OLYMPUS Logo Shirts

Still some available in my office

- Polo shirts - 15 €
- T-shirts - 8 €

Mostly large and extra-large though

Collaboration Organisation

Spokesman and Deputy Spokesman

- elected for one year
- current term coming to an end
- what to do now?

Extend term for one year

- gets through construction and installation phase
- spokesman and deputy should have significant presence at DESY for actual experiment

Extend for 6 months

- determine whether or not we have a working detector

Item for collaboration board to decide

Collaboration Organisation

OLYMPUS Collaboration Guidelines

- from last meeting
- document on web page
  - http://web.mit.edu/OLYMPUS/PRESENTATIONS/20101101/OLYMPUS_Guidelines.pdf
- should be discussed and approved by group leaders

Management structure

- collaboration board
- spokes man and deputy
- coordinators

Funding

- operating costs - list from Uwe

Shifts

- experiment and test and calibration runs - list from Uwe

Collaboration Organisation

Analyses
- division of topics
- approval process

Presentations
- approval process
- copy to secretary - Sylvie Faverot-Spengler

Publications
- technical publications
- physics publications
- review committee

Author lists
- technical publications
- physics publication

First draft only !!!!

Contact List

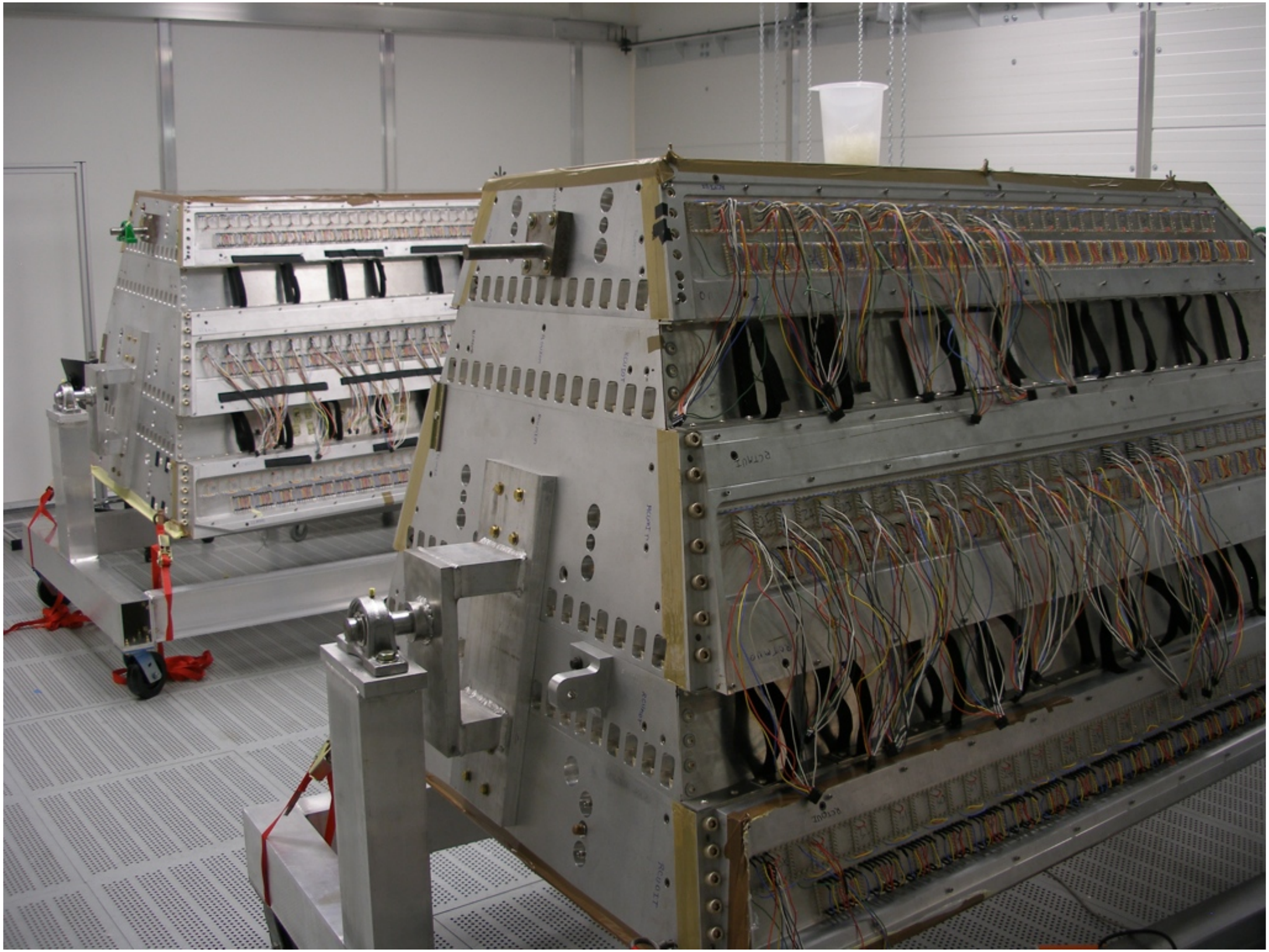
For each component and system

- list of contacts in case of problems, emergency
- must have expert or responsible person at DESY
- available 24/7

-

Next Talk

Wire Chambers



Wire Chambers

Wire chambers completely re-wired over summer

- some shorts and broken wires known from re-wiring
  - chose not to repair then because students left at end of summer

Soldering HV connections in January - 10,000 wires

- Axel, Colton, Brian, Emma, Charles, and Caroline from MIT
- Lauren from ASU
- repairing wires as they go
- finished daisy chaining last week
- soldering cable assemblies to end of this week

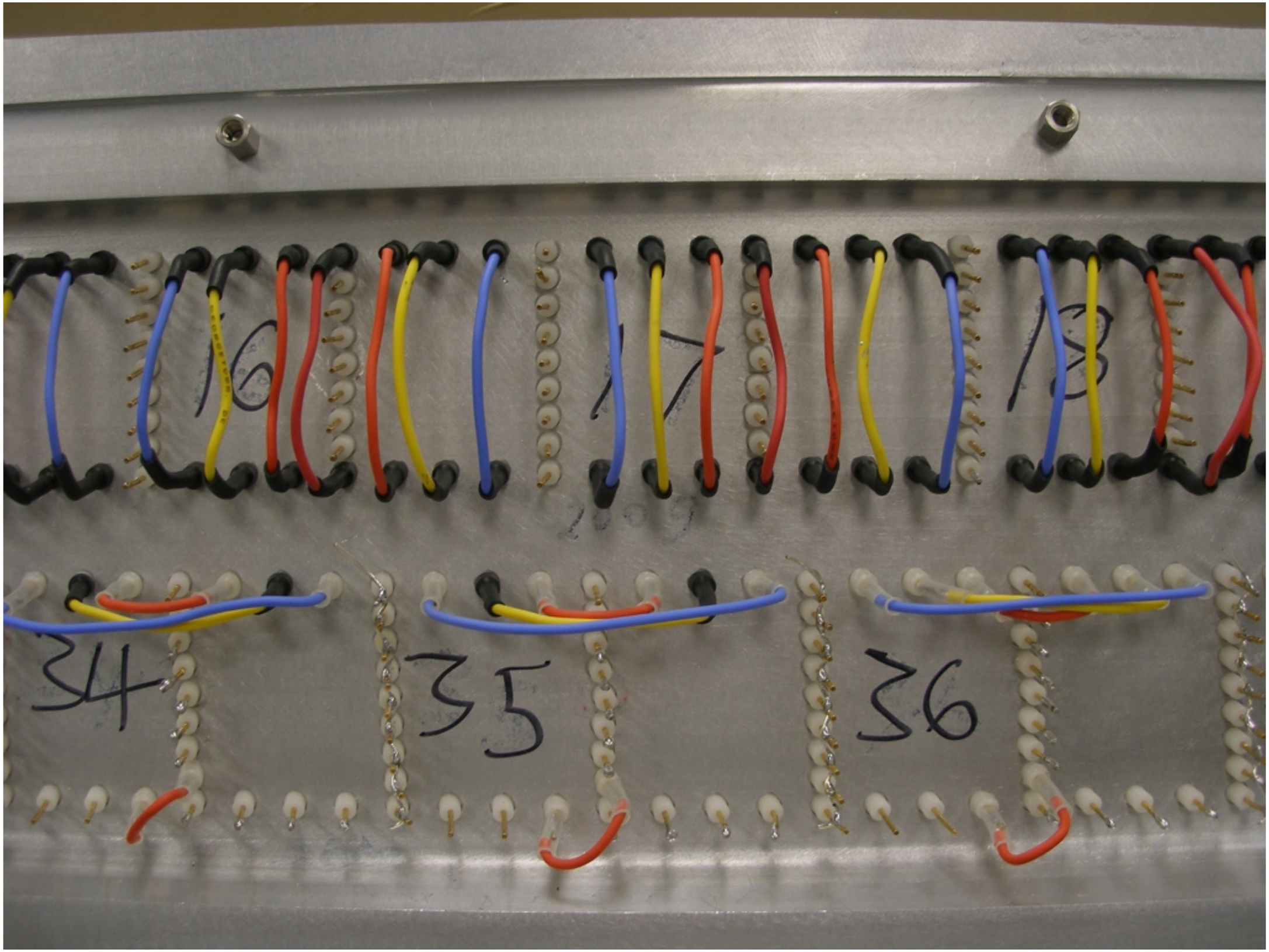
HV boards being made at MIT-Bates - Bob Abruzzio

