



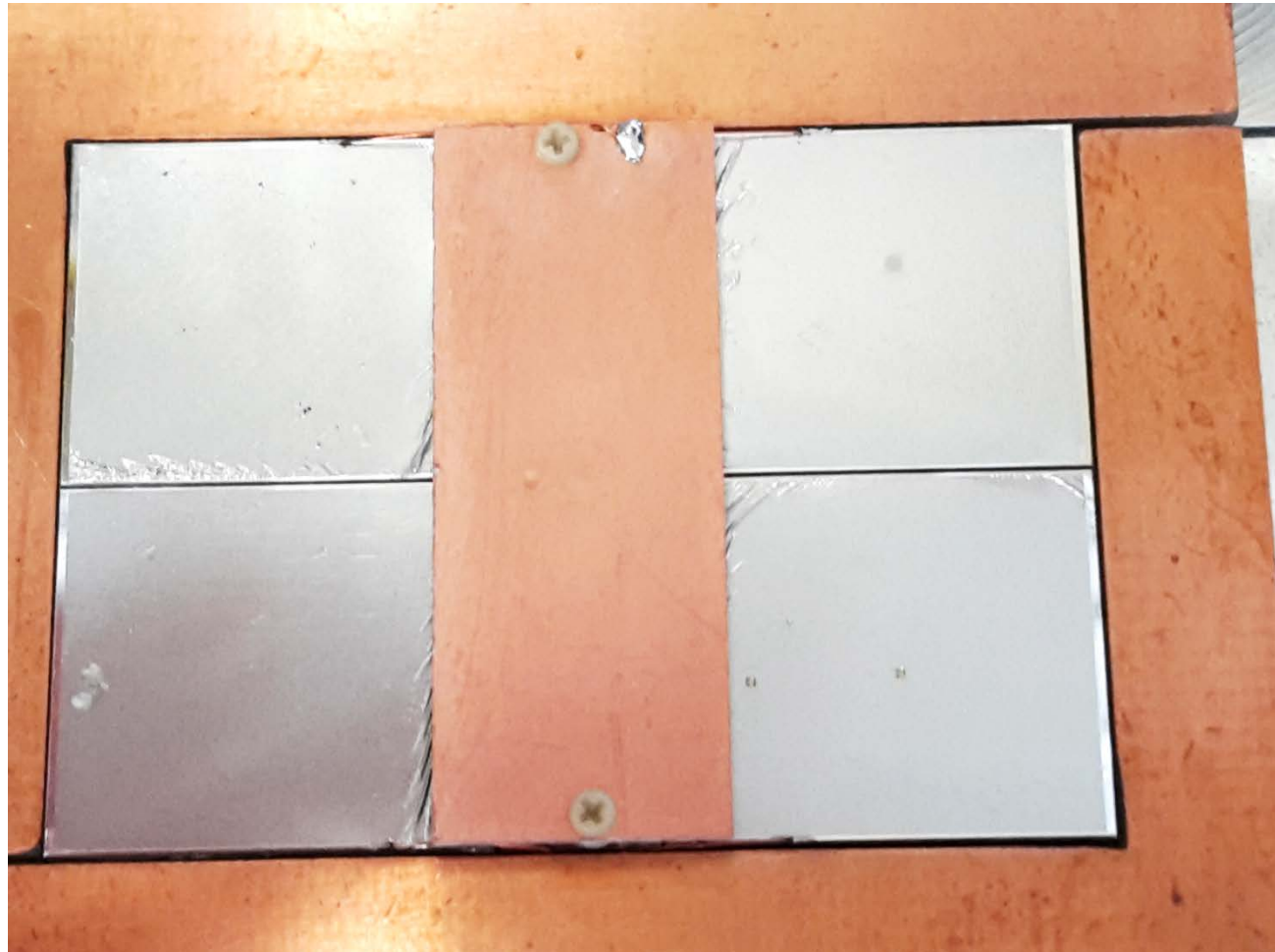
QUAD test setup

Fred Hartjes
NIKHEF

Nikhef/Bonn LepCol meeting
April 23, 2018

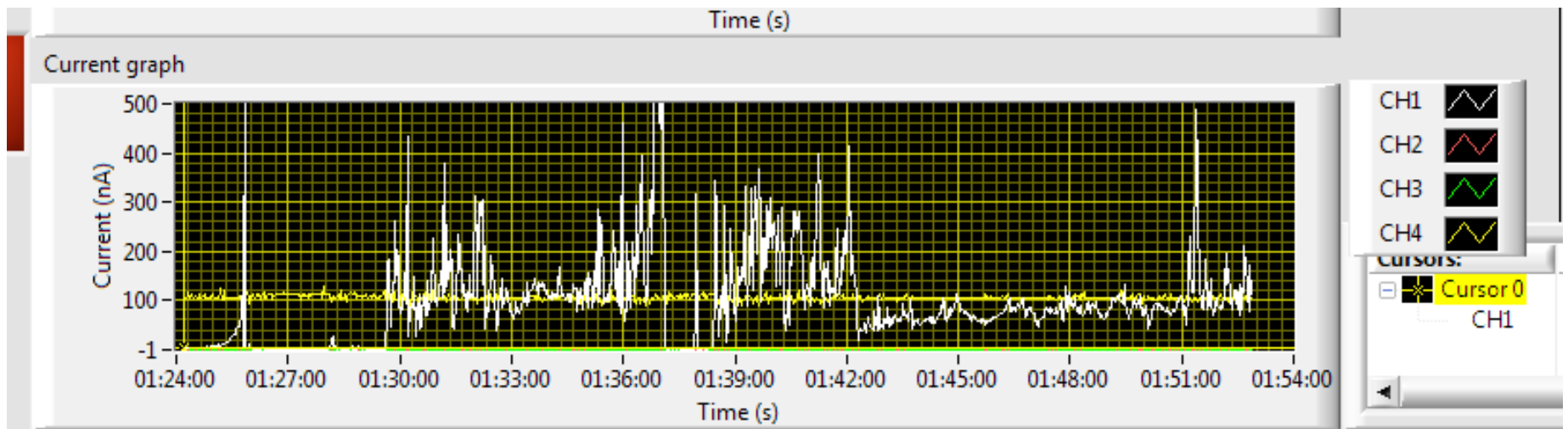
Grids of QUAD 3 not very good

- Wrinkles
- Damages
 - Repaired with Araldite
- Hard to make reliable HV connection on the 200 μm wide dyke without shorting across the 50 μm height



