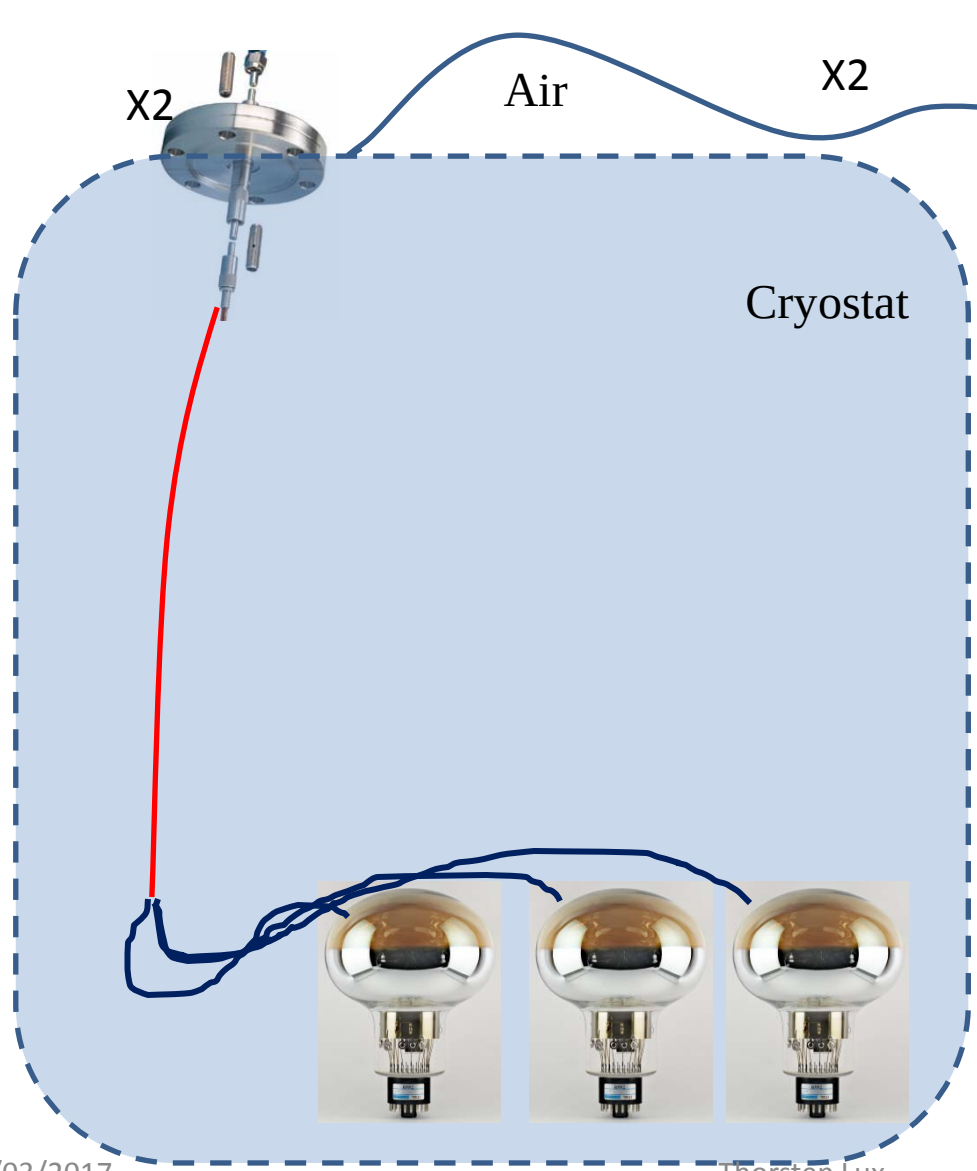
Plans from last meeting

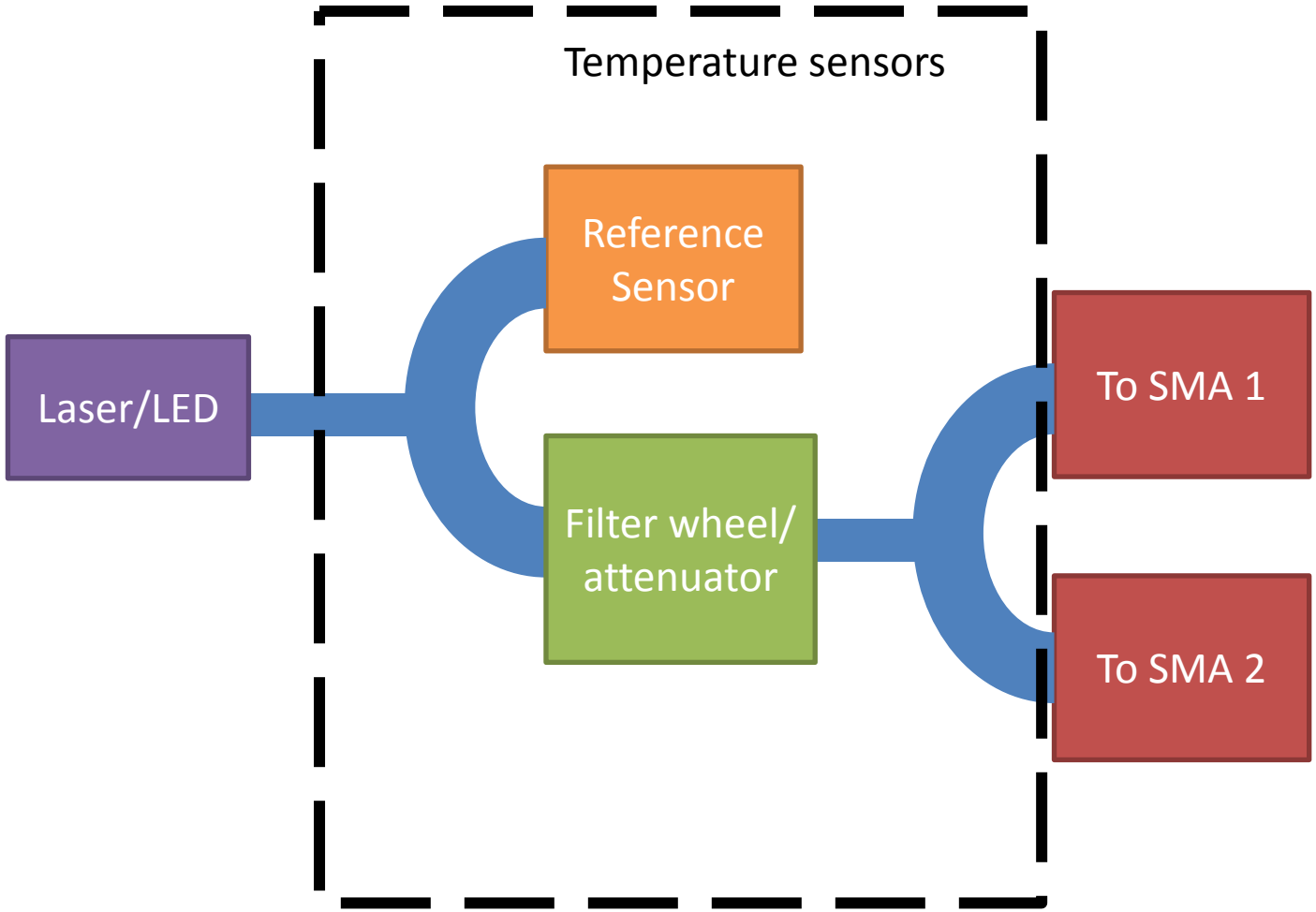
- ~~Continuing of preparation of Master course ...~~
- ~~First Thorlabs pieces will arrive today => start playing with them~~
- ~~Work on DNA setup~~
- MWPC: Stretch 4 wires on new PCB for testing, fixing current PCB, analysing data from this week
- ~~3D MPGD project: Minutes of this week meeting and preparing meeting of next week~~

WA105: Light Monitor System



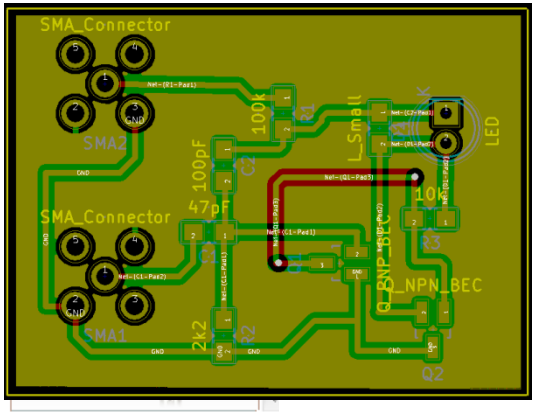
- black box with light source outside of cryostat
- 2 fibers going to cryostat
- each splitting into 20 micro fibers (~100 μm thick)
- either directly on top of cryostat or at bottom of cryostat

Light Monitor System



Light Monitor System

- commercial enclosure from Thorlabs
- includes small bread board e.g 30x45 cm^2
- only need to add feedthroughs
- Light source:
  - Laser (408 or 450 nm) => 30-40 ns pulses
  - LED with Kaputschinsky driver => <=10 ns pulses

