



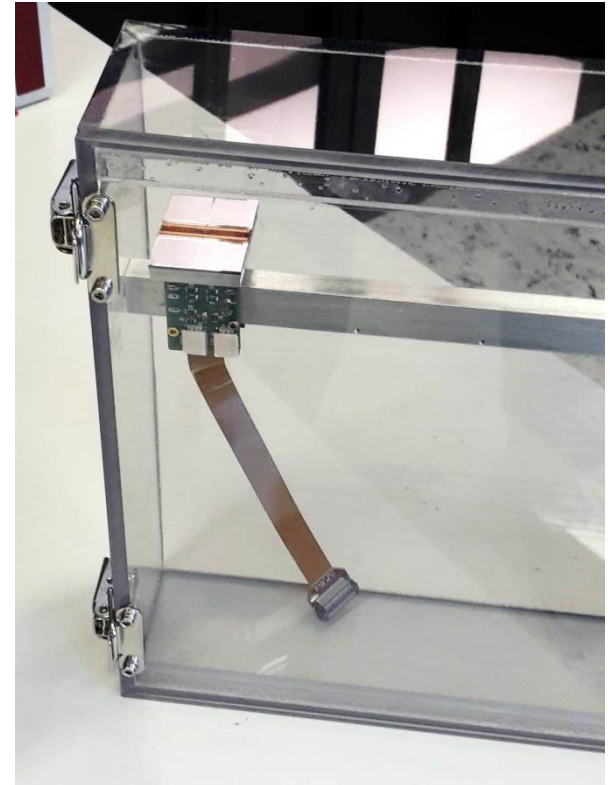
QUAD status October testbeam

Fred Hartjes
NIKHEF

Nikhef/Bonn LepCol meeting
September 24, 2018

Status QUAD production

- QUAD 11
 - Wirebonded
 - Communication problems
 - Solved!
 - 3 chips working fine
 - 1 chip may also be brought into operation
- QUAD 12
 - Ready for chip alignment
- QUAD 13
 - Mechanically assembled
- Still missing
 - Central guard electrodes (Jean-Paul)



Assembly sheet QUAD 11

Task	Date done	Comment
Read PCB ID	30-8-2018	18024300000006
Remove notch of LV connector	20-8-2018	
Attach ID labels	29-8-2018	
Close guard holes and make M1.2 thread	23-8-2018	
Measure COCA dimensions	28-8-2018	39.584; 28.388
Machine wirebond PCB to size	22-8-2018	
Assemble QUAD mechanics	20-8-2018	
Remove glue traces, mount HV wires	22-8-2018	
Make QUAD gastight	23-8-2018	
Check gas-tightness (and O2 leak)	27-8-2018	< 1ml/min; < 5 ppM@6 ml/min
Mount thermal tape	30-8-2018	
Align chips	30-8-2018	1: W23-G9 2: W23 J9 3: W23G10 4: W23 K6
Position verification	31-8-2018	
Wire bonding	4-9-2018	
Electrical test	5/21-9-2018	Chip 2 had initially communication problems
Glue HV wires (Traduct)		
Glue HV wires (araldite)		
HV test in air		
Assemble central guard		

■ (nominal COCA dimensions: 39.600; 28.380)

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Bonn testbeam

Preliminary time schedule

- Preparation
 - September 17 start making model setup at Nikhef
 - September 26 start packing
- October 2 (Tuesday) travel to Bonn, unloading
- October 3 installation
 - Access??
- October 4 – 6 (Thursday – Saturday) data taking
- October 7 (Sunday) loading car, travel home



Organisation of the Bonn October testbeam

- Who will go from Nikhef?
 - Fred
 - Gerhard?
 - Kees
 - Kevin?
 - Jan T
 - Peter

- Transport of equipment
 - One car will be sufficient

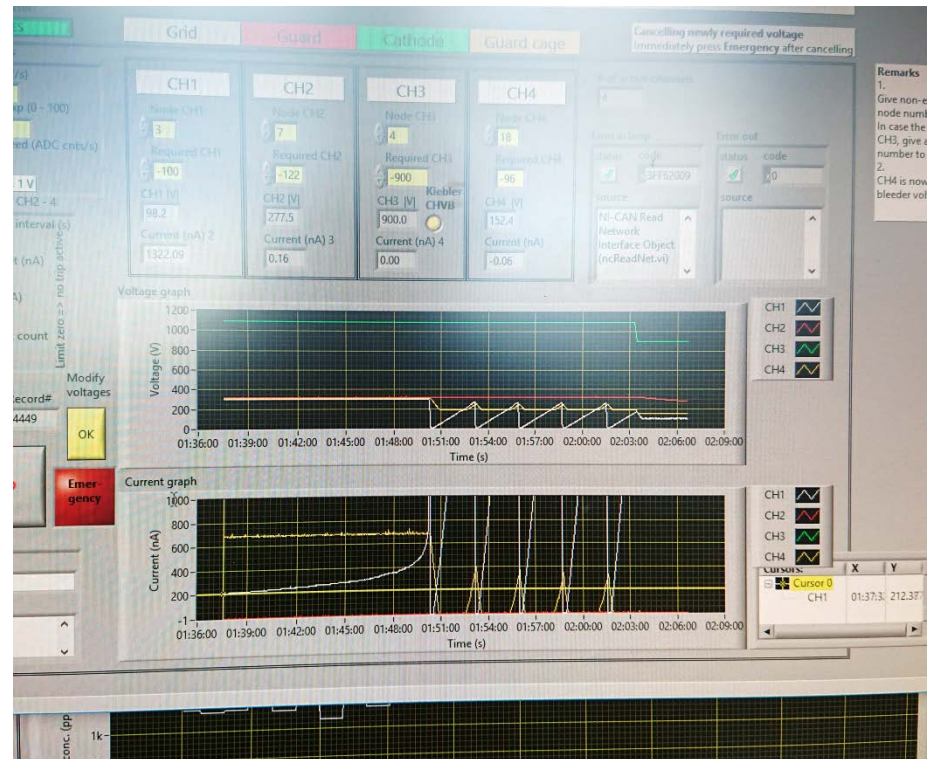
- Safety issues
 - Safety course / instructions: Thursday morning October 4
 - **Everybody has to attend!**

- Model setup operational
 - Simulating the Bonn setup
 - Only SPIDR DAQ not yet tested

Recent HV problems

- Grid current constantly rising from 30 to >3000 nA
 - After > 3 months of hassle-free operation
 - Chamber has to be opened
 - **Just solved!**

- **Alternative if we cannot fix it**
- Install new QUAD 11
- Has excellent grids
- **But:**
- No time for testing
 - Only simple DAQ test
 - Only simple HV test in air (ISEG)
 - No central guard electrode yet



DAQ

- Triggering
 - Scintillators of Mimosa
 - NIM electronics
 - Dead time blocking needed?

- We need a network switch to link the three PCs
 - DAQ PC
 - DCS PC
 - Control room PC

- Event synchronisation with existing telescope
 - Can we use the solution of last year?