

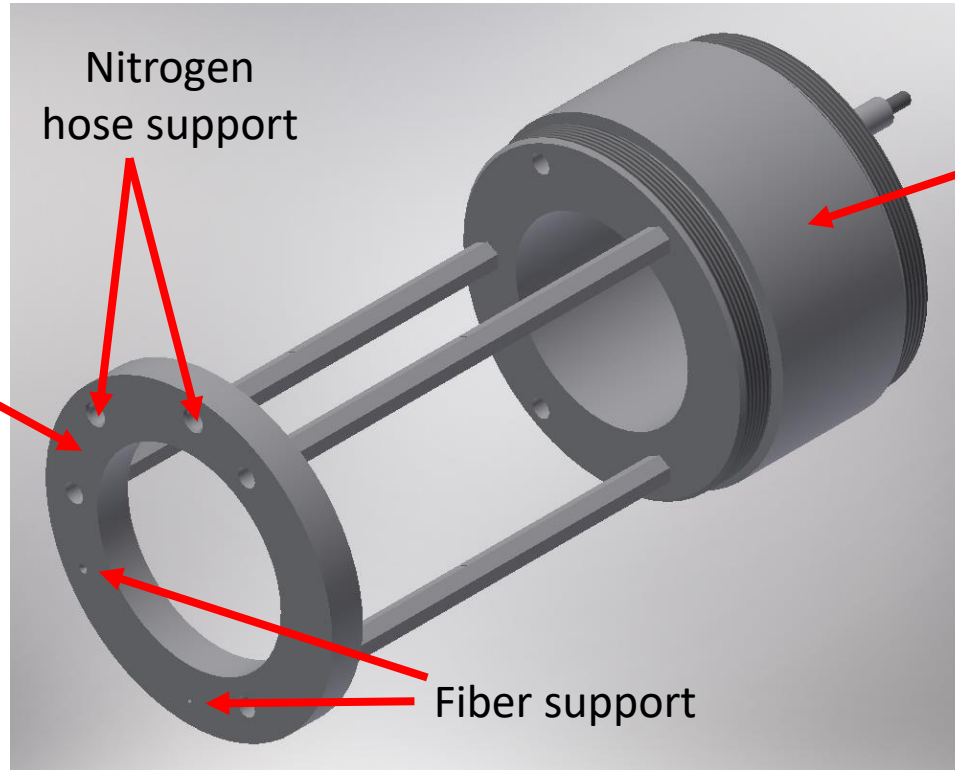
# Status of the CEDAR Upgrade Project

Marcin Ziembicki

# Status

- Discriminators:
  - Installed in crate, one board testing in Warsaw
  - Investigating some ringing on the sum output – it does not affect outputs for tagging
  - Robert is now finalizing interconnects to TDCs – shipment tomorrow or Thursday.
- Dividers:
  - Need final assembly inside the base (to be done in Warsaw)
- Mechanics:
  - Missing parts produced, already in Warsaw
  - Coating (anodizing) to be done by **June 14th** (will try to persuade company to make it sooner or not make it at all)
  - Slightly modified mounting of PMT and fiber for gain monitoring / hose for Nitrogen flushing
  - Holder for fiber/hose to be delivered Monday next week
  - Already got parts for Nitrogen flushing system
- Optical system:
  - Dedicated slide (by Adam)
- TDC
  - In CERN, Igor will start commissioning next week
  - Remote support for installation during long MD

# New Mechanics



Nitrogen  
hose support

Modified PMT  
mounting  
(already in  
Warsaw, waiting  
for coating)

Modified holder –  
to be delivered  
on Monday next  
week

Fiber support

# Optical System

- Done:
  - Selection of an LED diode
  - Main optical fiber installed in the hall
  - Prototype tests (done in April/May)
  - New holder of optical fibers in a PMT
  - Initial work on firmware
  - Development of the second version of the device (with amendments)
- To do:
  - Further work on firmware.
  - Creating a new version of the device.
  - Calibration of the system at CERN (flash intensity)
  - Fastening optical fibers in each of the PMT.
  - Final tests of the device (next week)
  - System installation and start-up during stay (18.06-24.06.2018)

# PMT Gain Scan

- Done during last stay in CERN
- Slightly sub-optimal noise conditions due to necessity of using sum output for that (worse SNR than with direct PMT readout, but enough for our needs)
- Significant variation of gain between PMTs – will compensate with HV settings, but some PMTs will need to run close to maximum voltage in order to allow for single photon trigger on each channel