

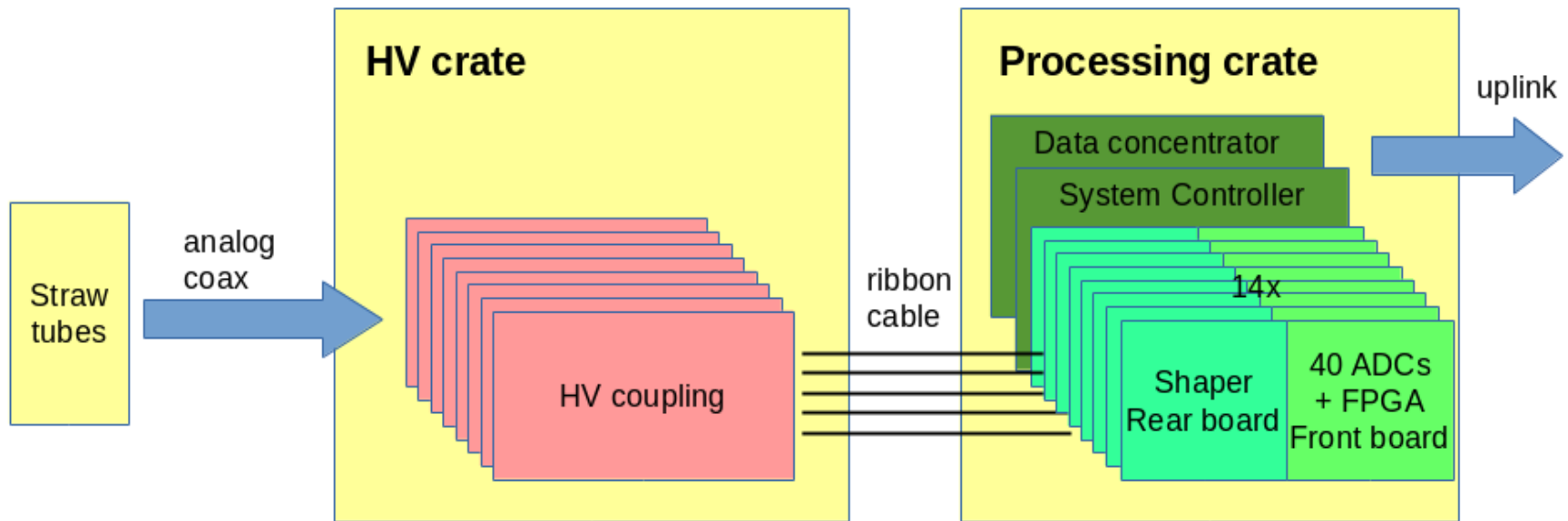
# News from ADC Readout System

**Paweł Kulesa**  
(FZJ, GSI)

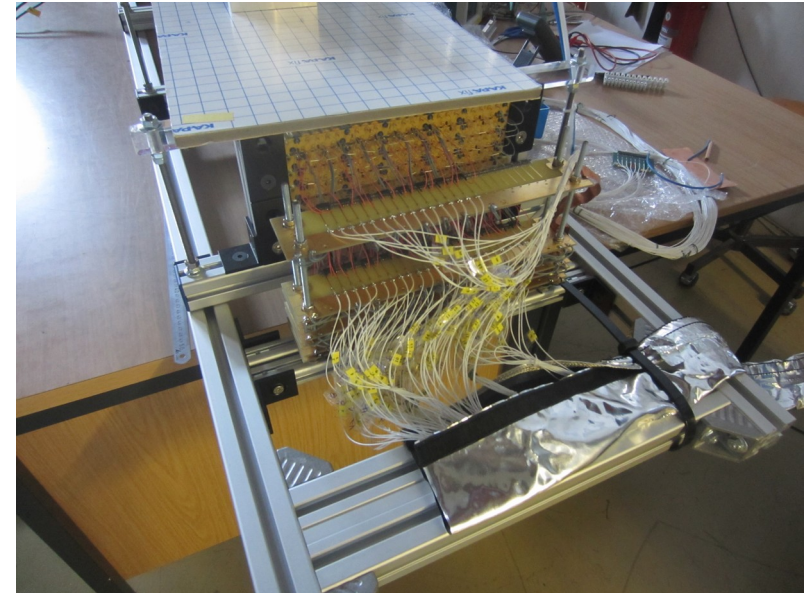
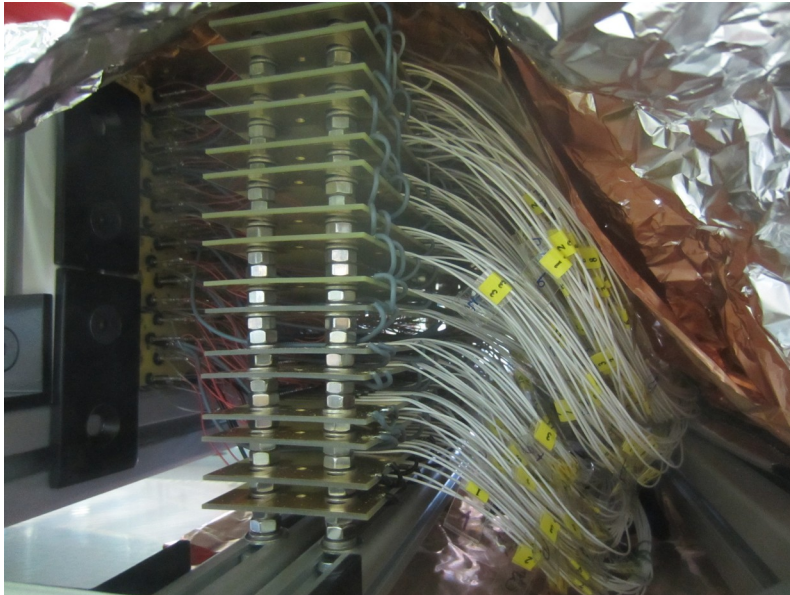
# TOPICS

- 1. System overview – reminder**
  - HV decoupling crate modification
- 2. Beam time 2021**
  - setups overview
  - new firmwares
- 3. 10 Gbit links on ADC board**
- 4. Summary**

