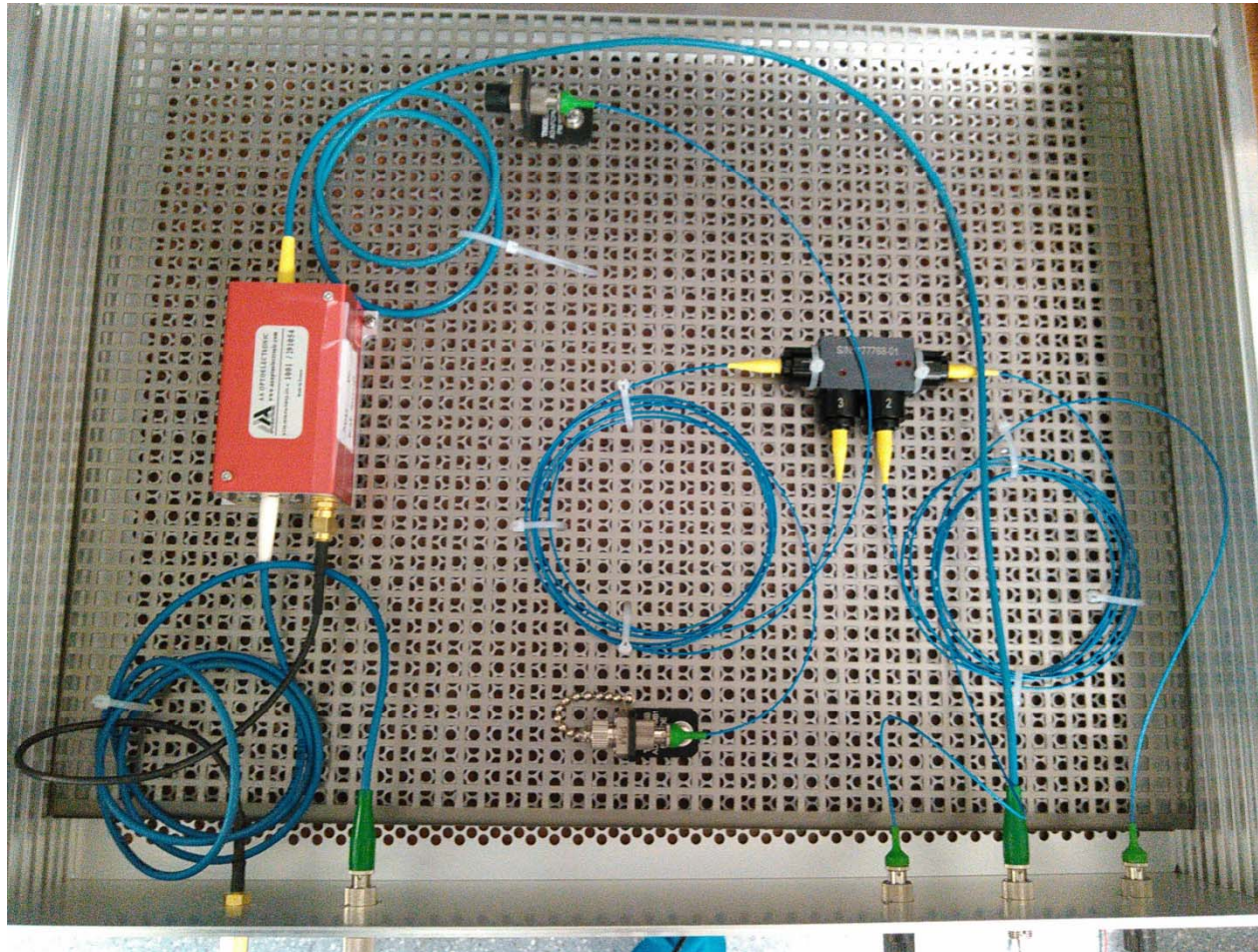


TCS-PC meeting

Kazuhiro Agatsuma

2016/Apr./29

Instability was fixed! (at last v1st)



