QUAD status
New testbox

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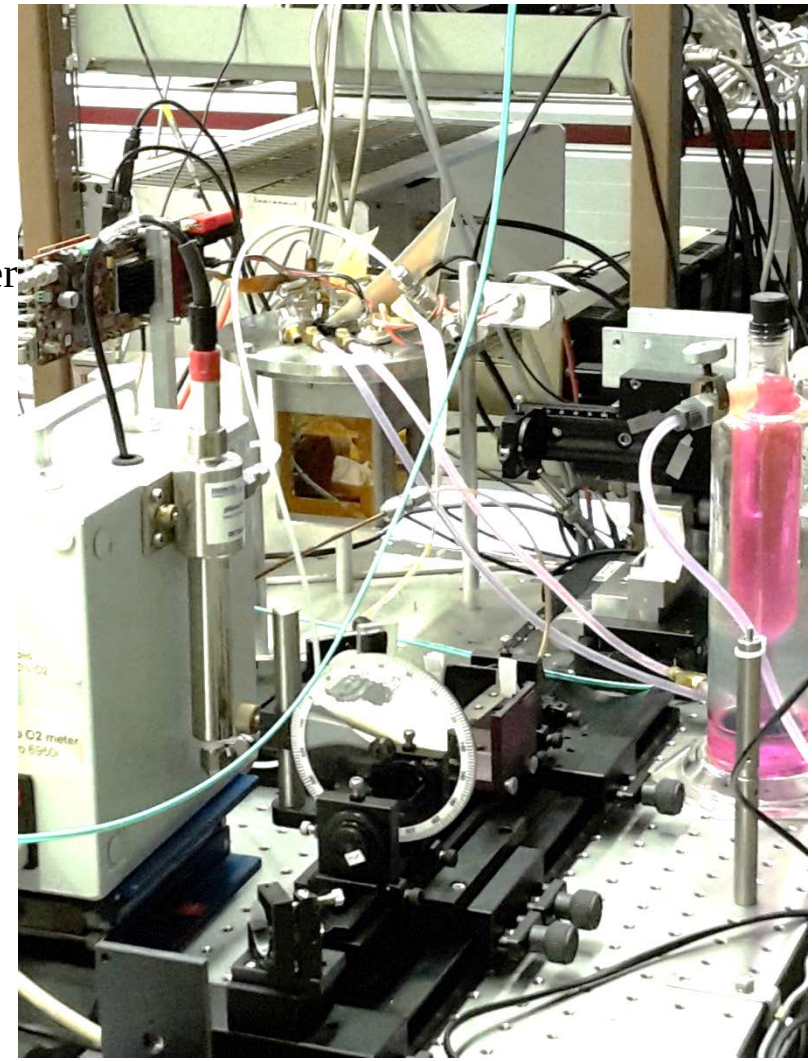
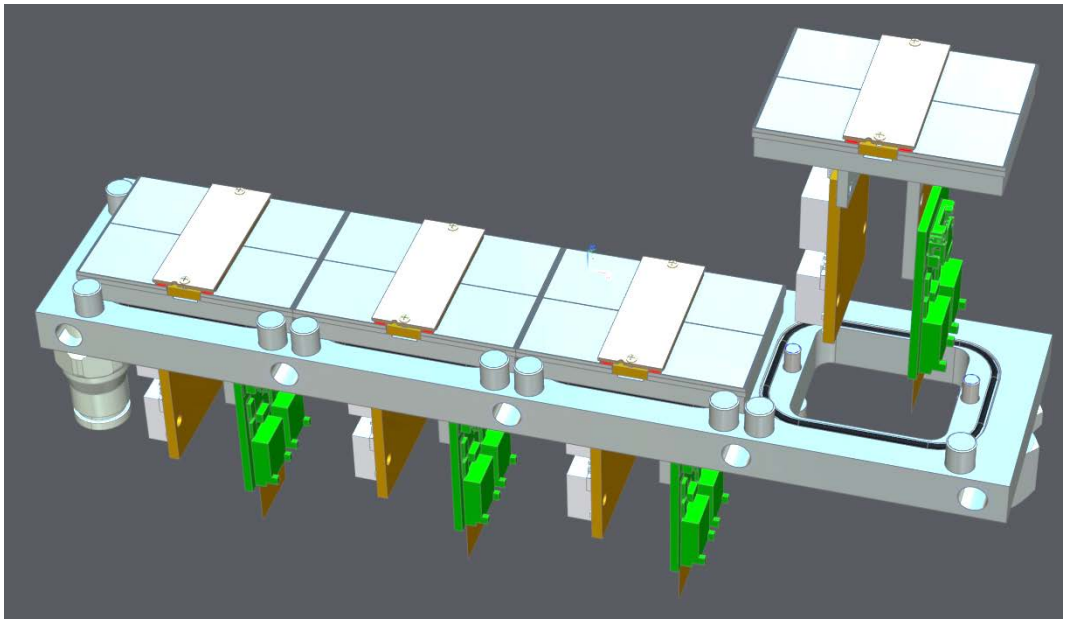
Present activities

