CALIFES STATUS

CALIFES STATUS: Mechanics/Alignment

Work planned on week 20

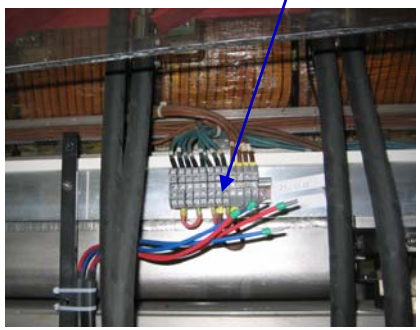
• Alignment of the linac: vacuum break (CERN), disassembly of all components BPM-DHG/DVG, MTV supports, belows for alignment investigations (CEA+CERN)

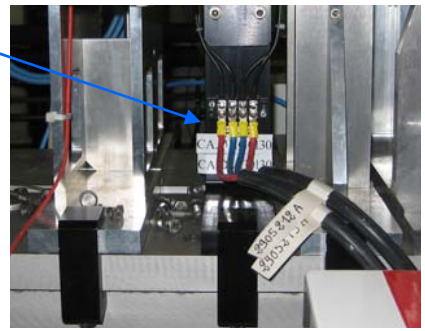
Work planned on week 21

• Alignment of the linac: re-alignment of some components if necessary (CEA), new set of measurements (CERN), displacement of the last CA.MTV0390 chamber of ~15 mm towards the wall (no more margin for tuning is possible with its present location), linac under vacuum again

• Laser table: additional holds for our laser table to install in laser room

• Cabling: - connections of CA.DHB/DVB0230 to finish (CERN)
- connectors block for connection to be installed on CA.DHG/DVG0225-0245-0265-0320-0385 as for -0130-

