



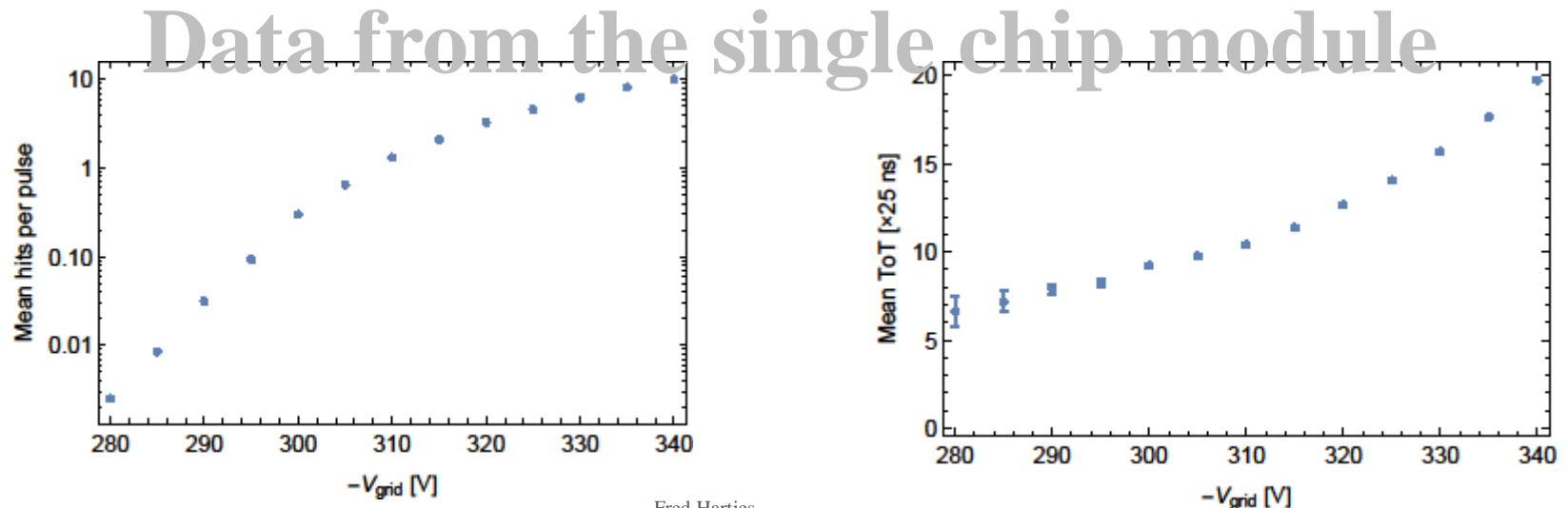
Remarks about the October testbeam

Fred Hartjes
NIKHEF

Nikhef/Bonn LepCol meeting
October 8, 2018

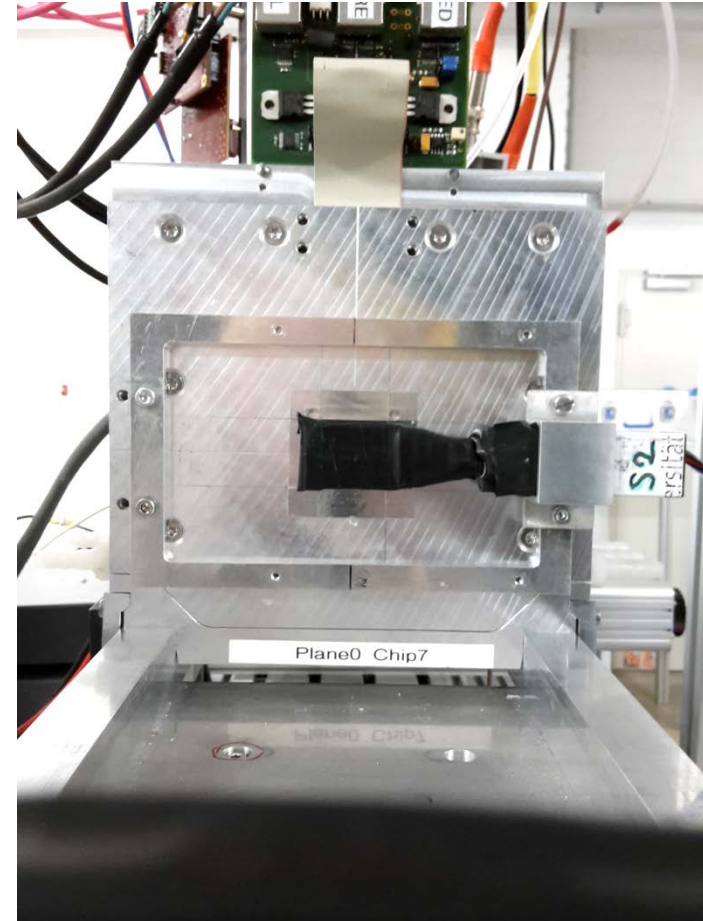
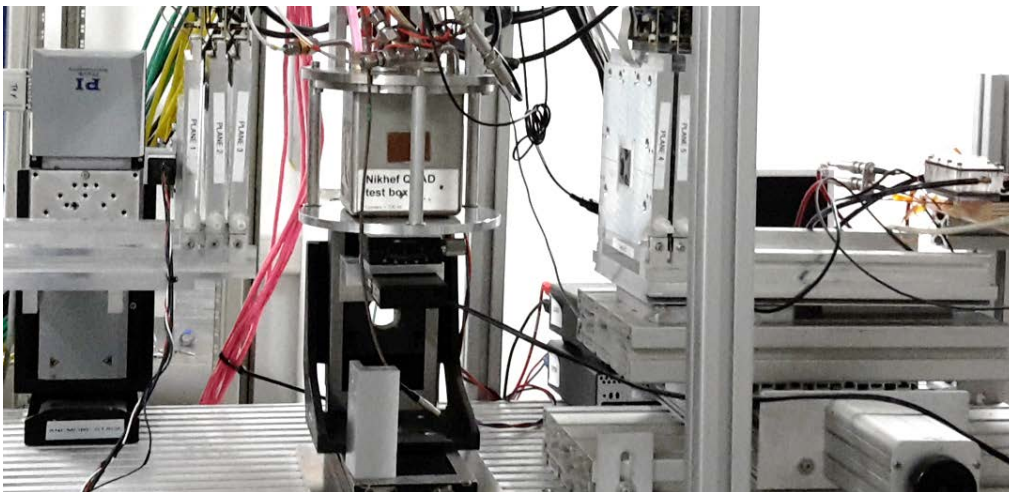
Lacking