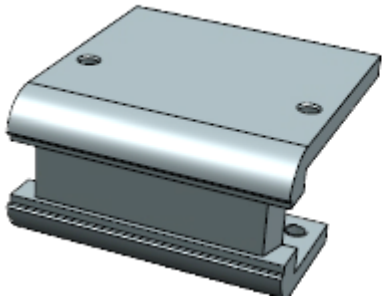
- Laser setup completely operational now
  - O2 meter, laser on/off control, liquid cooling (glycol), stage control all fixed
  - Only continuous RO of moisture level gives problems
  - We hope in future to add the power of the laser shot to the data stream
- Taking data for a few days
  - Establish single electron regime
    - Curve of hits vs grid voltage
      - 280 – 340 V
    - Hit rate per pixel always < 10%?
- New QUAD production
  - Waiting for components and availability of manpower
  - Starting around mid July?

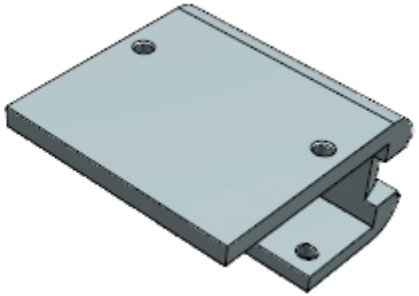


New test box design

- 4 QUADs in a row
- Reduced stump design
- Mounted on a cooling plate
  - Gas tight
- Alignment pins to define QUAD positions