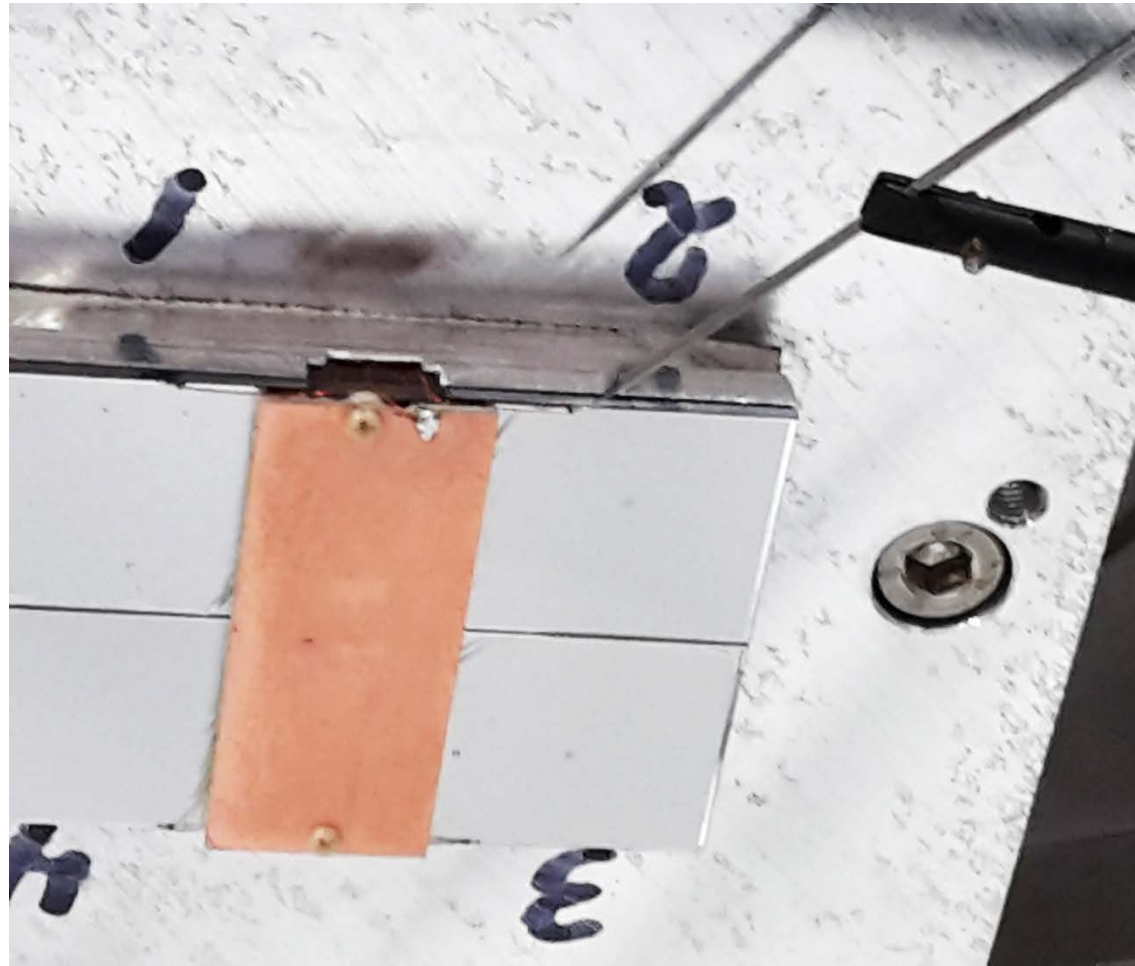
Testing QUAD3

- After some time frequent sparking problem
- Sometimes hard short



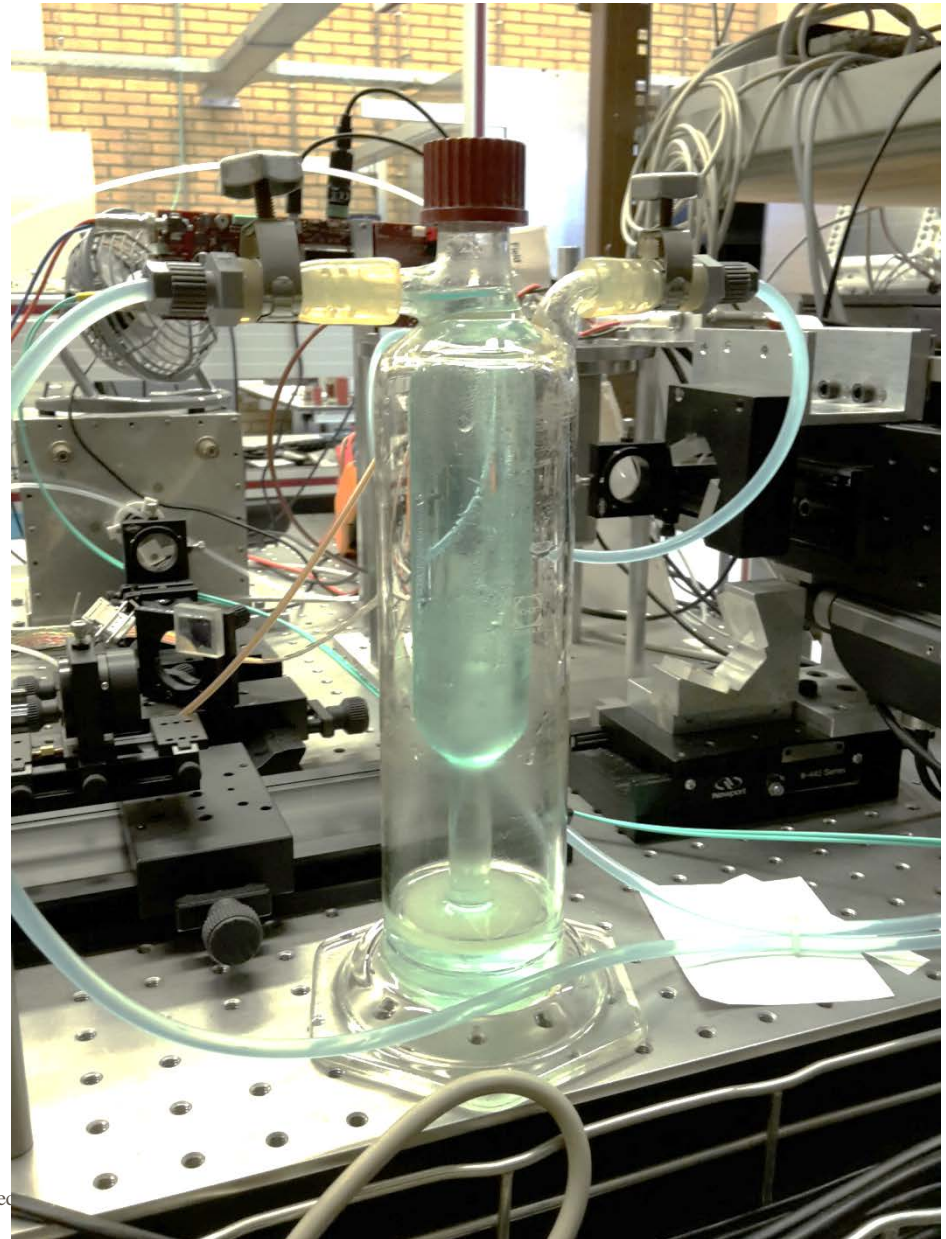
Attempts to solve the short

- Using sharp edge of broken probe tip
- Scraping traces of conductive glue from the dyke
- Initially successful
- But shorts started to return
- **Finally**
- No short in air
- But short/ sparking in gas