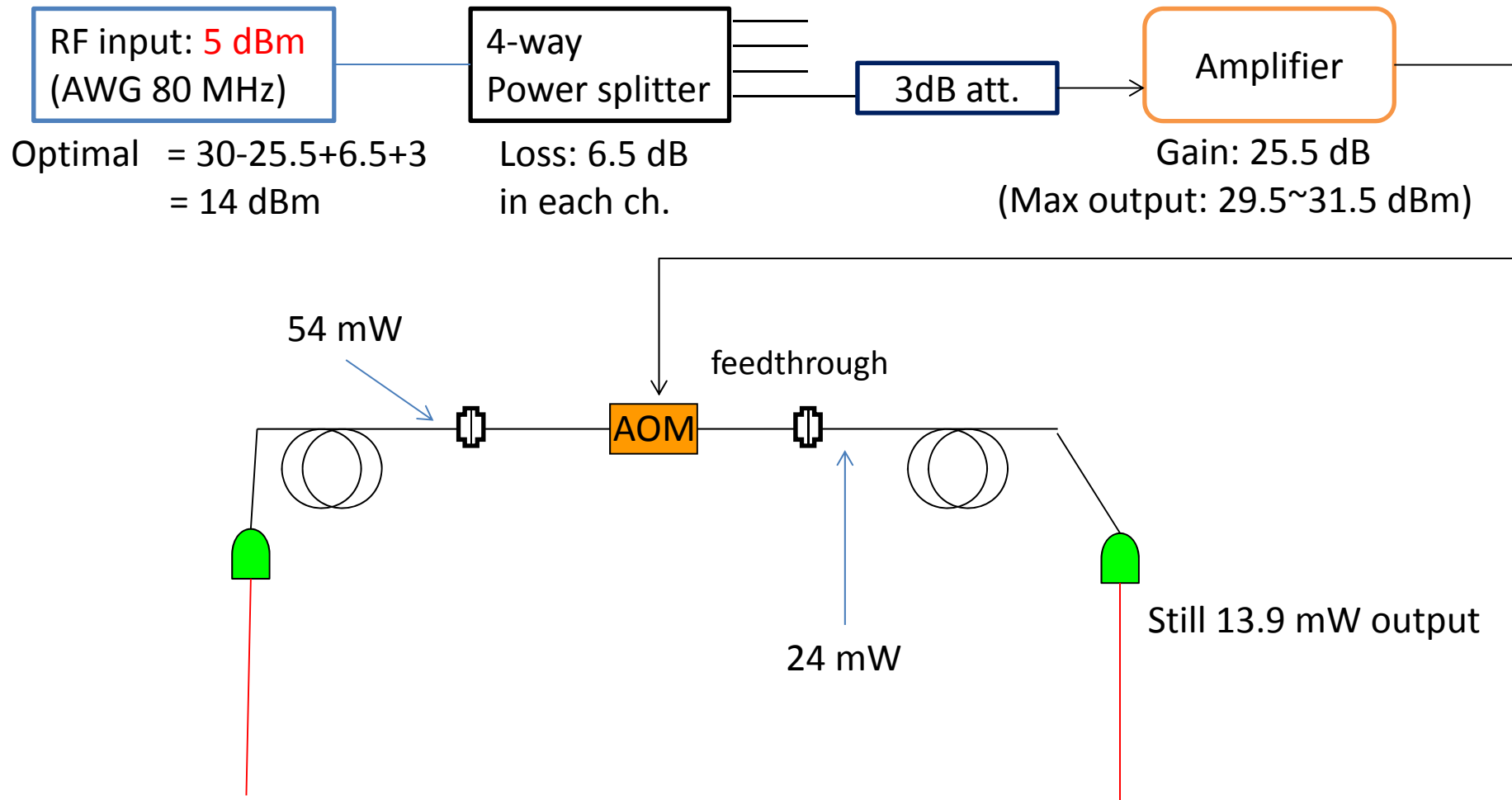
4 dBm input (29.5 dBm in total): 28.3 mW ($28.3/61 = 46\%$)

5 dBm input (30.5 dBm in total): 31.3 mW ($31.3/61 = 51\%$)

6 dBm input (31.5 dBm in total): 34.0 mW ($34.0/61 = 56\%$)

Consistent!

Laser power measurement



Optimal = $30 - 25.5 + 6.5 + 3$
= 14 dBm

Loss: 6.5 dB
in each ch.

Gain: 25.5 dB
(Max output: 29.5~31.5 dBm)

54 mW

feedthrough

24 mW

Still 13.9 mW output

- Feedthrough is OK
- AOM response is OK
- => **Optical cable between atrium and EOM is suspicious**

Virgo site

To do list

Optical layout

- Test beam design (Laura, Annalisa): Calculation done for PC2: 95% done
=> to buy translation stages for a lens: in process (ordered)
- To send a protection cover for PC2 (Kazuhiro) => Mohammed
- Setup of optical components (1 week for each port): 2 weeks for PC2 and PC3, 3days for EIB re-setup
 - Measure beam profile
 - Measure beam power
 - Check RF signal

Calculation

- How much is the optimized reference beam size? (Kazuhiro)
- Simulation: whole phase camera (Laura: Finesse, Jerome: Oscar, Annalisa: Finesse, Alessio: Matlab)

AOM

- Power loss investigation (Kazuhiro): Feedthrough: OK, Pigtail radius of AOM fiber: Fixed,
Optical fiber (AOM-EIB): Procurement is in process (ordered)
- Increase the power of amplifier (Martin, Kazuhiro): Procurement is in progress (delivered => Wim)