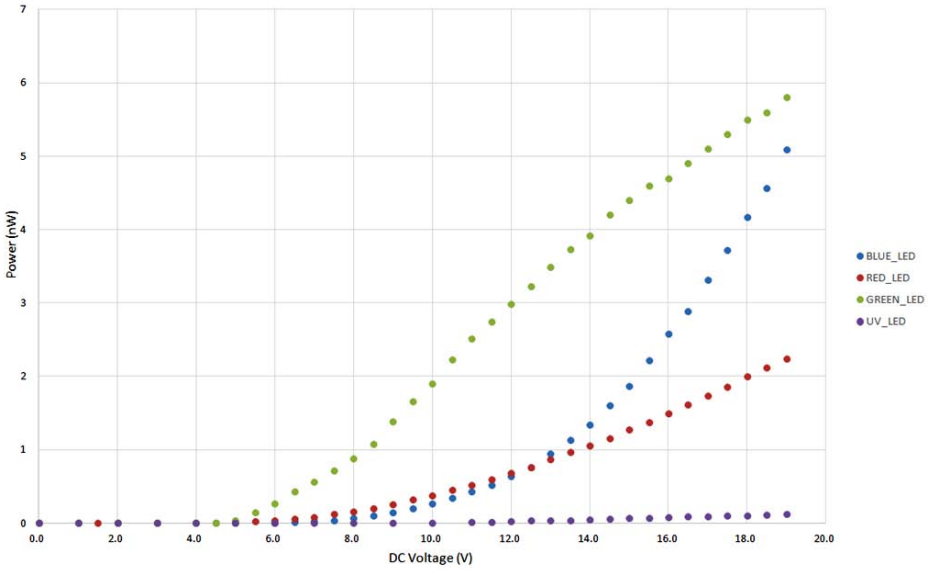


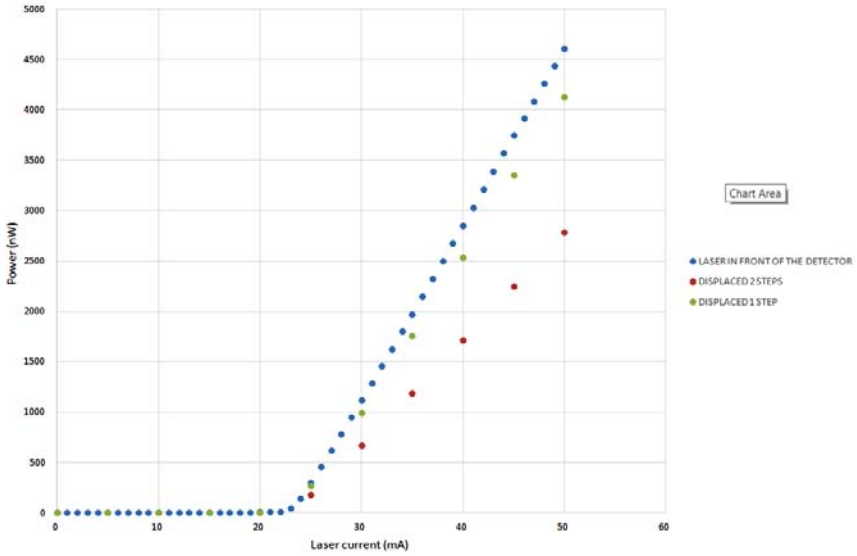
Matching Products in 405 - 488 nm Pigtails

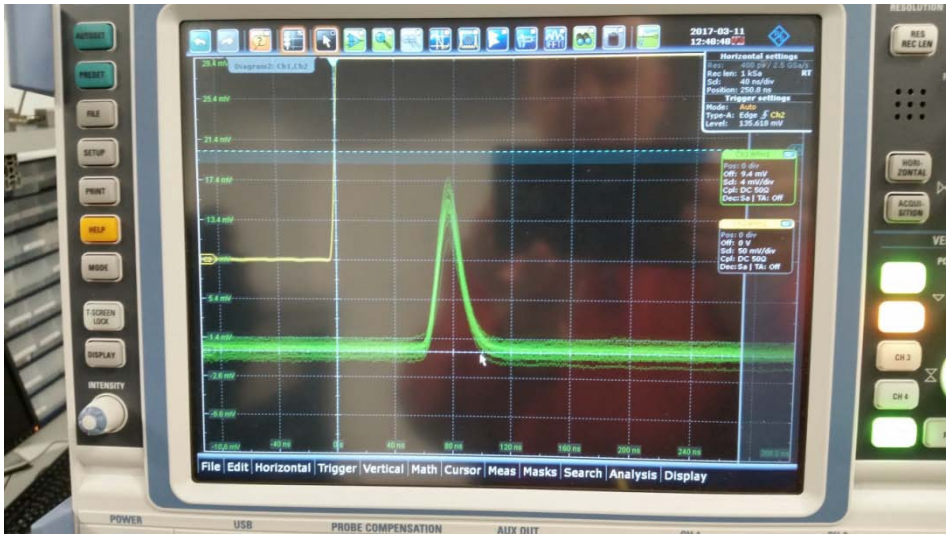
Item #	Info	Wavelength	Power (Typ.)[a]	Typical/Max Drive Current[a]	Pin Code[b]	Package	Compatible Socket	Wavelength Tested	Recommended Mount(s)	Recommended Driver
LP405-SF10	i	405 nm	10 mW	50 mA / 60 mA	B	Ø5.6 mm SM Pigtail, FC/PC	S7060R[c]	Yes	LDM9LP or CLD1011LP	ITC4001[d]
LP405-SF30	i	405 nm	30 mW	100 mA / 150 mA	G	Ø5.6 mm SM Pigtail, FC/PC	S7060R[c]	Yes	LDM9LP or CLD1010LP	ITC4001[d]
LP406-SF20	i	406 nm	20 mW	75 mA / 100 mA	G	Ø5.6 mm SM Pigtail, FC/PC	S7060R[c]	Yes	LDM9LP or CLD1010LP	ITC4001[d]
LP450-SF15	i	450 nm	15 mW	85 mA / 120 mA	E	Ø9 mm SM Pigtail, FC/PC	S8060 or S8060-4	Yes	LDM9LP or CLD1010LP	ITC4001[d]

Characterization of Light Sources

- Light sources available at IFAE for tests
- Characterization of light sources ongoing at IFAE
- LED tested already in pulsed mode
- Laser in constant current too
- Laser pulses of 30 ns width measured with PMT
- Detailed analysis of laser data in pulsed mode ongoing







- comme
- includ

Perhaps worth to think about an alternative

- Light s
  - Las
    pul
  - LED
    <=1

Edms 335744

CERN

INSTRUCTION DE SÉCURITÉ
SAFETY INSTRUCTION

IS 22
Rev.