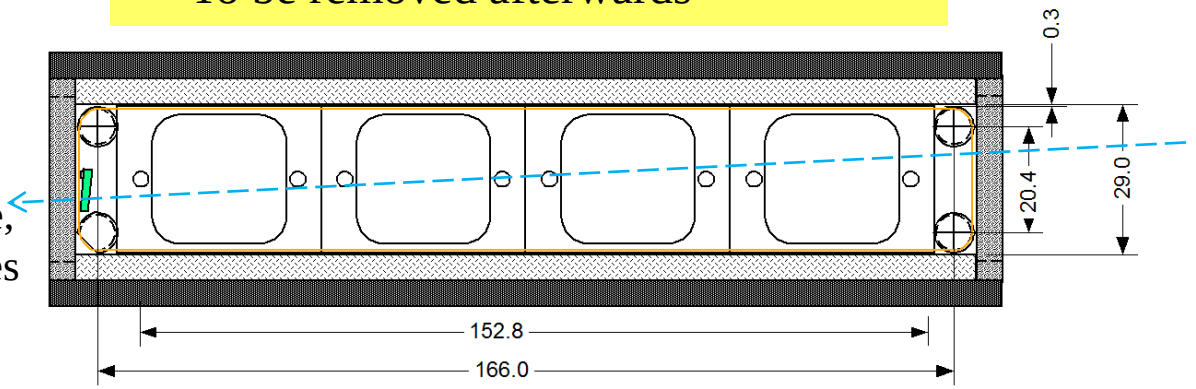


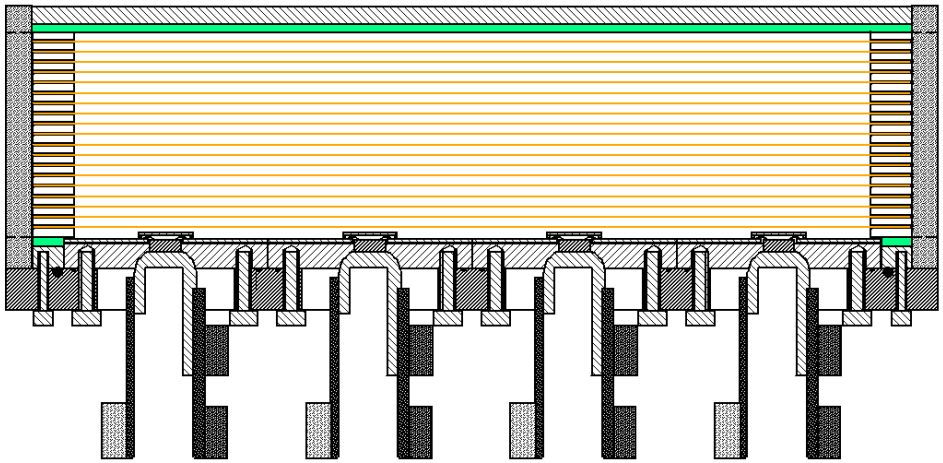


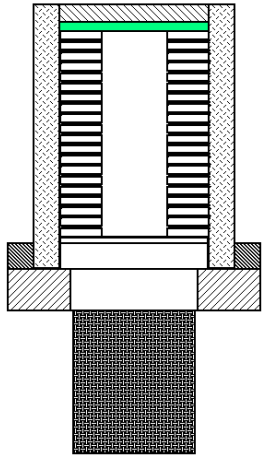
Making a compete 4-QUAD test chamber

- Large optical windows on both sides
- Field shaping by wires
  - 2 mm pitch
  - Starting at edge of sensitive area
  - => no guard structure, only at the short edges
- Field cage with gas housing glued as one part
- Laser testing from long sides
- Test beam through short sides (frame with Kapton foil)

- QUAD alignment by alignment frame
- To be removed afterwards

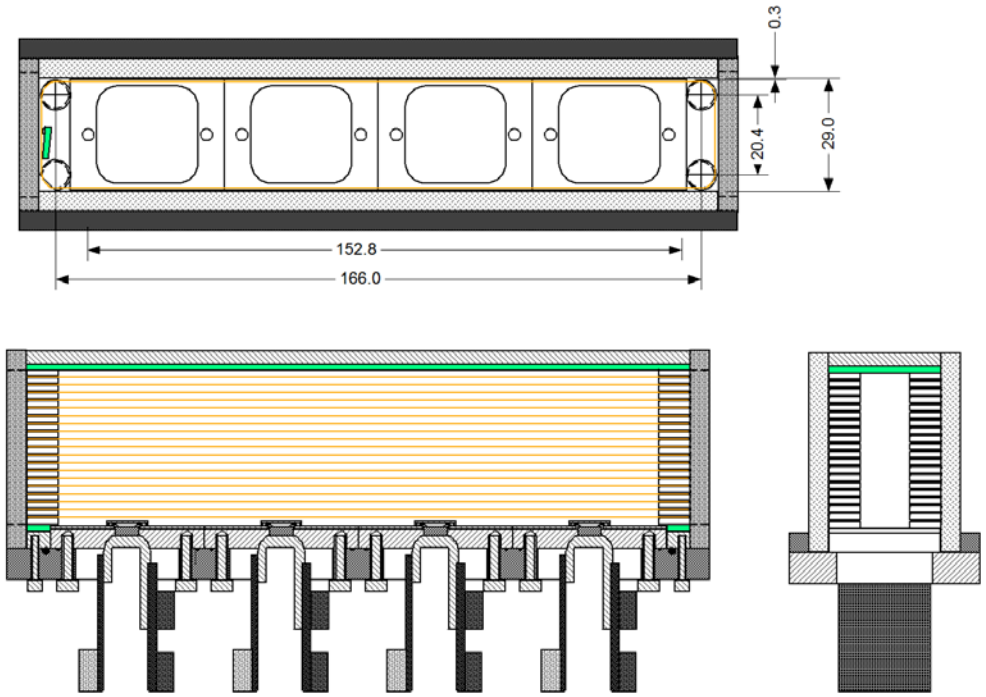






Purpose 4-QUAD testbox

- Study the field distortions close to the field shaping structure
- We may do laser measurements very close to the grid
  - ~ 1 mm
- We might replace one of the glass plates for a field shaping foil with strips



New aspects for this testbox

- QUADs should be gastight
- Cooling for multiple QUAD
- How good is the 1 mm O-ring?
  - Gas tightness?
  - O2 diffusion?
- Can we live without a guard electrode around the QUADs?
- We may easily extend the cooling plate sideward
  - 2 x 4, 3 x 4, … QUADs