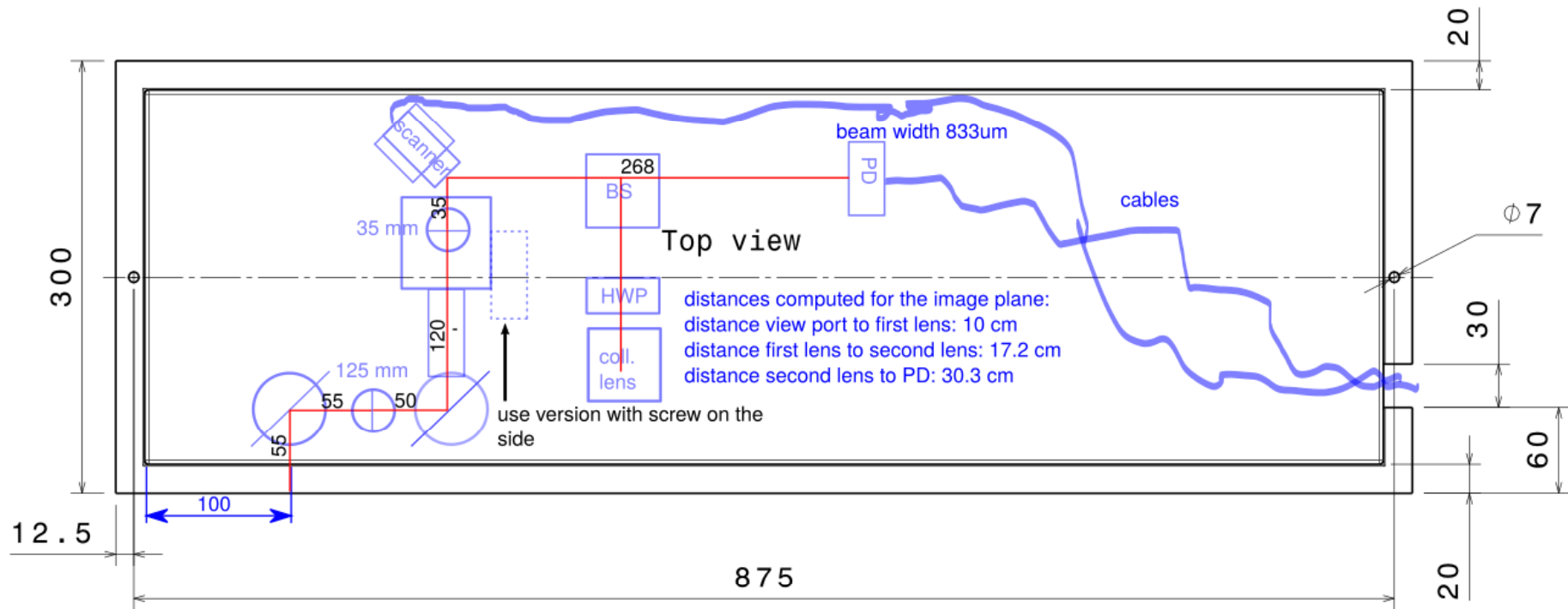
PD

- Linearity check (Martin, Kazuhiro): Laser preparation (Laser safety in Nikhef is checked => Safety department): On going:
Power switch is being prepared tomorrow
- Matching DC saturation to AC saturation (Martin, Guido): On going (Laser is needed to check it)

Readout system

- DAC channels for scanning (Martin, LAPP)
- Connection with Real DAQ (Martin, Mesfin, LAPP)
 - Control Software (50% done)
 - TOLM ver.2 (Martin, Mesfin, LAPP) : On going, Rack mount is being prepared; 2 of 3 done, AOM amp (and splitter) box is close to ready
- Procurement of cables and electronics (Martin): Cables are sent to Virgo
 - The cables from (electrical splitter in) the EE room to DAQ room and detection room have to be put.
 - ⇒ Martin will ask Flavio to put them.: in progress

Optical design (PC2)



Schedules

- Visiting Virgo site
 - 2nd-6th or 9th-13th/May.???
- Conferences
 - ~~FYSICA: 8th/April (Kazuhiro)~~
 - Virgo week: 2nd-4th/May
 - Cracow FEE2016: 30thMay-3rd/June (Martin)
 - Workshop R&D 50: 6th-8th/June (Martin)
 - WCAM-2016: 6th-8th/June (Kazuhiro)
 - Virgo week: 27th-29th/June (Kazuhiro)
- Next meeting
 - Nikhef PC meeting: 21th/Apr.
 - TCS-PC meeting: 29th/Apr.