- plan to install all by mid-February

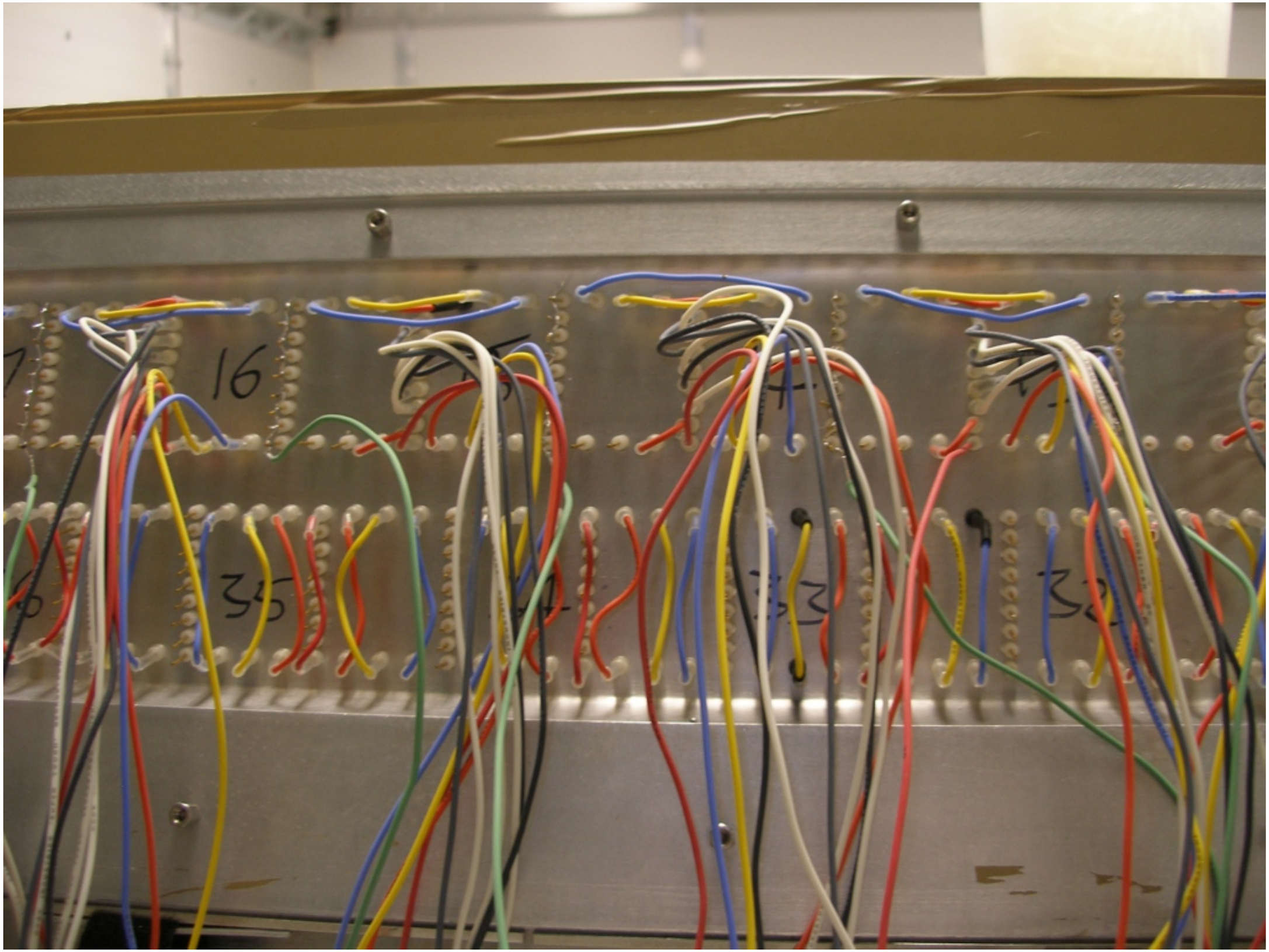
Wire chamber ready to move to DORIS hall end February

