Electronics

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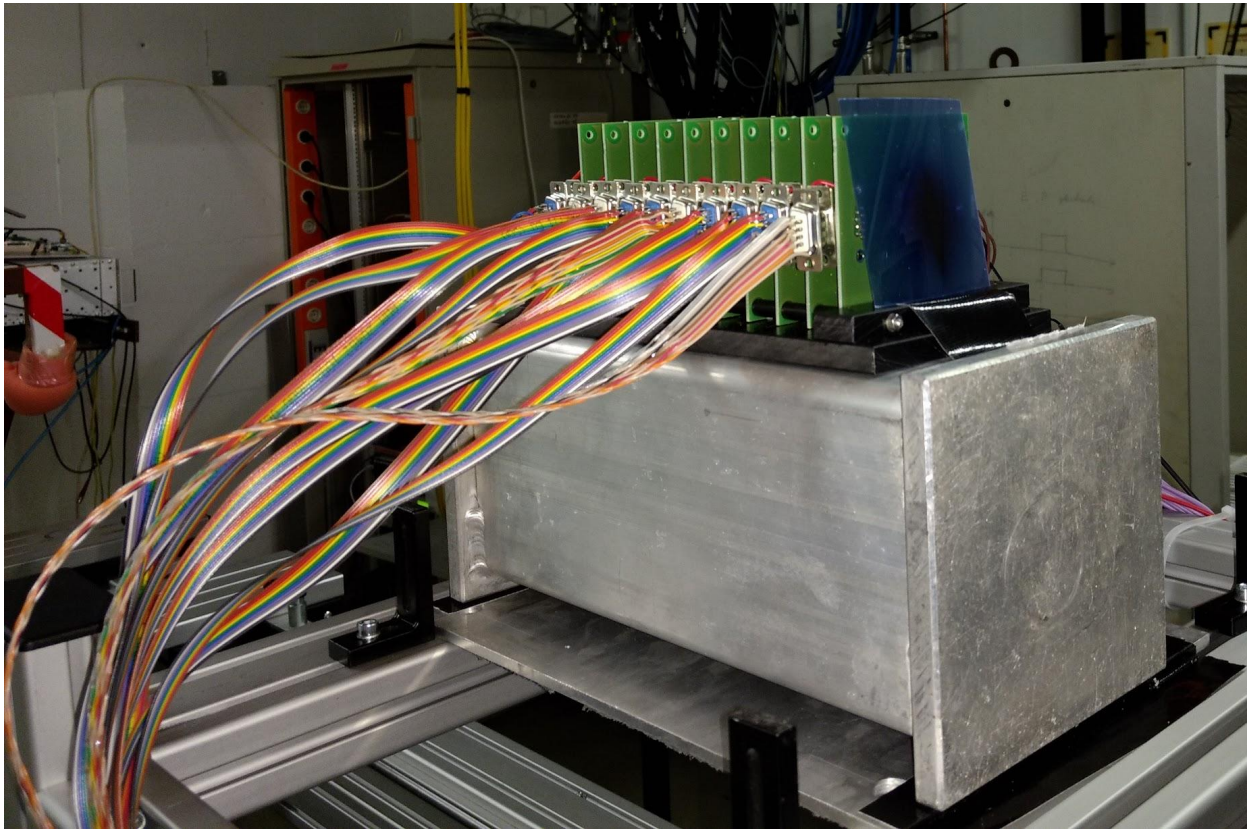
HIM
Helmholtz-Institut Mainz

Radiation Hardness Test

type	part number	# tested
LDO regulator	MCP1727-1.8	35
	MCP1727-ADJ	45
LVDS repeater	DS25BR100	0
clock driver	ADCLK846	0