# System overview I

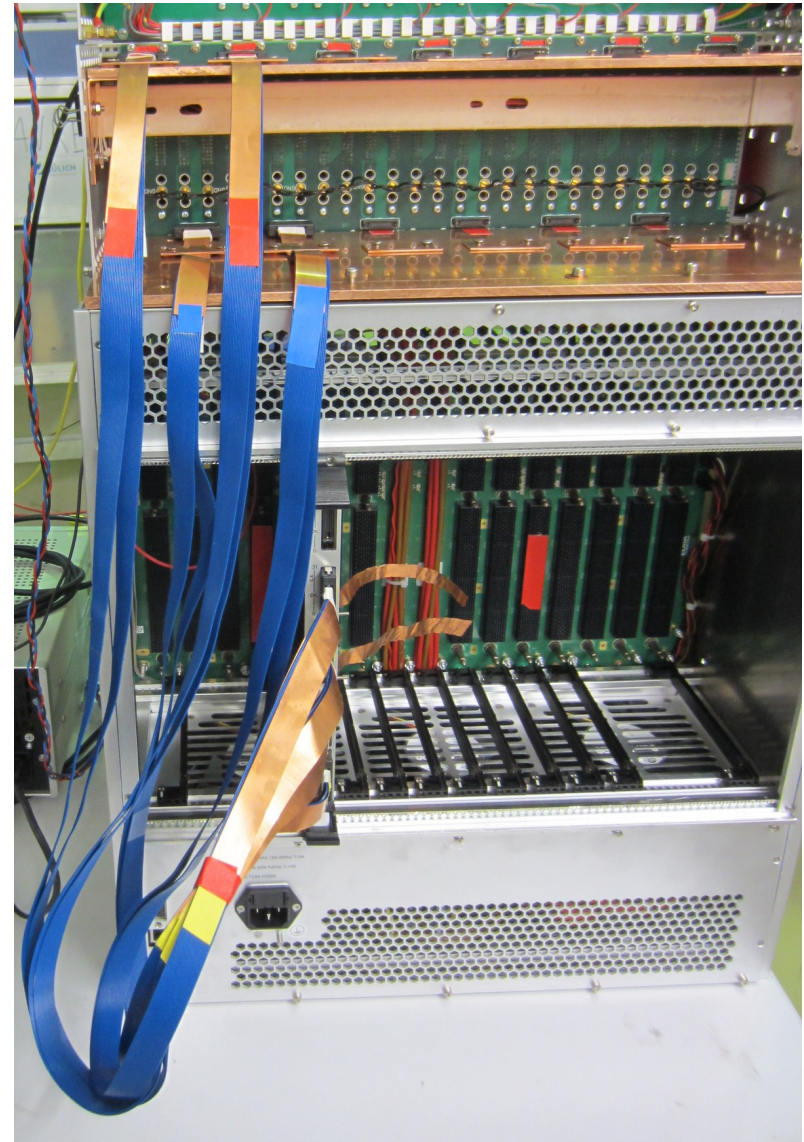
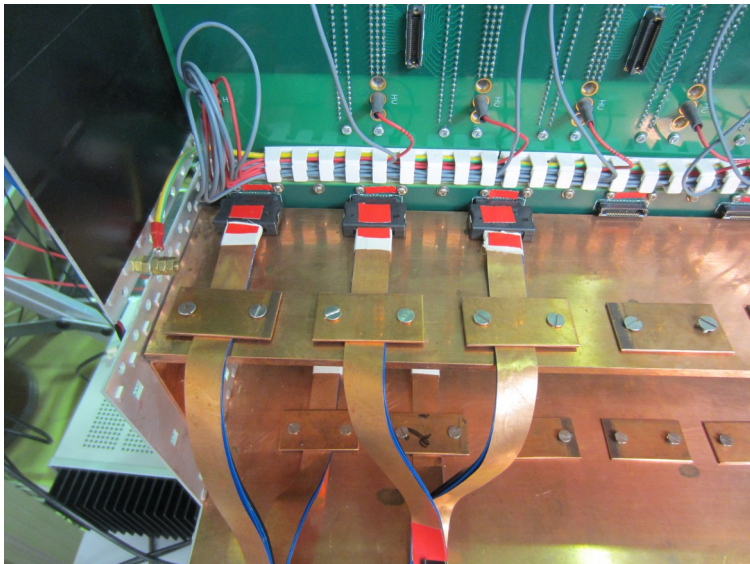
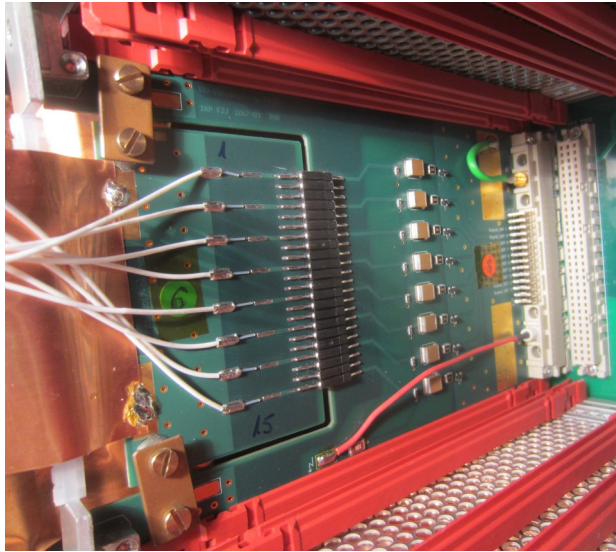


