

# Status of Aachen IIIB Longterm Setup

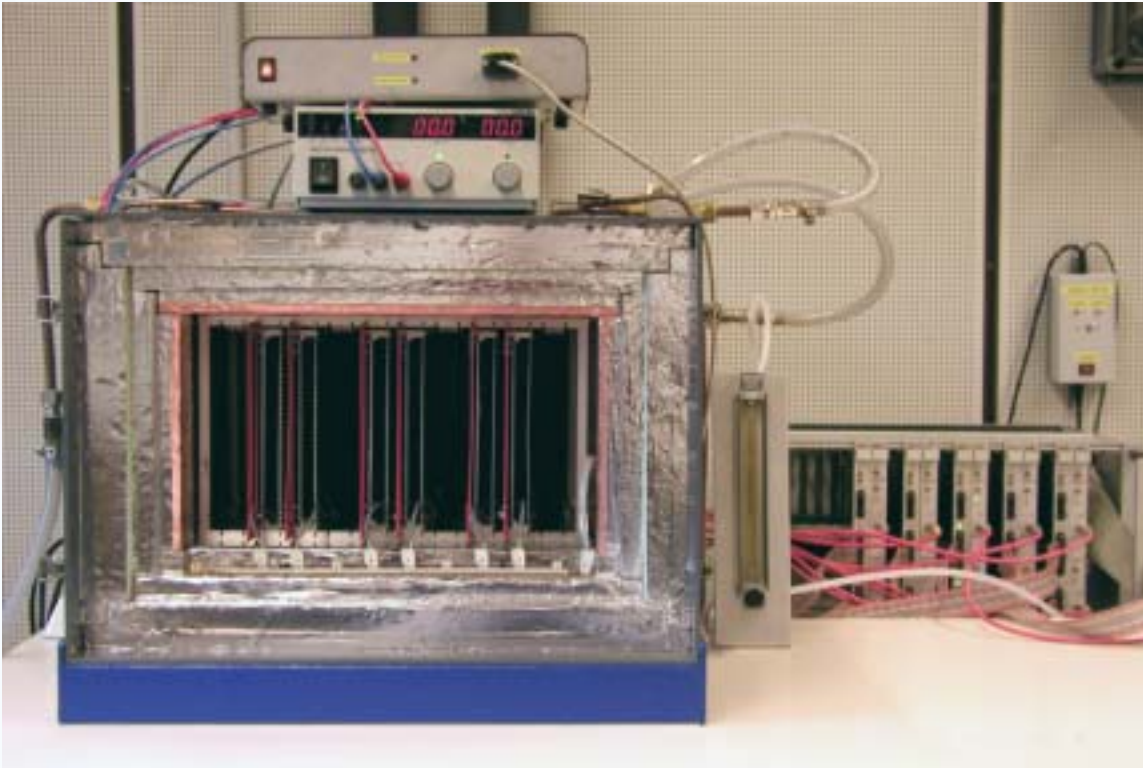
**Module Test Meeting  
CMS Week  
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**RWTH Aachen**

- *Designed completely new*
  - *Houses up to 10 Modules*
  - *Allows Safe handling of Modules*
  - *Similar Backplane like Vienna Box*
  - *2 Vienna Peltiers*
  - *Low Mass*
- *Aachen slow Control (Cooli)*
  - *Used also for Hybrid Teststation CERN, Fermilab & UCSB*
  - *-20° is reached after <1h*
  - *With 5 Modules used as Load*
- *Read Out by ARC*
- *19 Modules Temperature Cycled up to now*
  - *Ring 5: 4 Modules*
  - *Ring 6: 10 Modules*
  - *Ring 7: 5 Modules*



## Slow Control

- Software ACDC
- RS232 Interface
- Monitor Temperature & Humidity
- Set Voltages
  - RS232 Slave
  - or
  - DAC output
- Digital Output
  - Used to Control dry Gas Flow

## Readout

- 5 ARC Boards, 5 DEPP Boards, 10 ARC FE\_M Adapters
- „non standard“
- No Multiplexer



