MCH Status and Planning

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ST1 Commissioning Status and Plans (no change)

- **Readout (4 CRUs, ~3600 DS boards):**
  - Configuration OK except for ~15 DS boards on R side
    - commissioning to be completed on March 16-17
  - Noise OK on all detectors, ~0.6 ADC units in average
  - Long readout tests to be performed in the coming MW

- **Low voltage**
  - Long-standing LV issue on DE102 fixed in February
  - Shortage of Wiener LVPS spares to be urgently addressed
ST2 Commissioning Status and Plans

• Detectors:
  ‣ Two quadrants (301 and 401) with HV issues successfully replaced
  ✓ Quadrants OK at 1700V, except
    - one sector at 1675V in DE301 - localized continuous discharge suppressed by floating the corresponding pads
    - 3rd anode PCB disconnected in DE300, and 1st sector lowered to 1675V
      Most likely a loose wire that appeared on 2nd of March (was OK before)

• Readout (4 CRUs, ~3600 DS boards):
  ‣ Configuration OK except for few DS boards on non-bending side
  ✓ Noise OK on all detectors, ~0.6 ADC units in average
ST2 Noise and Readout Status

- Noise maps of all ST2 quadrants
- Average noise < 0.6 ADC units
- Readout 100% OK on all bending planes
- Some sparse issues on non-bending side
  - part of the issues are intermittent
  - not overlapping between CH3 and CH4
**ST345 Commissioning Status**

- **Readout and low voltage:**
  - ST45 R checked and validated - few issues on CH7R remaining, the rest is OK
  - ST3 and ST45 L validation ongoing (see status in next slides)
  - Two LV cables remain to be repaired (CH8R and CH9L)
    Intervention planned next week on Wednesday

- **High Voltage**
  - HV passive filters for noise reduction successfully tested
  - Several faulty HV cables found, replacement ongoing:
    - 7 cables already replaced on CH9R and CH10R
    - 4 more cables to be replaced next week on CH9 (production by cabling team ongoing)
    - 10 additional spare cables ordered as well, will be produced a bit later
• Two major noise sources identified:
  • FASS air cooling units -> **solved** bypassing the fan speed regulators
  • **Common mode** noise in **high voltage** cables

• **Noise mitigation measures**
  ✓ **ST345**: **grounding** of large **carbon-fiber** support panels + SLATs - **OK**
  ✓ **ST345**: **decoupling resistors** (1 kohm) on HV **ground** near SLATs - **OK**
  ‣ **ST45**: additional **decoupling resistors** at the bottom of the chambers (HV filter boxes)
    • 6 boxes already assembled and installed, 2 more being assembled
    • completion expected beginning of next week
VTRx Air Cooling

- **All** manifolds and ducts installed

- Ventilation unit **running since Friday** last week

- Air flow seems to be **largely sufficient**
  Preliminary measurements show a **VTRx temperature below 29 degrees**

- Two more outputs to be added on one of the inbox pipes for ST2
  Planned for **Wednesday/Thursday next week**
CH5 Readout Status and Noise (Scale = 1.2 ADC units)
CH6 Readout Status and Noise (Scale = 1.2 ADC units)
CH7 Readout Status and Noise (Scale = 1.2 ADC units)

Intermittent configuration errors
Damaged low-voltage cable
CH9 Readout Status and Noise (Scale = 1.2 ADC units)

Damaged LV cable
CH10 Readout Status and Noise (Scale = 1.2 ADC units)

SOLAR board to be replaced