## System overview II: detector side

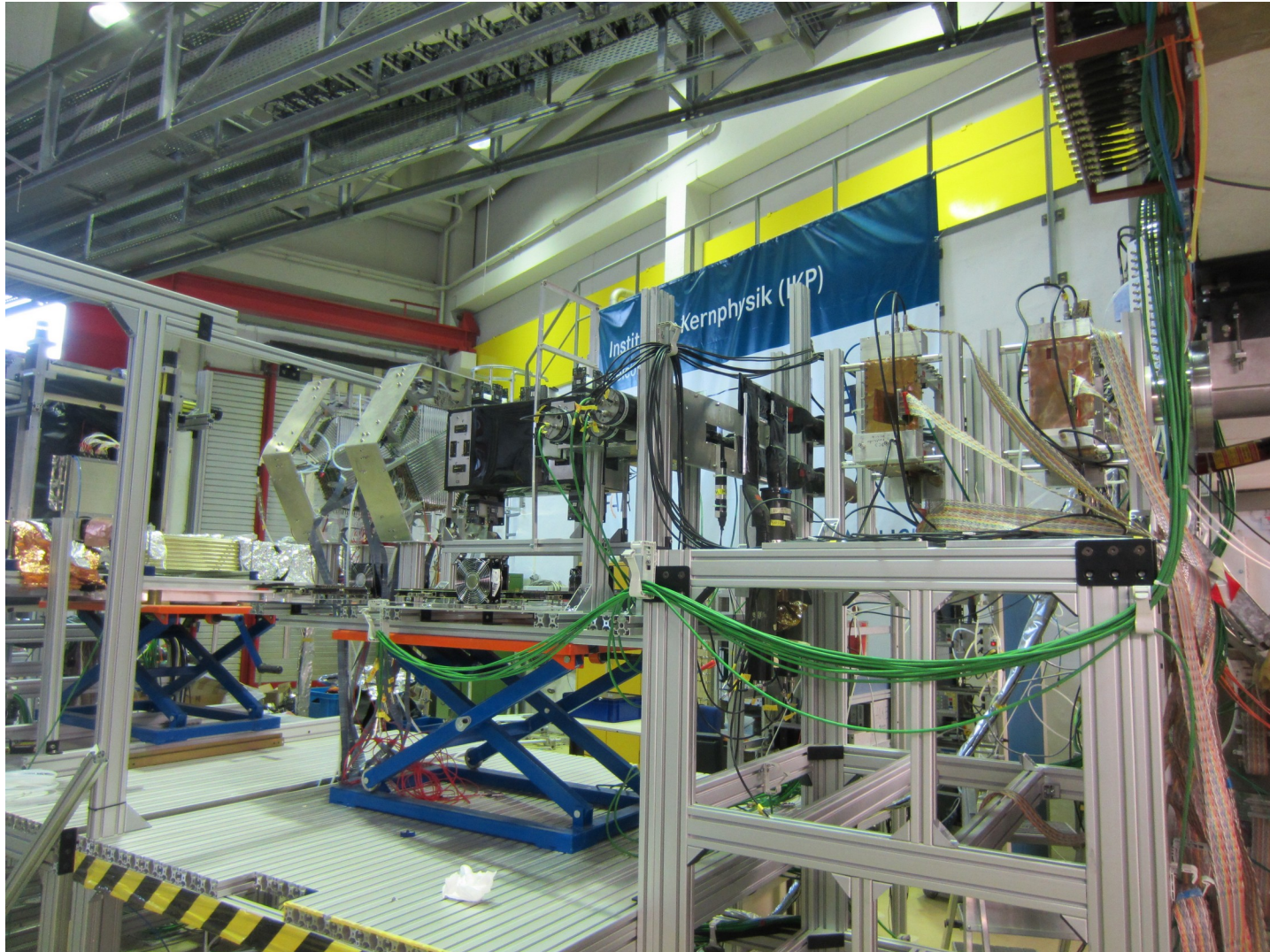


- no electronic components inside:
- no heat productions
- radiation hardness
- HV/signal granularity – single straw