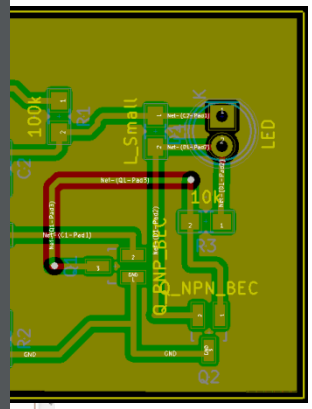
Published by: TIS/RP

Date of revision: Jan. 1994
Original: English

RULES FOR THE
SAFE USE OF LASERS
AT CERN

REGLES DE SECURITE POUR
L'UTILISATION DES LASERS
AU CERN

This replaces the Instruction 22 issued in August 1982

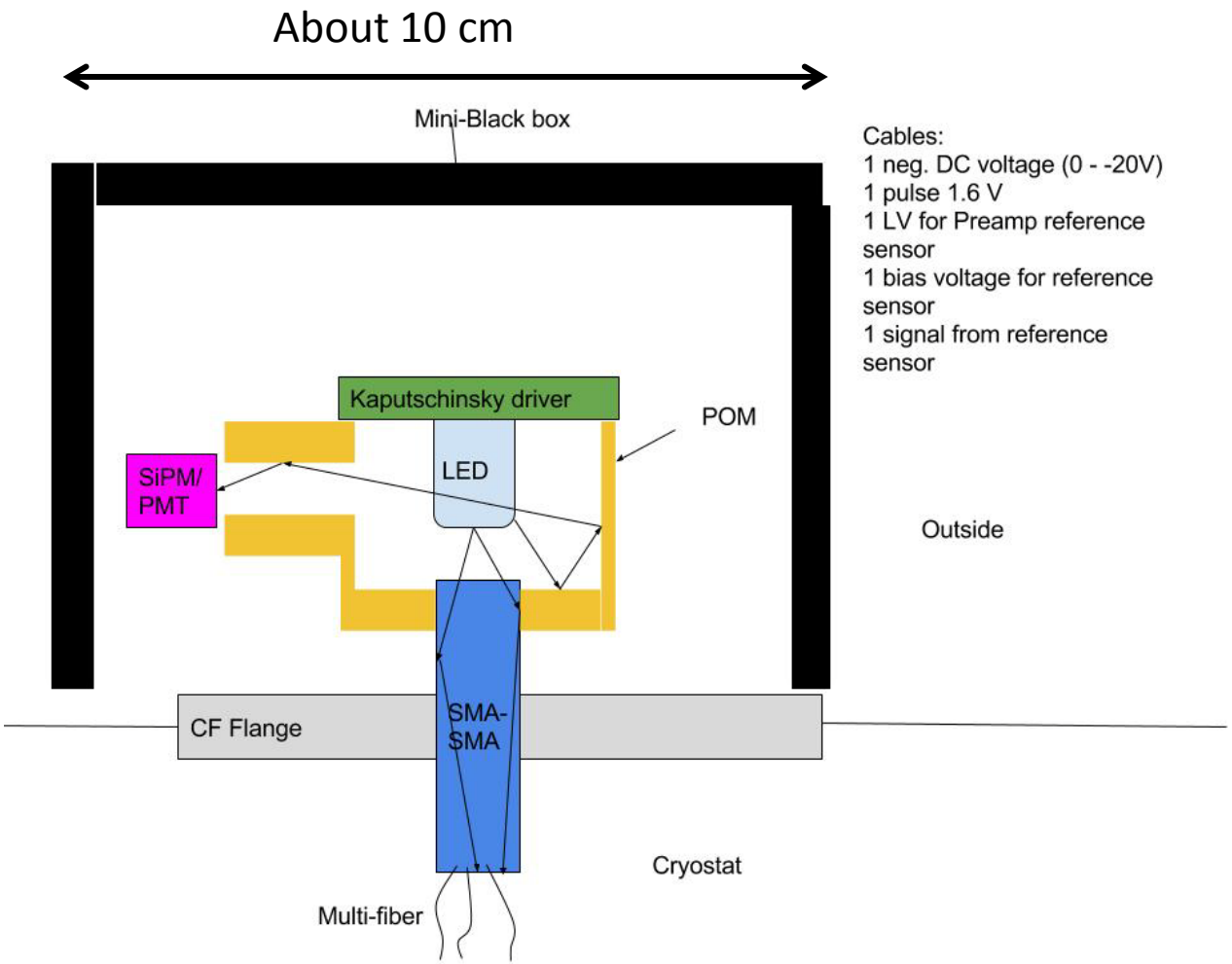


Matching Products in

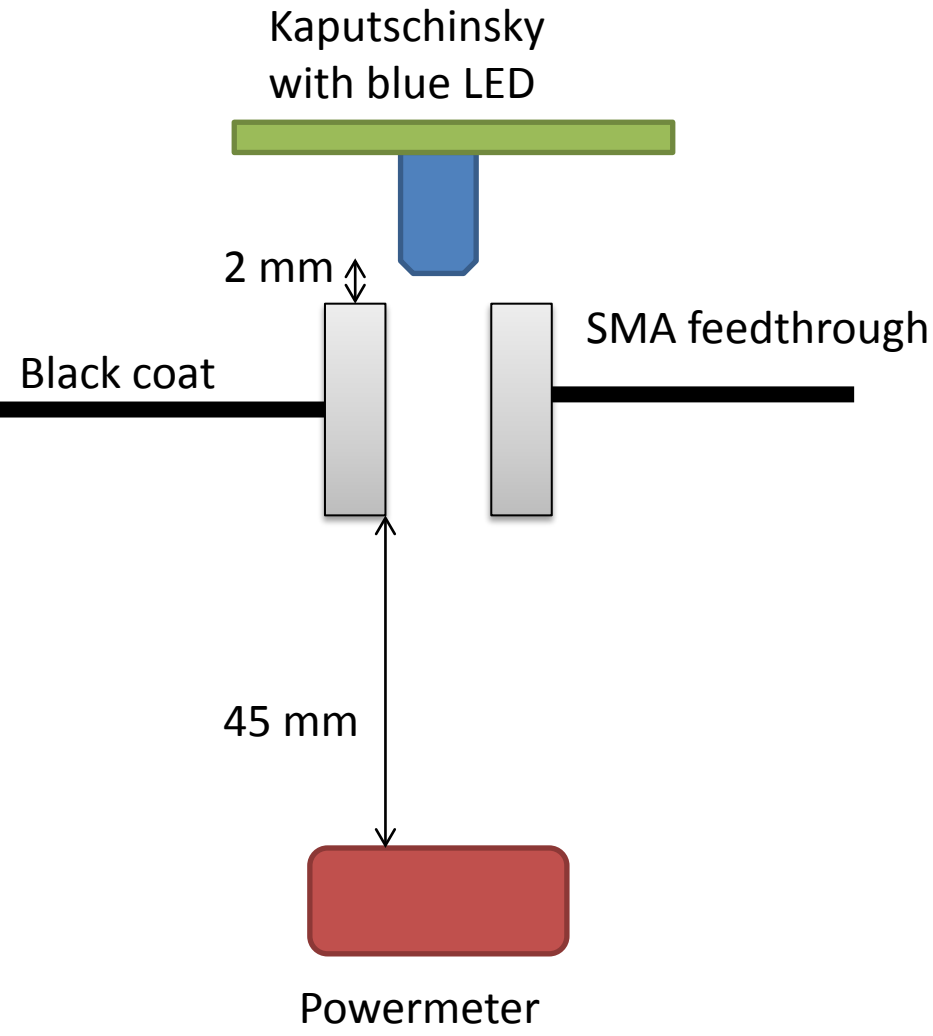
Item #	Info	Wav
LP405-SF10	i	4
LP405-SF30	i	4
LP406-SF20	i	4
LP450-SF15	i	4