Solution

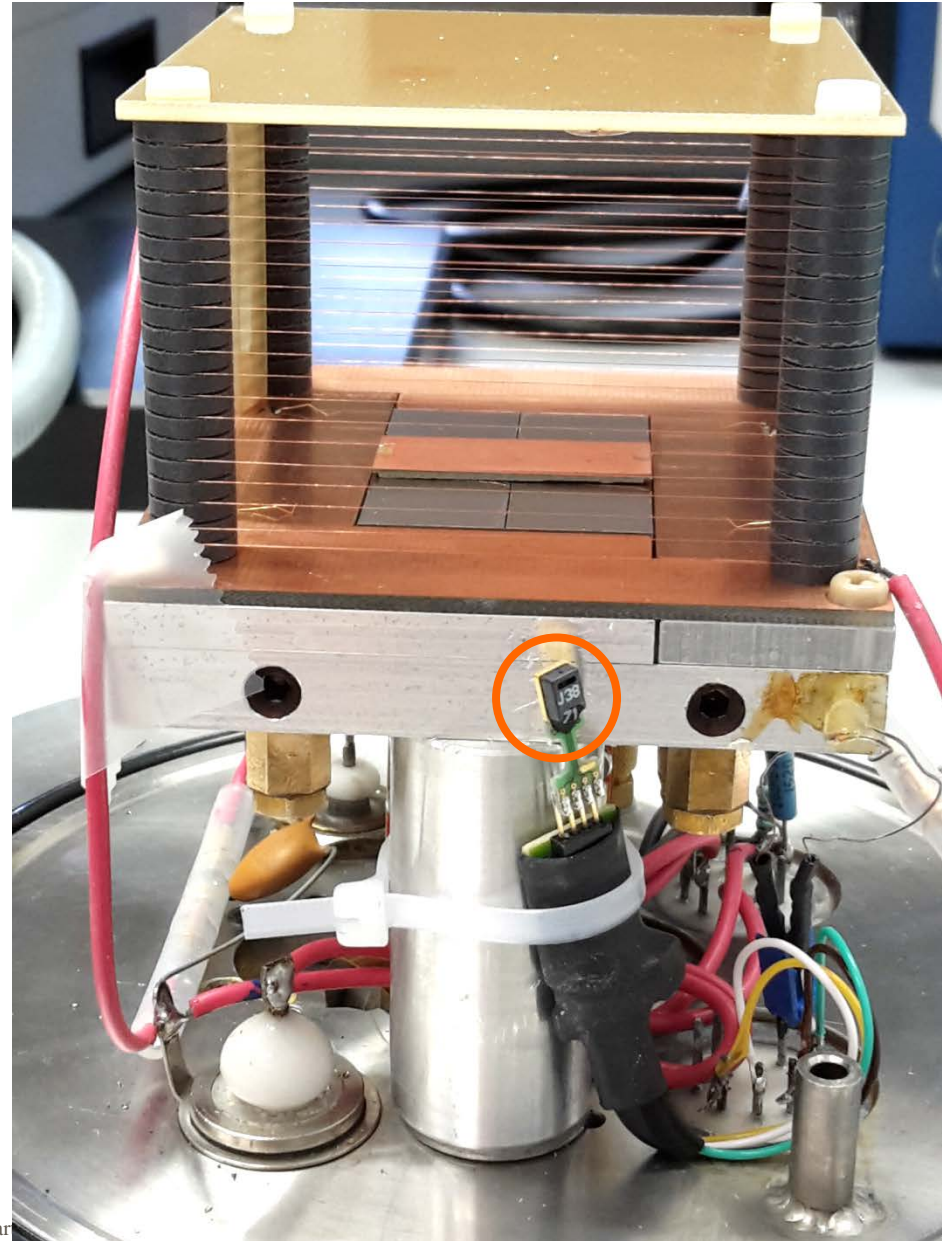
- Appears to be caused by moisture from cooling circuit.
- Chamber was already in input line of the pump
 - => underpressure
- But liquid flow goes by shocks
 - Membrane pump
 - Still overpressure when decelerating the water column
- Solved by adding a damper (gas washing bottle) between the chamber and the pump



Fred

Moisture sensor added

- Sensirion SHT 71
- Values logged
- Starting at 40% (dry clean room air)
- after 2 h flushing at 22%
 - Water cooling running



Fred Har

Prospects

- O2 meter still in repair
 - Sensor broken, ordering takes still ~2 weeks
- Delivery problems with wire bond boards
 - Part of the production rejected
 - Underetching
- Mechanics modified
 - Most of the stump material removed
- Waiting still for InGrid chips!