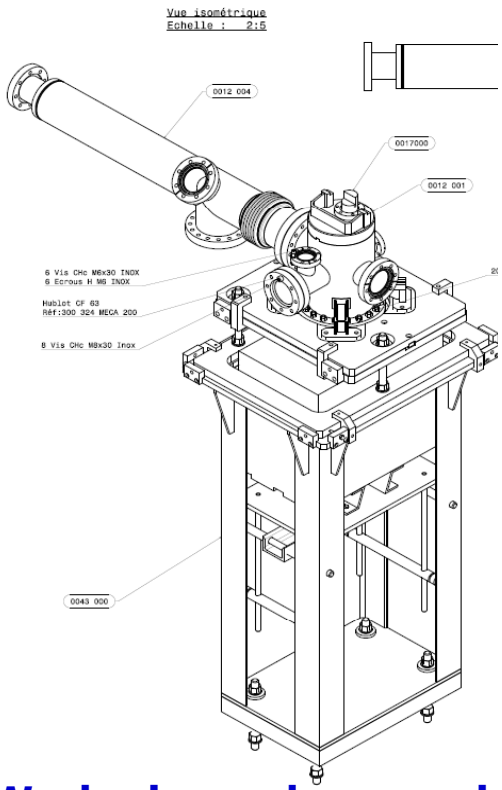


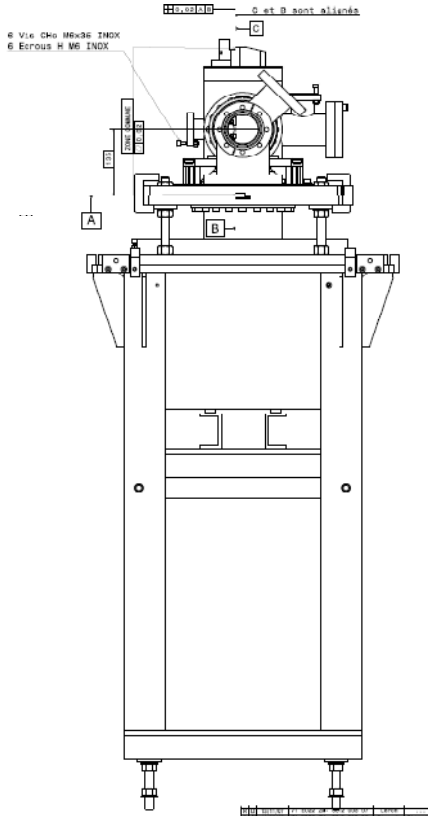


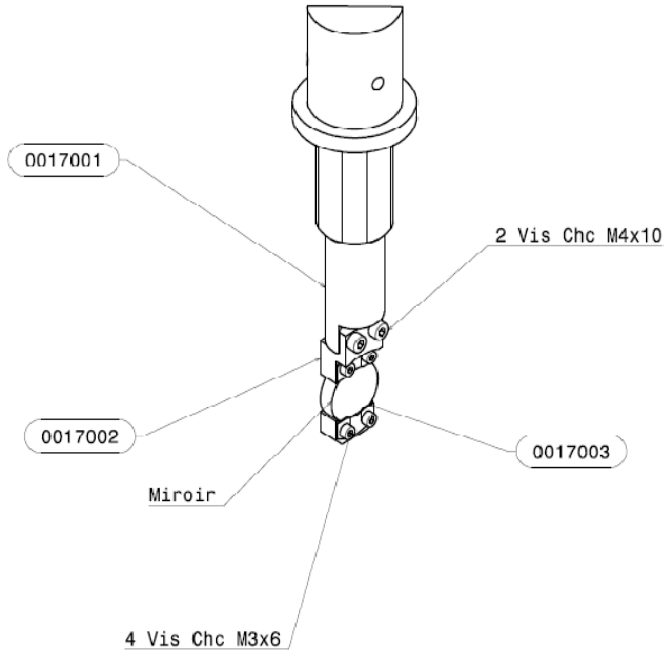
CALIFES STATUS: Mechanics/Alignment

Work planned on week 21/22

- Diagnostics components: CA.MTV0215-0390-0420
  - Additional protections, holds for camera, CCD boxes to install (+cabling)
- Laser / RF Gun: installation of the mirror in the laser chamber near the RF Gun







Work planned on week 25

- BPM: measurement of the frequencies and Q factor of monopole and dipole modes on CA.BPM0220-0240-0260-0310-0380-0410 + attenuations in cables (can start on week 21)

CALIFES STATUS: Laser system

Program of week 17:

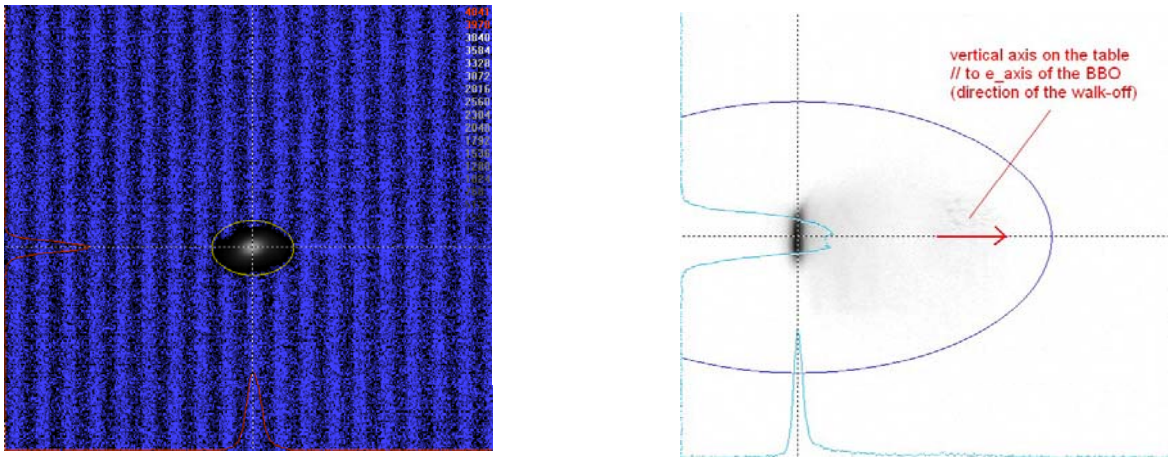
- Measurement of the profile of the beam out of the BBO : the distorted profile is mainly due to the high walk-off (85 mrad) combined with the low diameter (~130 µm FWHP) of the green beam focused on the BBO.