## Backplane

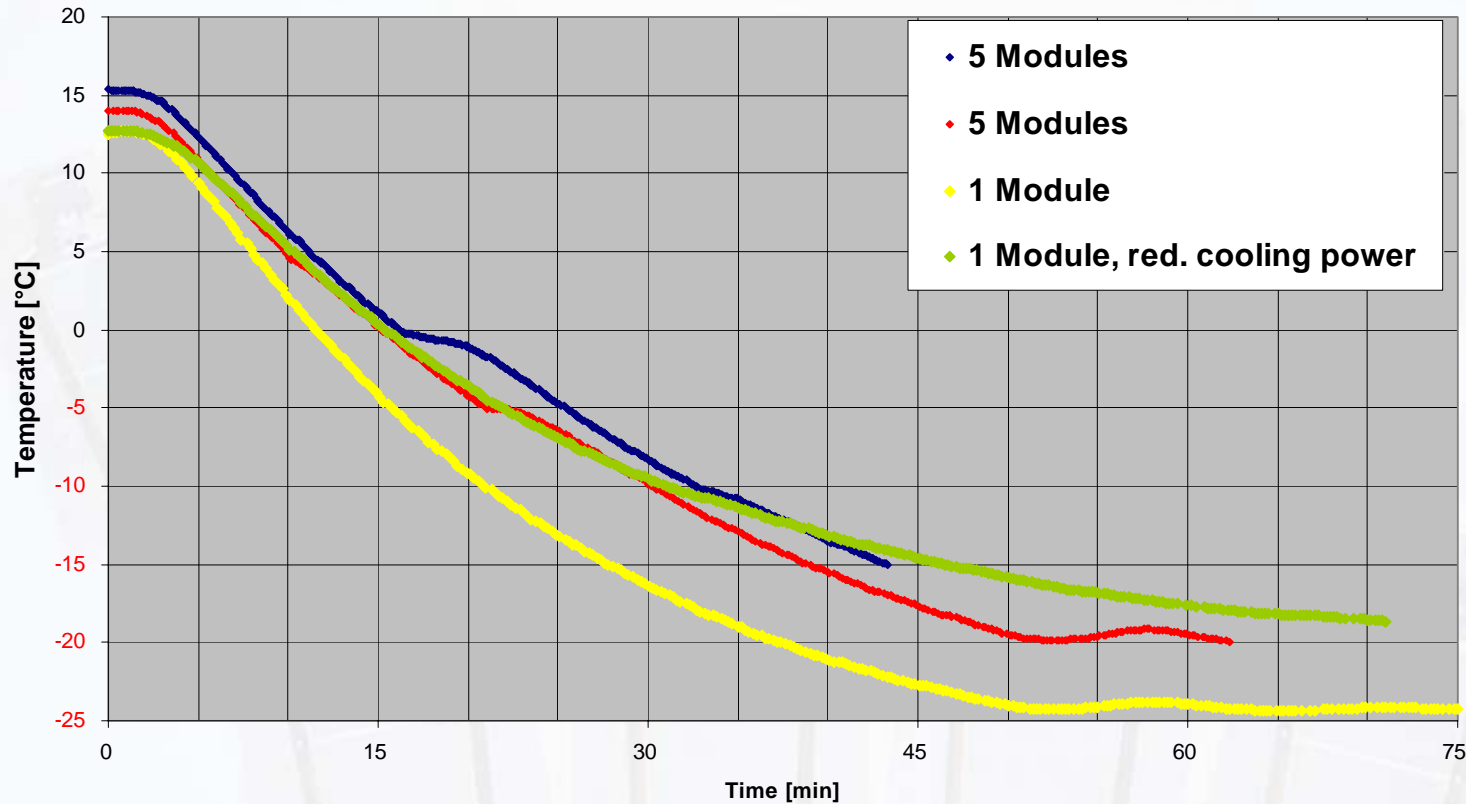
- similar to Vienna Backplane
- Robust for unproblematic Connection
- Interfaced inside Box by TEC V-Utri Adapter
- Interfaced outside Box by FE\_M Adapter

## Module Boxes

- Robust for unproblematic Connection
- Allows Safe handling of Modules inside and outside Cold Box
- V-Utri Adapter card permanently fixed
- Each Box houses one Temperature Sensor
- Good thermal Contact