- test with gas and HV in frames in DORIS Hall - March
- install in sub-detector frames - April

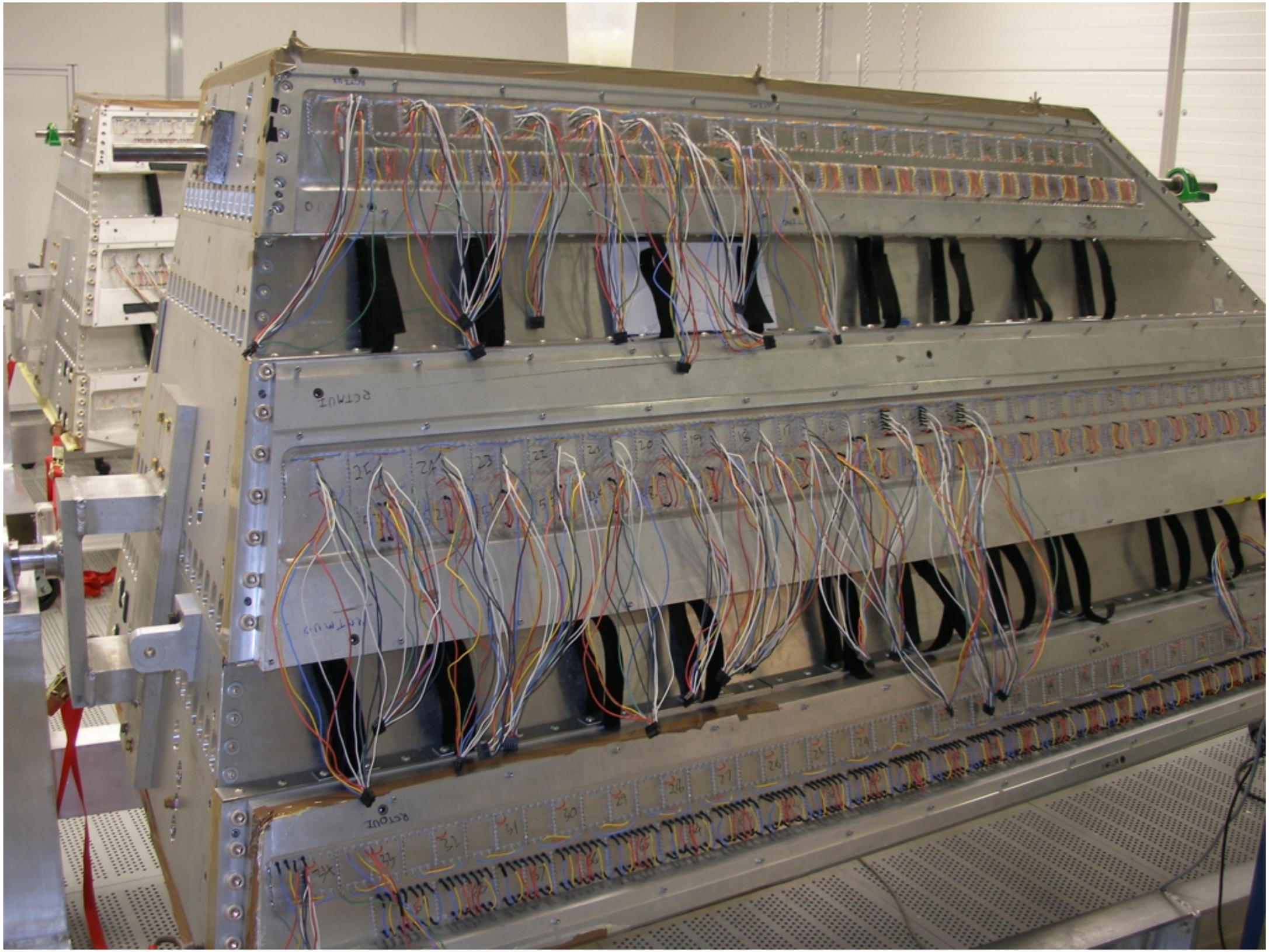
HV Wiring



HV Wiring



HV Wiring



GEM Tracker

Mechanical design started

- 90 x 30 cm^2 active area
- substantial frame to hold foils flat