Alternative Idea

Put LED with Kaputschinsky driver directly in front of SMA feedthrough to shine on fibers inside the cryostat



First Tests

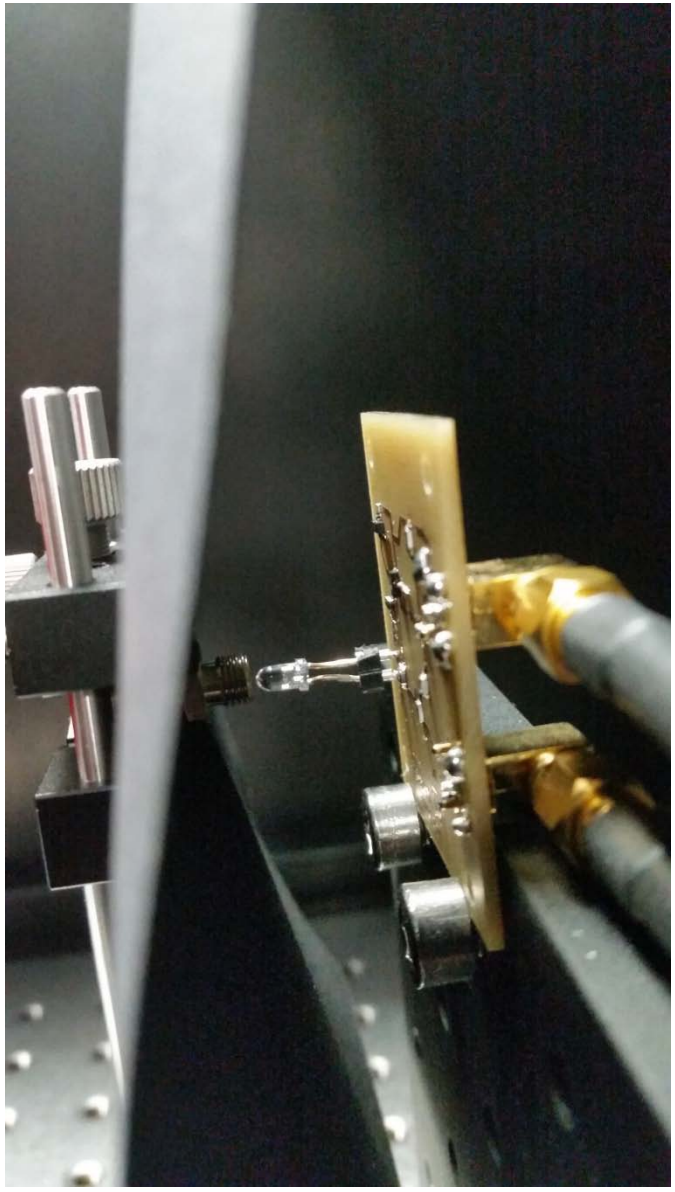


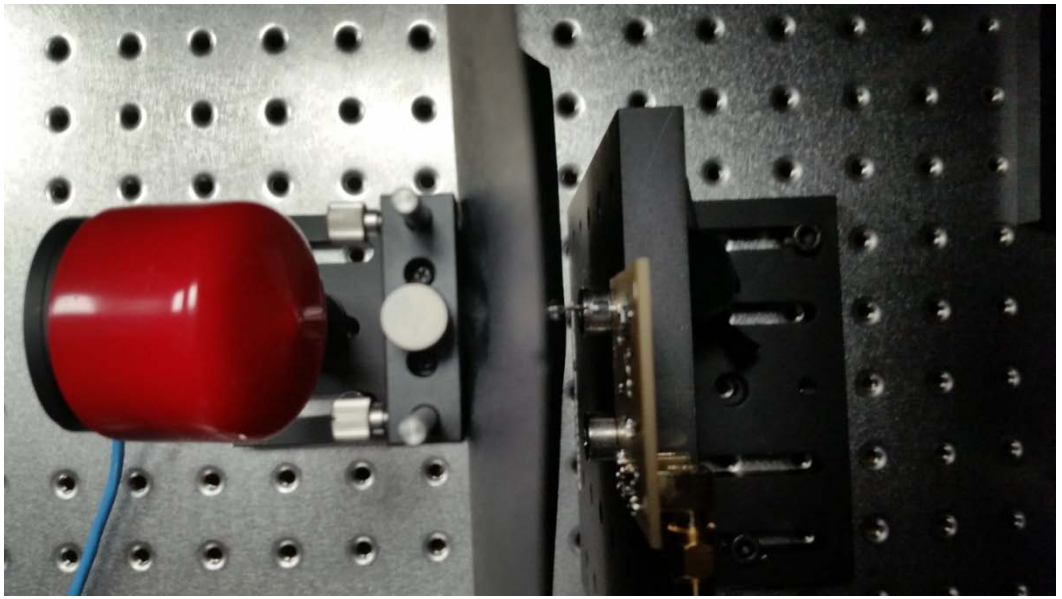
- Measured power released with Kaputschinsky
- Result: 11.5 nW
- Amazing result: E(465 nm)=430*10**-21 J => 11.5 nW correspond to 27 billion photons
- 1 kHz pulsing => each pulse 27 million photons which will directly go to fiber bundle
- next step measure no of photons at end of 30 m fiber