- We did not make up a data taking plan in advance
 - Mechanics: which degrees of freedom do we want?
 - Goniometer and rotary stage were not used
 - Setup would be simpler if we omitted them
 - But we needed a readout of the Z movement, too late to implement
- We did not determine a good working point for the QUADs
 - 300 V grid voltage does not give a good single electron efficiency
 - => significantly reduced number of hits per track
 - 330 V is much better
 - We wanted a much higher field voltage than before (280 => 450 V/cm)
 - The HV circuit did not permit that completely (≤ 400 V/cm @ 330 V grid)



To be improved

- Next time we should bring a setup with two scintillators with us
 - Working point determined in advance
 - Noise cancelling by coincidence
 - Measuring t_0 jitter
- Telescope
 - Maybe Nikhef should provide an optical bench for the second telescope half
 - Remote X-Z movement

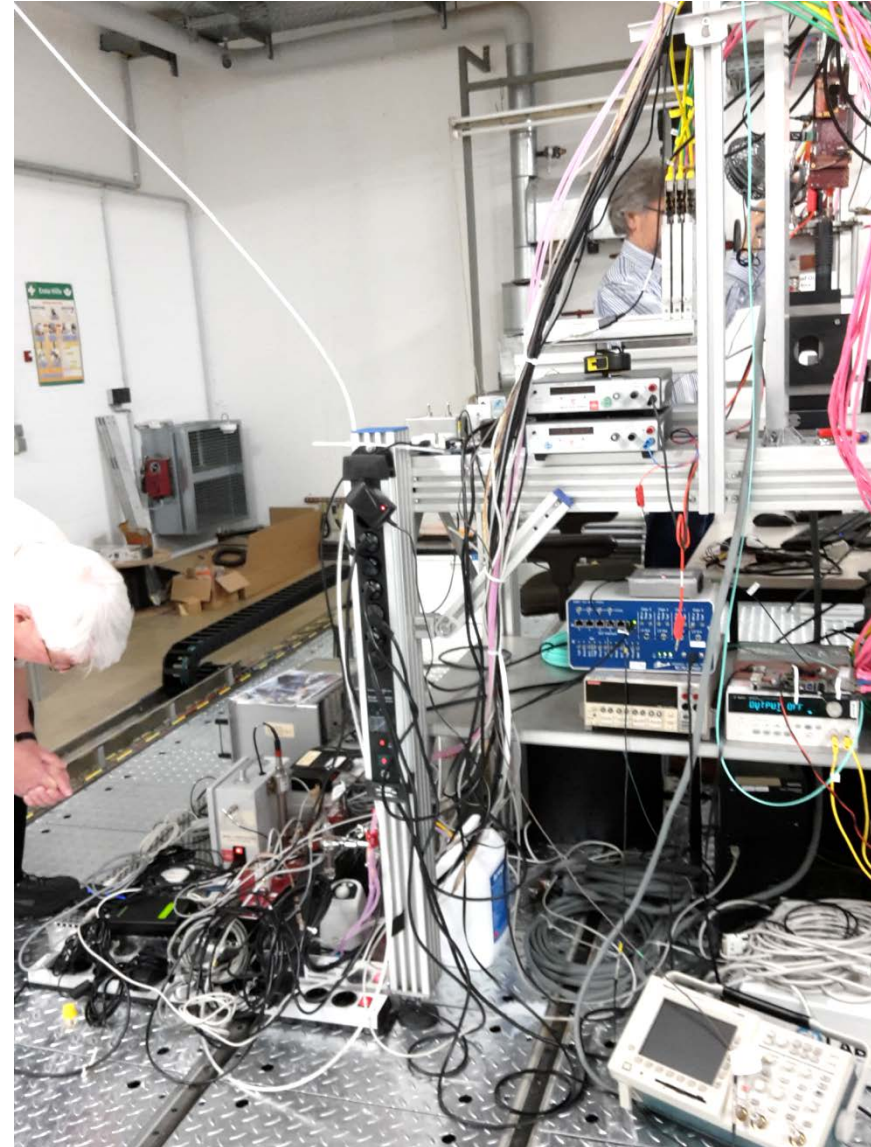


To be improved cntd

- Telescope
 - Maybe we should provide an optical bench for the second telescope half

- Easier to have the leak tray higher (table level)
 - Easier to install
 - Shorter cables/tubing
 - Still well below the beam (70 vs 138 cm)

- Alignment
 - Hindered because beam dump point was not visible



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■ QUAD 3

■ Damaged grids

- Easy to identify the chips

■ Problematic HV connections

■ QUAD 11

■ Grids practically undamaged

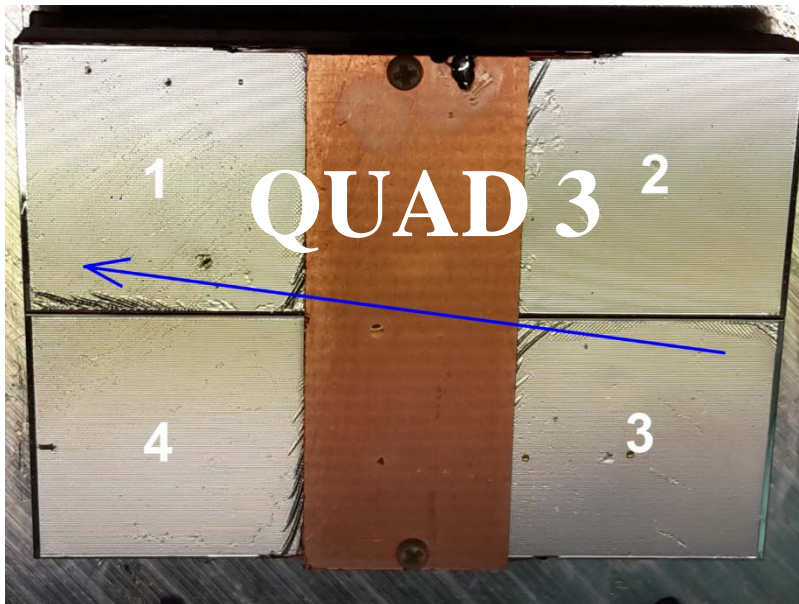
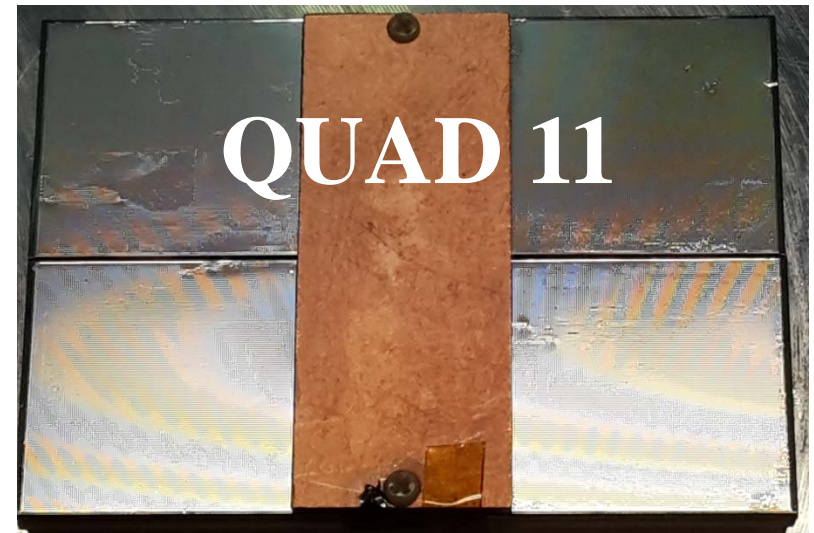
- Minor irregularities visible

- May not affect the gas gain much

■ Reliable HV connections

- Guard $\sim 150 \mu\text{m}$ too high on one side (solder point)

Two QUADs



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