  - possibly need spacer frame or lines
  - will investigate with plain Kapton foils

Discussion with firm Tech-Etch to produce GEM foils

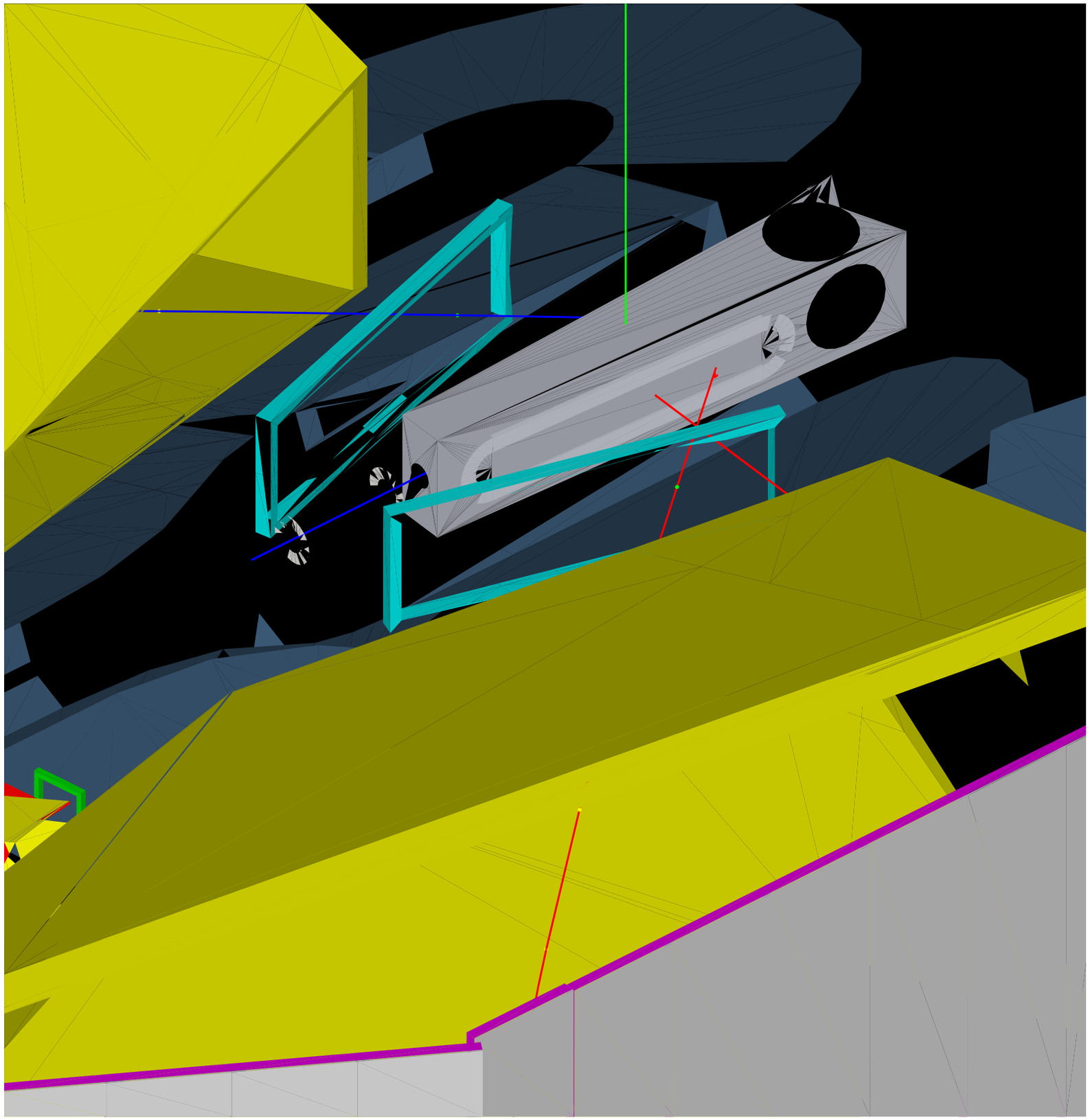
- largest possible 55 x 50 cm^2 probably
- not big enough, need to have gap in GEM tracker