Advantages of this approach:

- much cheaper than laser approach
- no safety issues at CERN

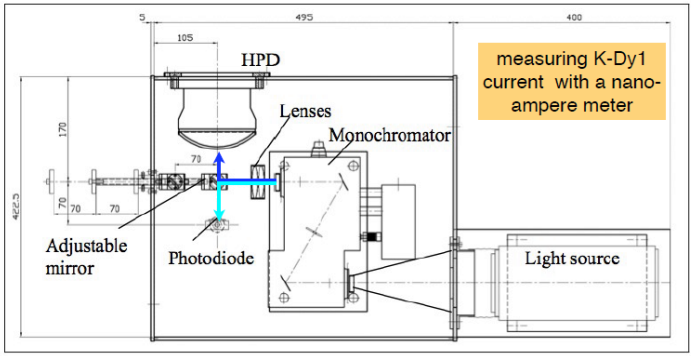
Question: Do we really need a reference sensor?



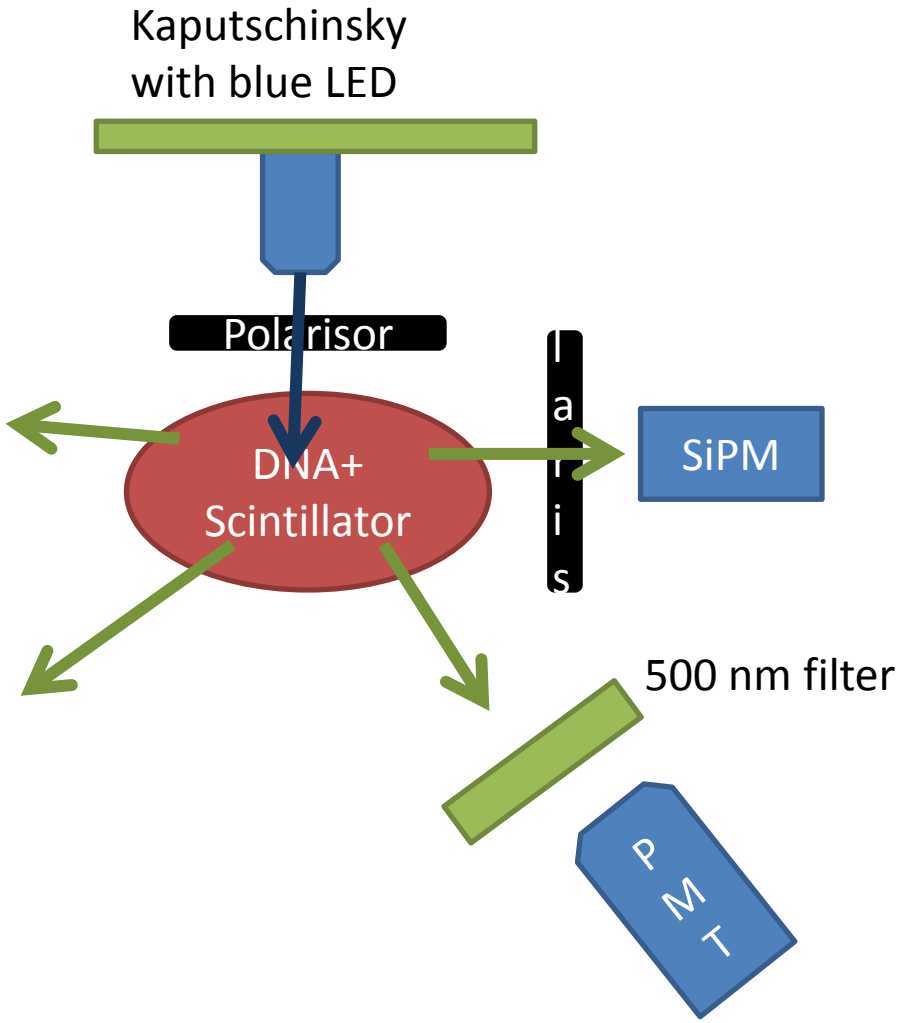


Other WA105 Stuff

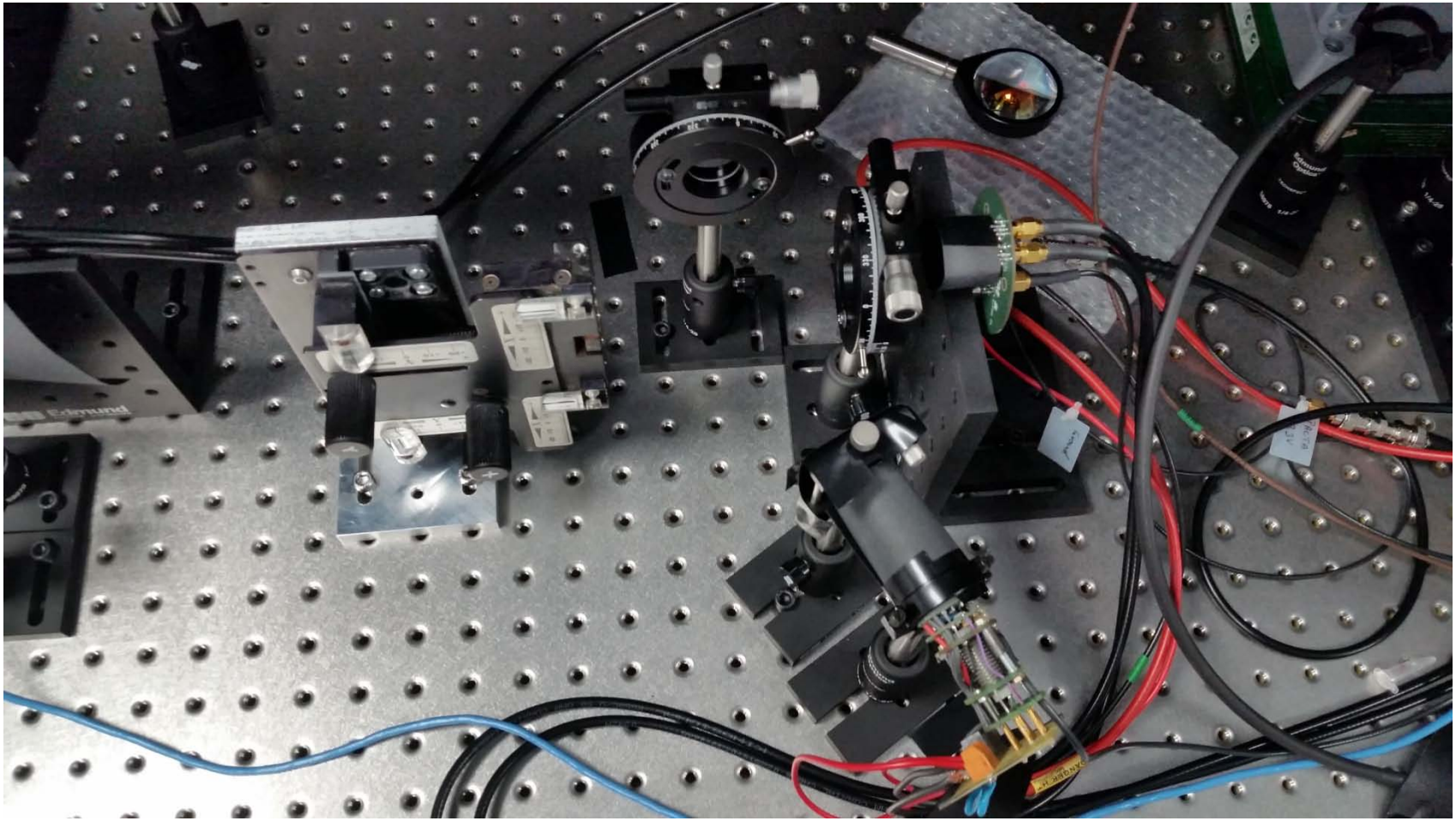
- Last week collaboration meeting
- No objections to do direct TPB coating
- Can use Qeff setup at CERN for QC in Oct/Nov for free
- Installation of PMTs shifted to March 2018 instead Nov 2017
- Further delays are possible/likely
- Discussion ongoing to postpone 666 construction until results from 311 => would mean no testbeam data before 2021
- Hot meeting expected on Friday