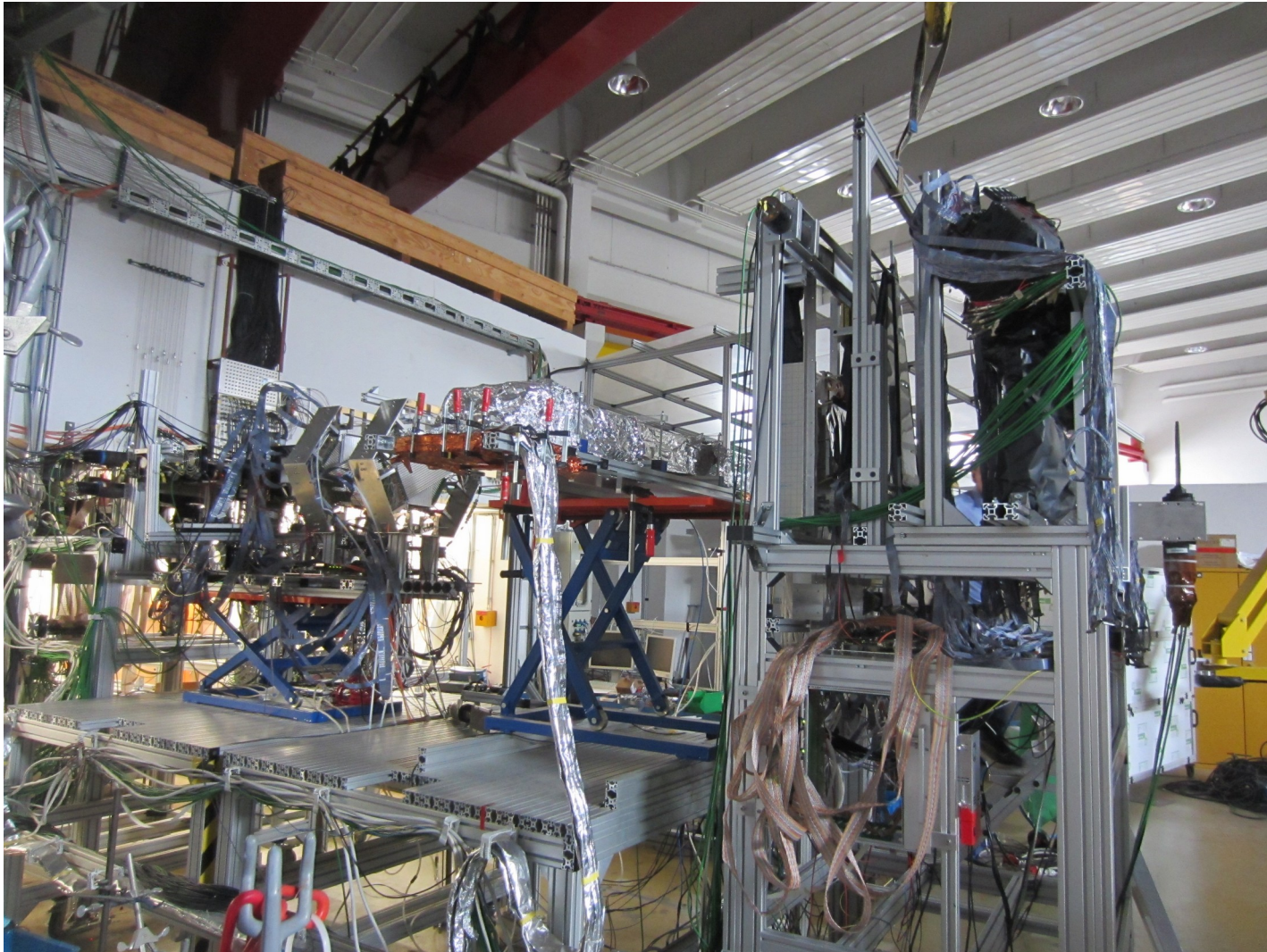
# HV crate after modification:



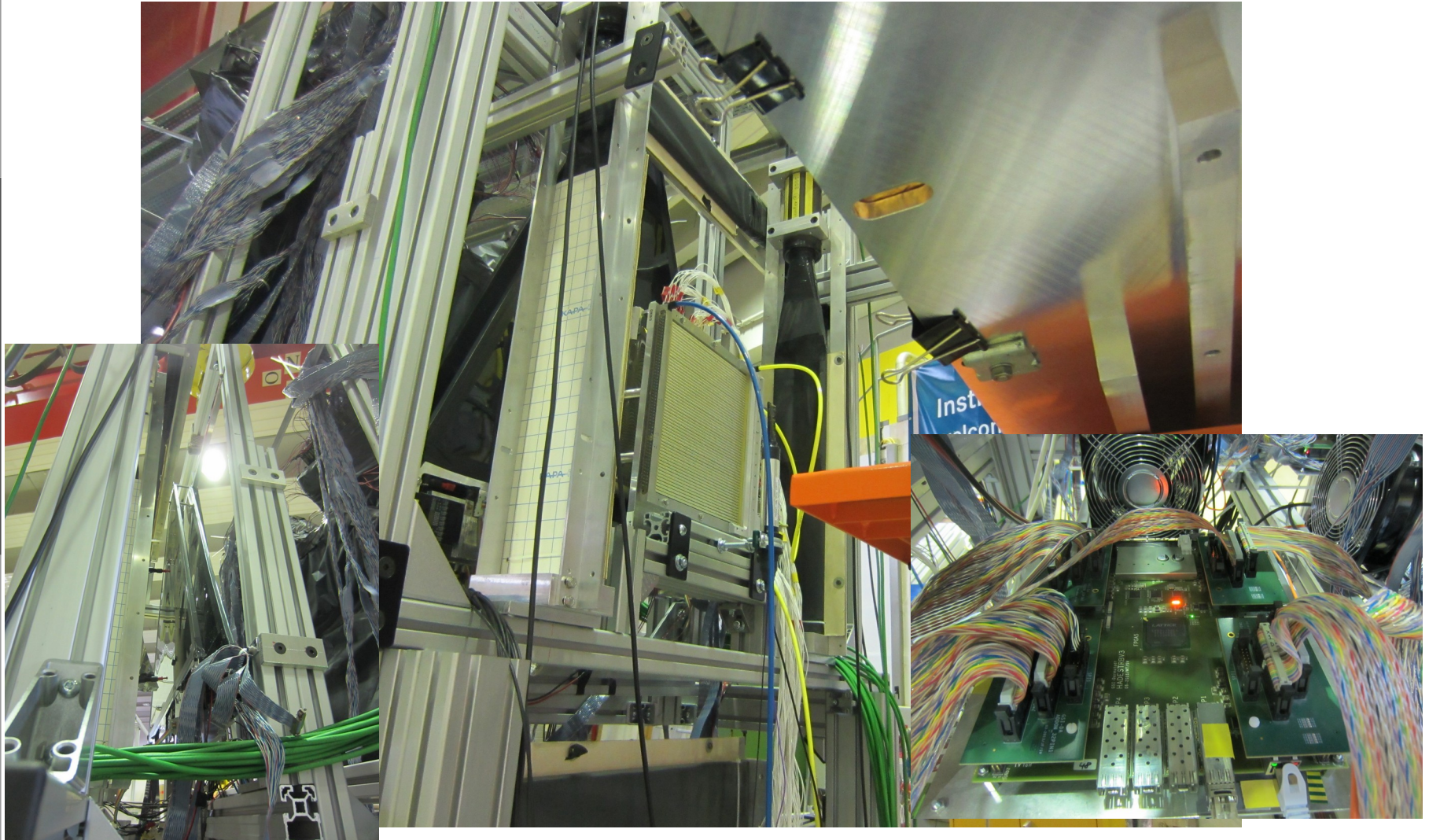
# Beam time setups I



# Beam time setups II

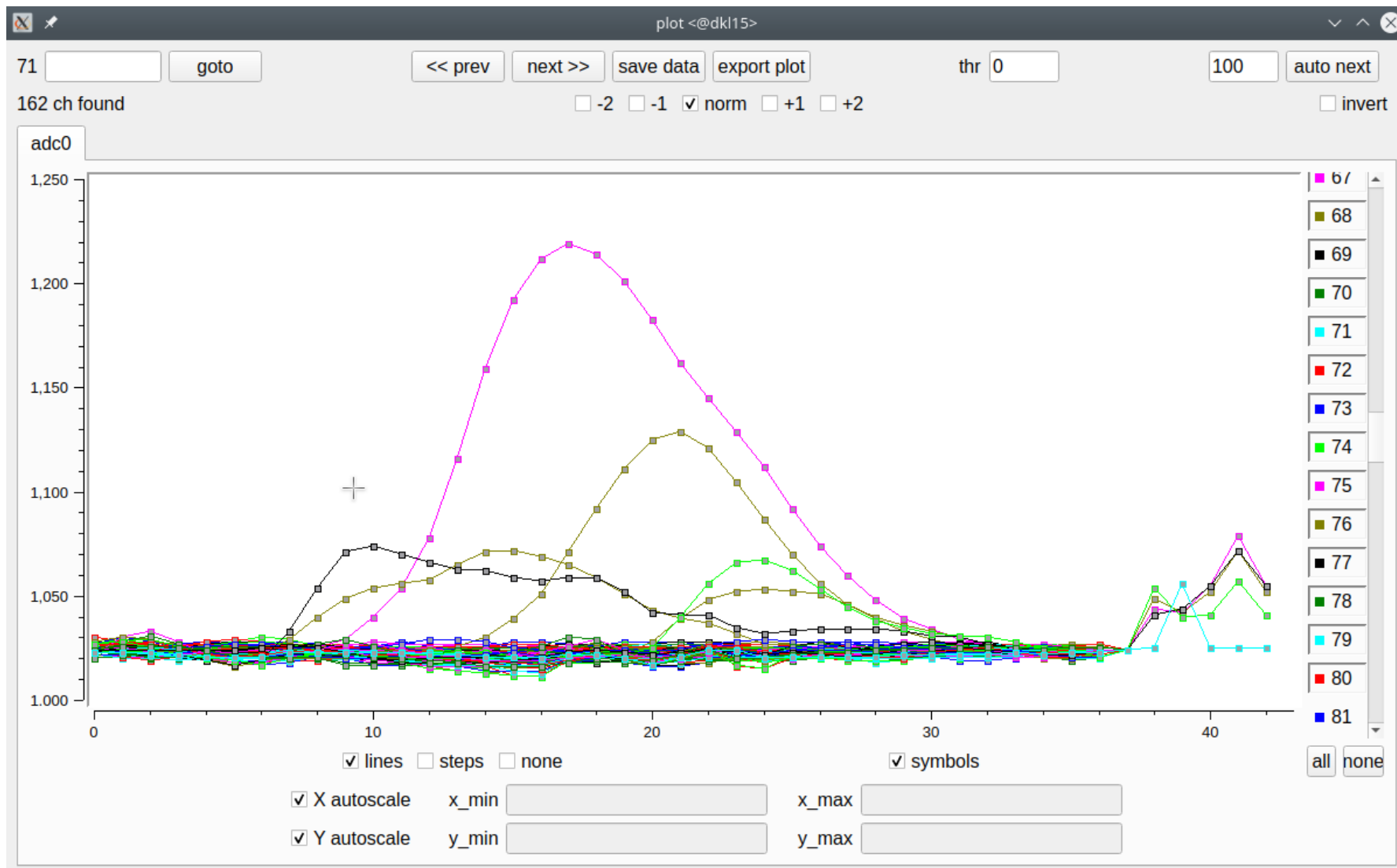


# Beam time setups III

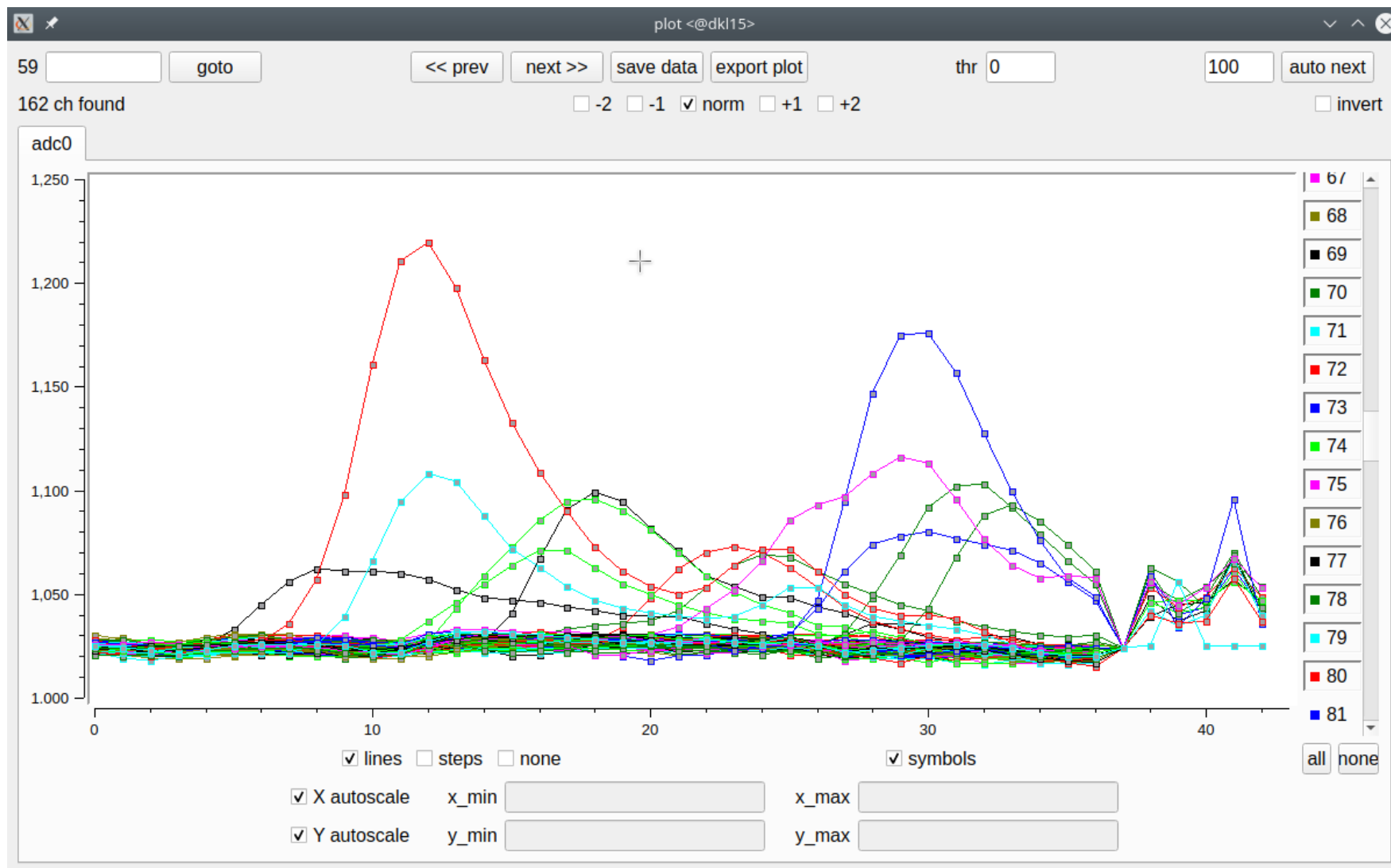




# New firmware I



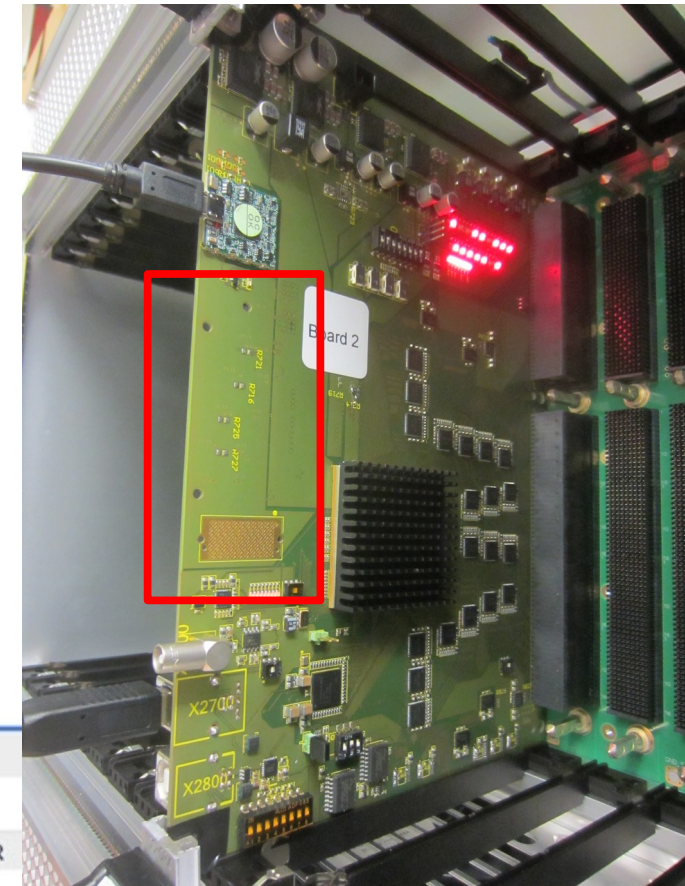
# New firmware II



# 10 Gbit links

Link tested without addon

10 Gbit works



| Name                | TX          | RX          | Status      | Bits     | Errors  | BER       | Reset | PRBS 7-bit | PRBS 7-bit |
|---------------------|-------------|-------------|-------------|----------|---------|-----------|-------|------------|------------|
| Ungrouped Links (0) |             |             |             |          |         |           |       |            |            |
| Link Group 0 (2)    |             |             |             |          |         |           |       |            |            |
| Link 0              | MGT_X0Y8/TX | MGT_X0Y8/RX | No link     | 1.801E12 | 1.07E12 | 5.938E-1  | Reset | PRBS 7-bit | PRBS 7-bit |
| Link 1              | MGT_X0Y9/TX | MGT_X0Y9/RX | 10.000 Gbps | 6.754E11 | 0E0     | 1.574E... | Reset | PRBS 7-bit | PRBS 7-bit |

L.Jokhovets

# Summary

- **new grounding in HV decoupling crate works**
- **data collected with different new firmware's and HV settings (all 160 channels)**
- **firmware delivers “raw” data and processing information (pileup, time, ...)**
- **ADC board 10 Gbit data links tested**

# Thank you