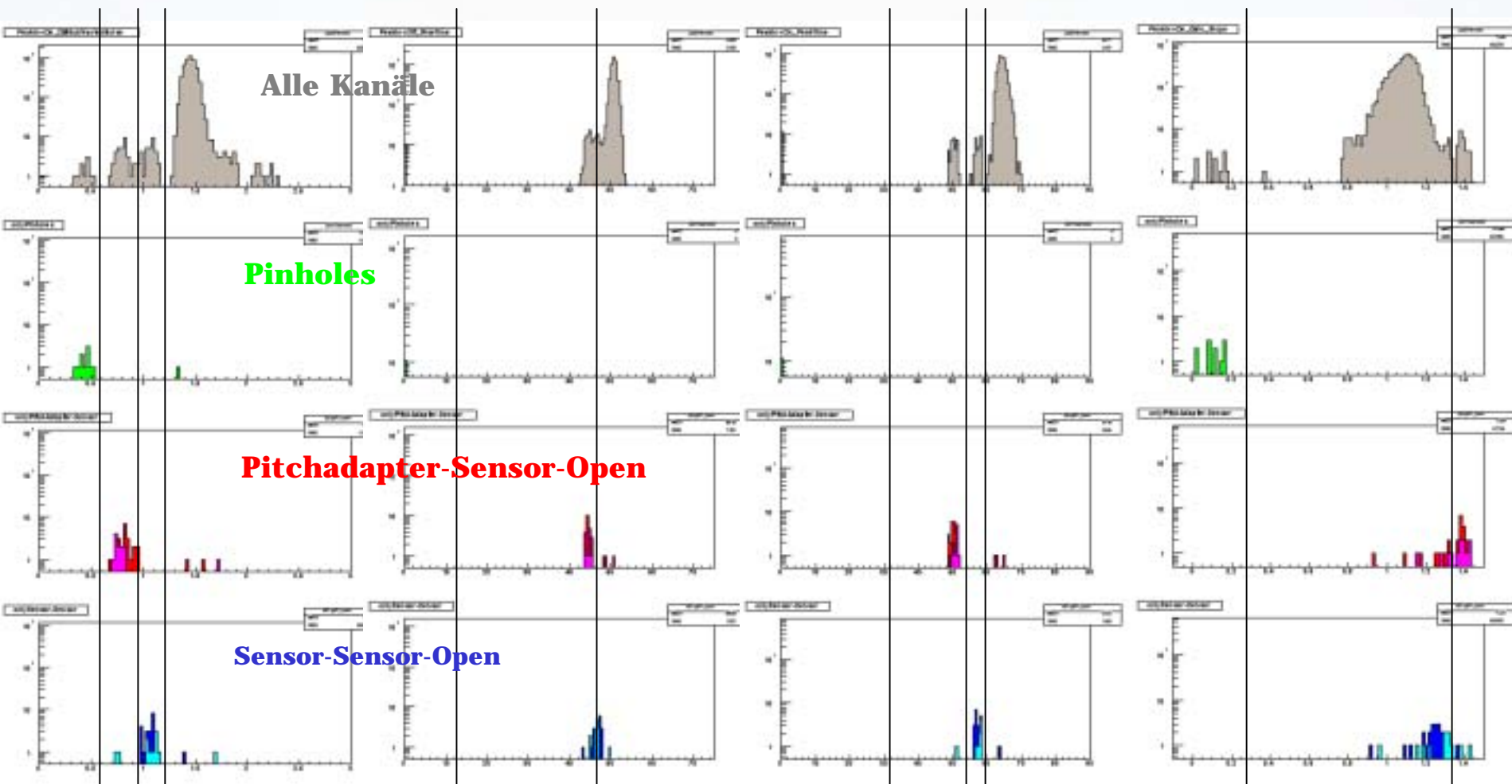


## Comparison of Cooling Cycles with different Load



- Reach easily  $-20^{\circ}\text{C} < 1\text{h}$
- Cooling Power was switched to 75%

# Preliminary Results Pilot Run Ring 6



Noise  
Peak ON

Risetime  
Peak ON

Peakttime  
Peak ON

Gain Slope  
Peak ON

- Cuts have to be evaluated
- Data will be analysed in more Detail soon
  - Presentation next Tracker Week
- Cold Box is operational

## Other preliminarily Results:

- No additional Defects seen at cold
- No Microdischarge Effects seen on Pilot Run Modules

- Automated Readout of of all Modules
- Automated Cooling Cycles
- Scenario Files including Automated Readout and Cooling Cycles



Developments are given low priority