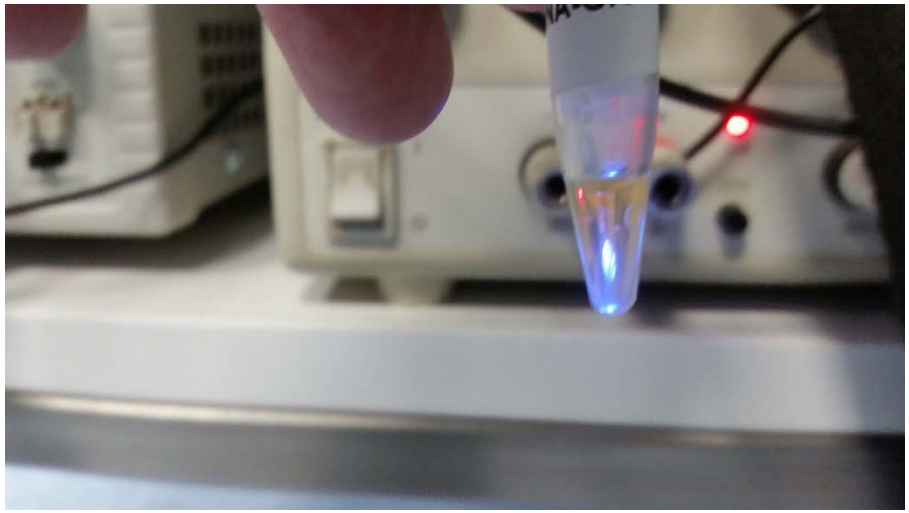


DNA Setup



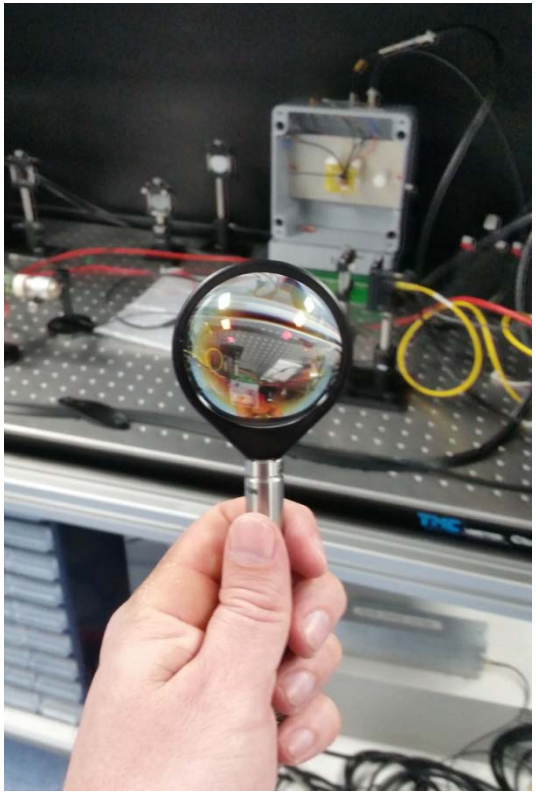
- project with Mokhtar
- aim to improve cancer detection system
- excite DNA+scintillator with blue light
- look for green light
- visit from another institute on Tuesday with DNA samples
- Took a lot of data but interpretation not clear
- more detailed data analysis needed
- several ideas what could have went wrong

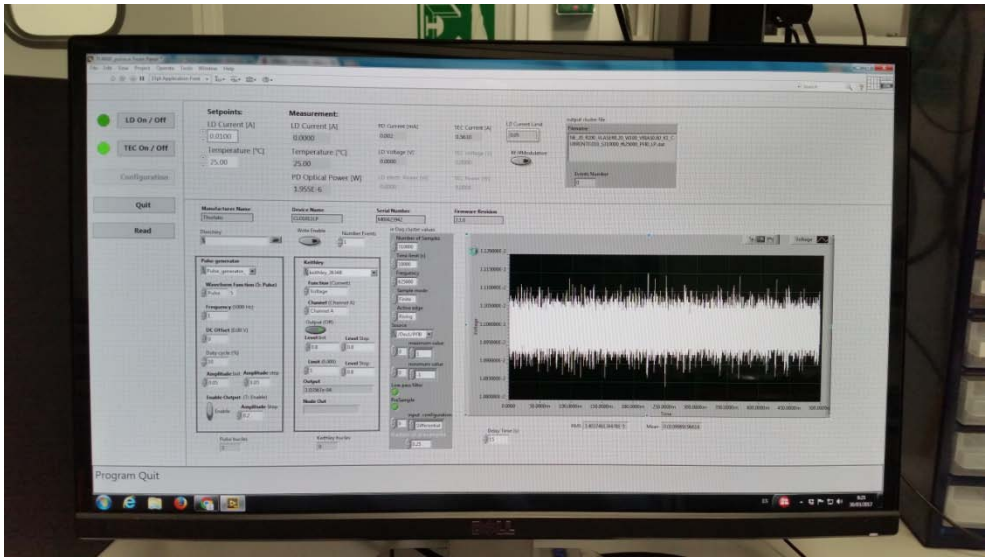


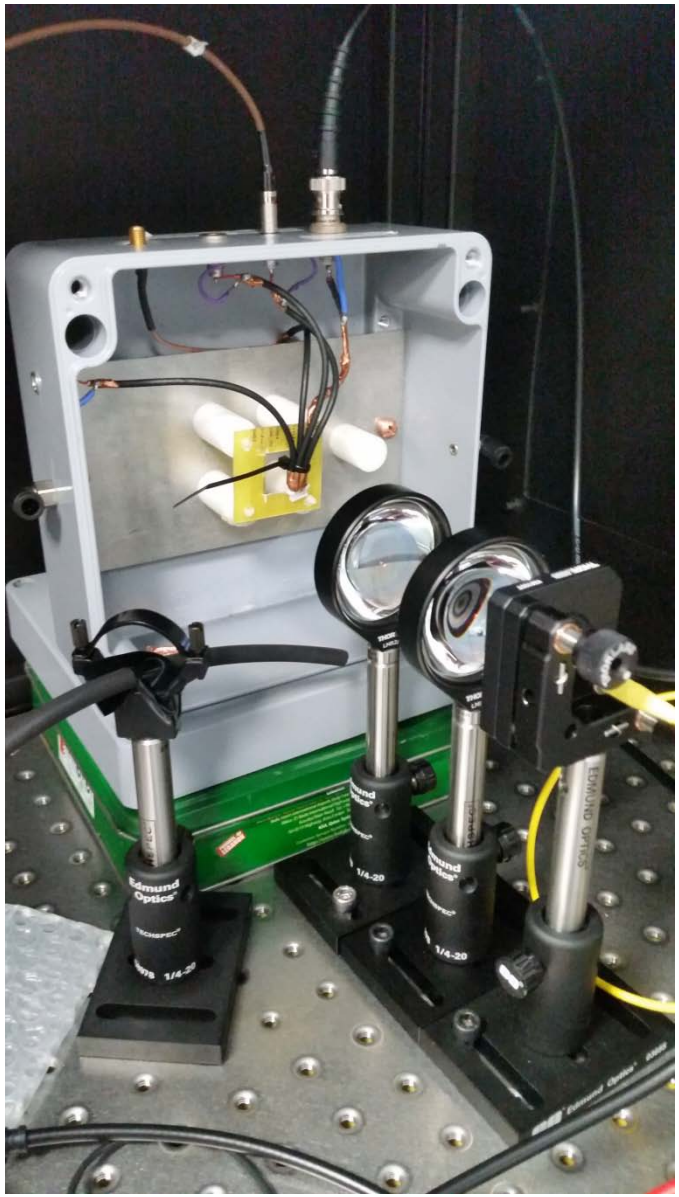



Green 1

Other Stuff Ongoing







Plans for next week

- MWPC: wire stretching today
- Analysis of DNA setup data
- Measurement of light at end of 30 m fiber
- Look into charge readout options of gas detectors (AGET/DREAM chips)
- Clarify if workshop available to contribute to ND T2K upgrade
- Finish Master course on Monday