The conditions on the BBO and energy were nearly the same as on previous measurements in March:

E=28 nJ and Eff $_{1.047\text{-}> 262}$ = 1% (= eff $_{1.047\text{-}> 523}$ (=18%) * eff $_{523\text{-}> 262}$ (=5%))

- Change of the diameter on KTP and BBO for selecting the best configuration with the actual state of the laser. The criteria to consider for that optimisation are still unclear since maximizing the energy should lead to bad profile (walk off on BBO) and possible unexpected energy in between the 6 ps pulses

- Checking the procedure for safety in the transport (various mounting of components, 3 lens afocal on PI optic table, 3 lens afocal on laser tables…, checking New Focus components)

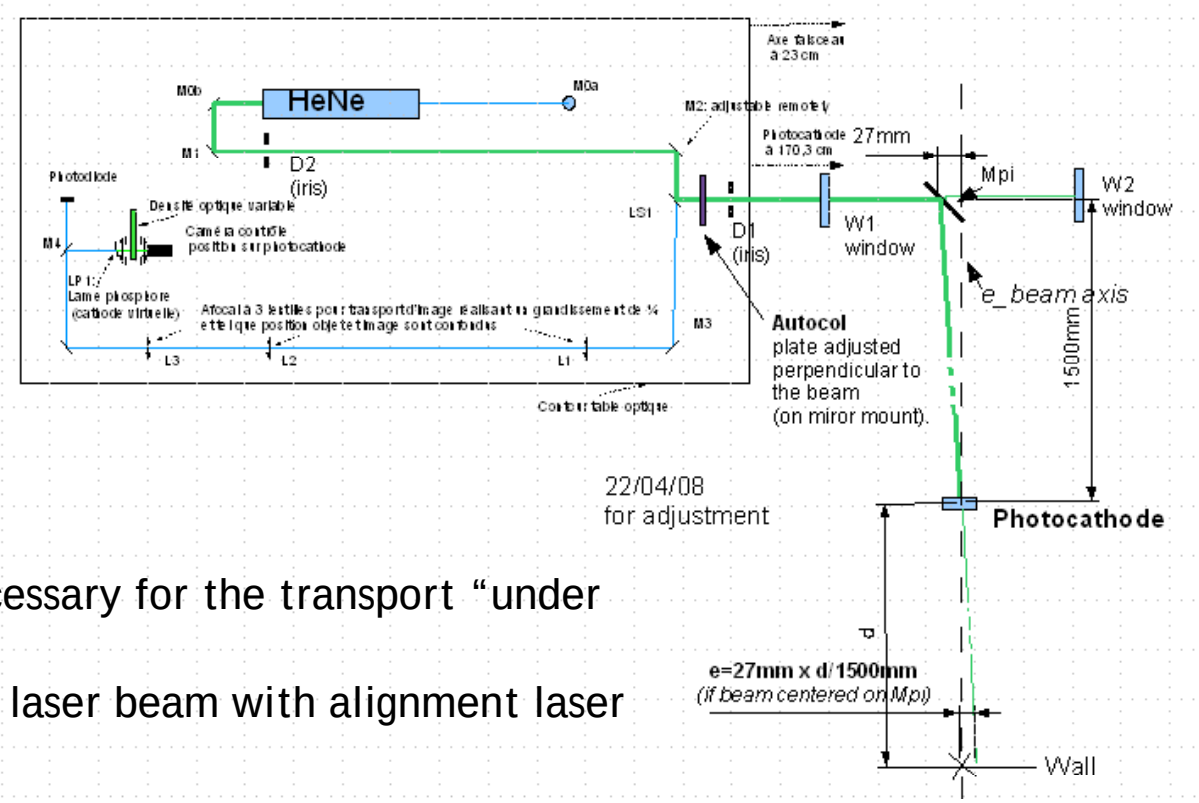


Pictures of the beam at the output of the BBO (quadrupling)

CALIFES STATUS: Laser system

Program of week 21:

- Finalize the configuration to be installed in order to get approximately 4mm diameter on the photocathode (with HeNe laser beam),
- Work on the virtual cathode adjustment



Program for week 23:

- Change the (decentered) lens necessary for the transport "under the roof"
- Finalize the transportation of the laser beam with alignment laser

Program for week 25:

- Mounting and adjustment of the beam on the laser table
- Finalize the UV beam configuration

- Installation of the pulse picker → later