Discussion with Tech-Etch to produce 2D readout boards

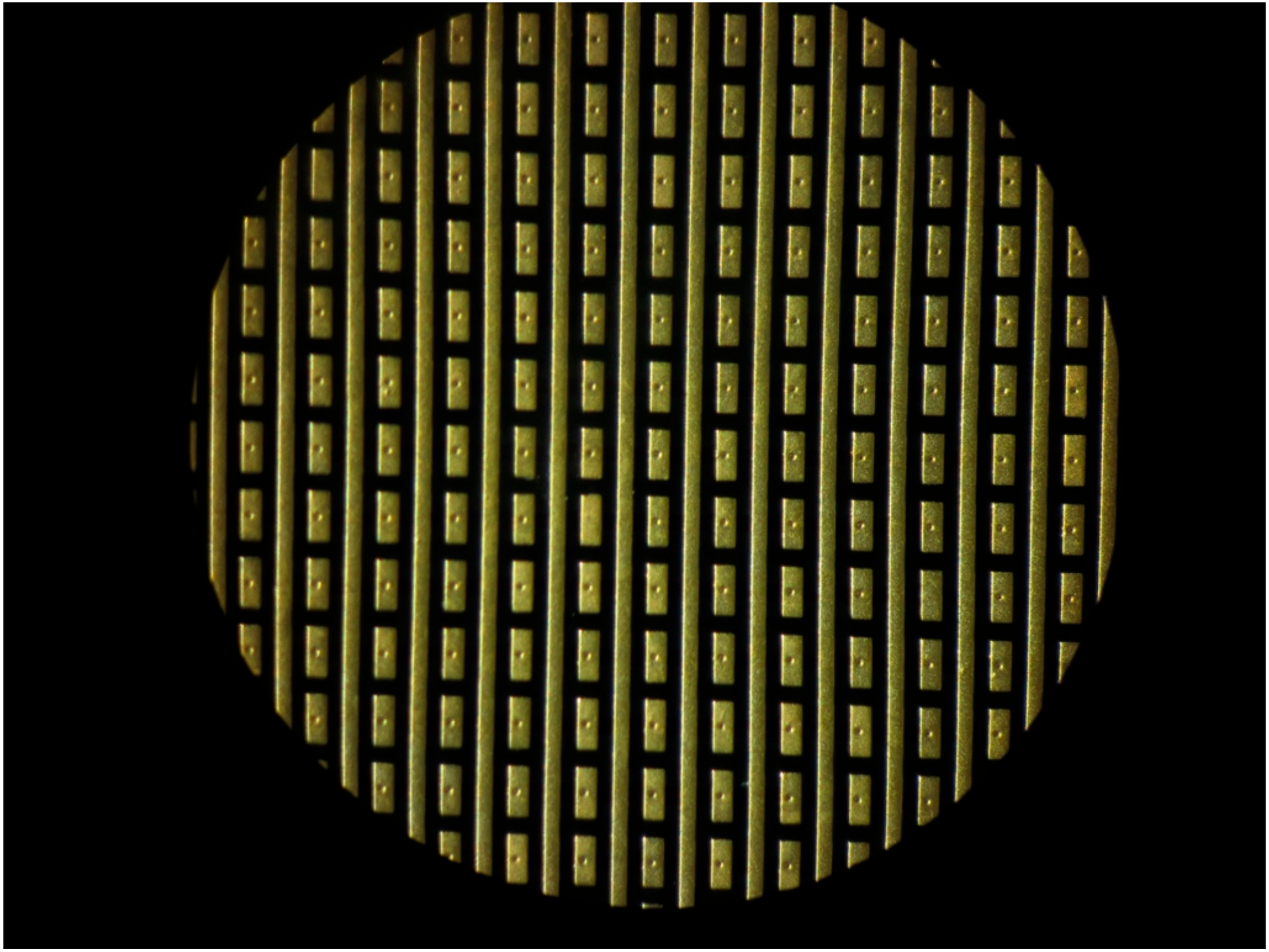
- line and pad design with vias
- flexible choice for readout geometry
  - cartesian, stereo, angle dependent, …

Design by June - July
Produce and test by November
Install before January run.

GEM Tracker



GEM 2D Readout Board



Next Talk

Monte Carlo

Some progress

- much more work needed
- volunteers ???

Progress

- symmetric Möller added but not summing energy
- Möller/Bhabha generator added
- work started on reconstruction
  - early days still but looks positive
  - read MC data and get hits for each event
  - make first estimate fortrack parameters
  - use GEANT4 to track charged geantino
  - MC - 100 events/s on laptop
  - RECON - 1000 events/s on laptop for 1 charge geantino
- track finder algorithm - Emma Tolley
  - multilayer perceptron neural network to select track hits from noise hits
  - will return set of candidate track hits with a probability for being valid track

MC Directory Hierarchy

OLYMPUS.cc - main program
GNUMakefile - make file

detector/ - subdirectory for detectors

generator/ - subdirectory for generators

physics/ - subdirectory for physics

run/ - subdirectory for run handling routines

event/ - subdirectory for event handling routines

utilities/ - subdirectory for utility routines

MC Directory Hierarchy

detector/

- Detector.cc - main routine for building the OLYMPUS detector
- Detector.h - header file

- beampipe/ - subdirectory for beampipe
- gemtracker/ - subdirectory for GEM Tracker
- luminosity monitor/ - subdirectory …
- magneticfield/ - …
- mwpc/ - ...
- symmetricmoller/ - …
- targetchamber/ - ...
- timeofflight/ - ...
- toroidmagnet/ - …
- wirechamber/ - ...

MC Directory Hierarchy

detector/gemtracker/

- GT.cc - main GEM tracker class to build the detector
- GT.h - header file for GT.cc
- GT_SD.cc - routine defining the sensitive detector class
- GT_SD.h - header file for GT_SD.cc
- GT_Hit.cc - routine defining the hits class
- GT_Hit.h - header file ...
- GT_Data.cc - routine defining the data class
- GT_Data.h - header file …
- GT_Messenger.cc - defines messenger class for user interface
- GT_Messeneger.h - header file …

Similar for other sensitive detectors - WC, TF, ...

Simpler for non-sensitive detectors - beampipe, ...

OLYMPUS Monte Carl

Current version GEANT4.9.4

- CLHEP 2.1.0.1 - only for GEANT4.9.4
- Qt - 4.7.1

ROOT - 5.28

- FFTW 3.2.2
- GSL 1.14

MC Directory Hierarchy

generator/

- GN.cc - main class for generating primary events
- GN.h - header file for GN.cc
- GN_Data.cc - generator data class
- GN_Data.h - …
- GN_Messenger.cc - messenger class for user interface
- GN_Messenger.h - …

- ep/ - subdirectory for ep elastic scattering
- ee/ - subdirectory for Möller and Bhabha scattering

MC Directory Hierarchy

OLYMPUS.cc - main program
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event/ - subdirectory for event handling routines

utilities/ - subdirectory for utility routines

Next Talk

AOB

Next meeting

- early January to organise work during shutdown?
- after January to evaluate where we are?

OLYMPUS shirts

- available in my office
- Polo shirts - 15 €
- T-shirts - 8 €
- People who pre-ordered have priority
- Some extras are available for those who didn’t pre-order

AOB