Test done in September in Jülich with 2.8 GeV/c protons

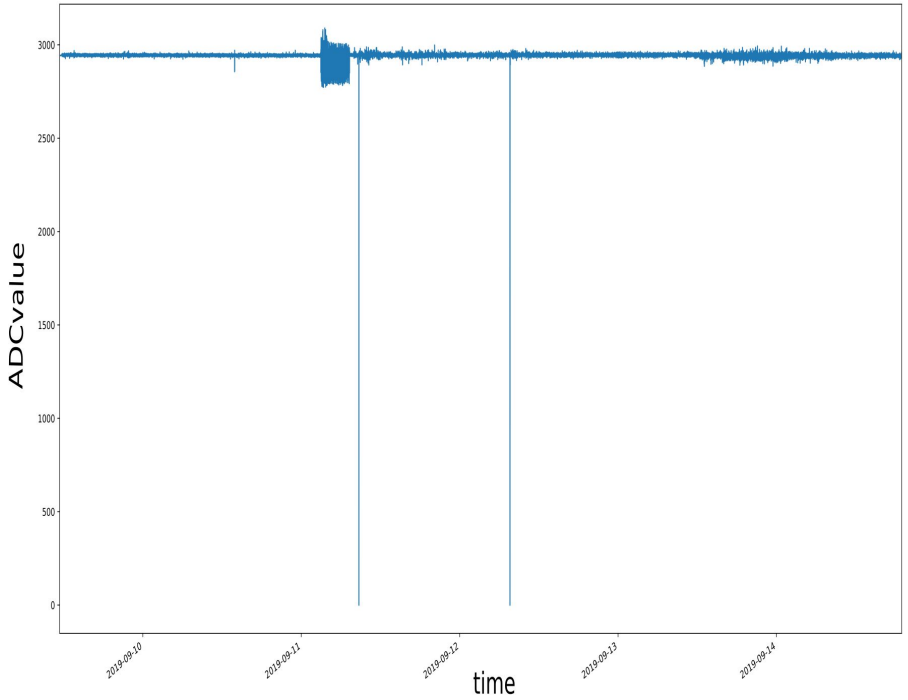
Radiation Hardness Test



Results

- Beam intensity:
  - 3 days: ~10^6 p/s
  - 2.5 days: ~10^8 p/s
- Accumulated protons: ~ 10^{13}

type	part number	# damaged
LDO regulator	MCP1727-1.8	0
	MCP1727-ADJ	0



Test of remaining components in February

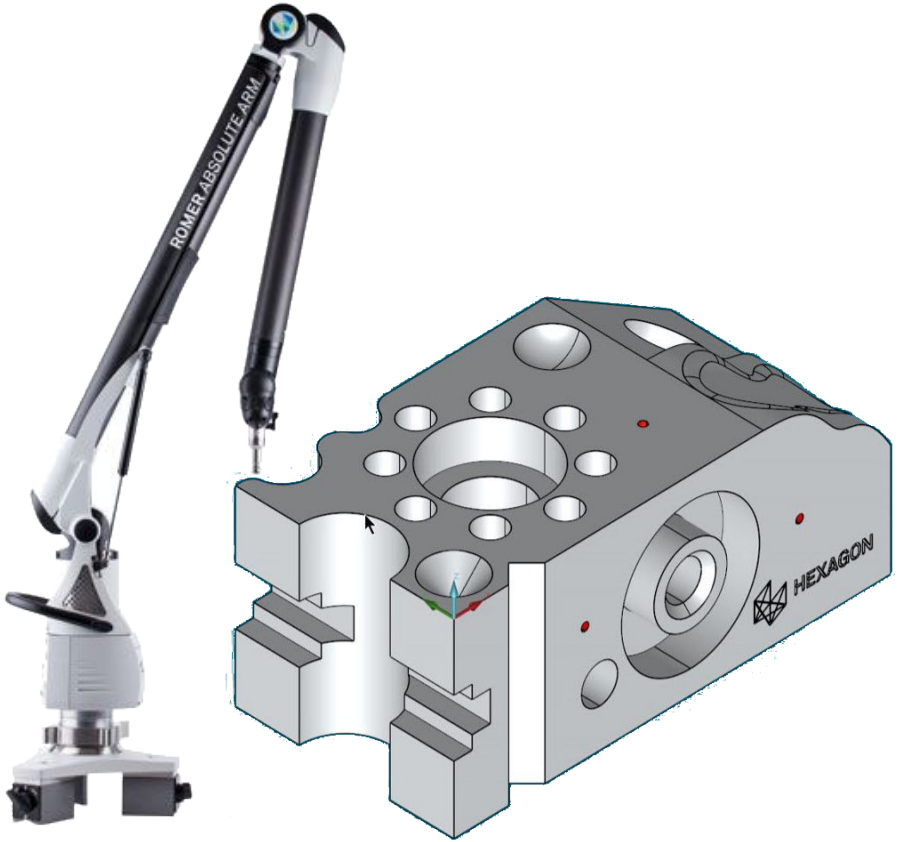
PLC

- Ready to use:
  - Control of the valves
  - Control of the pumps
  - Readout of the gauges

- Have to be implemented:
  - Automatic readout of the gauges
  - State machine
  - Profinet
  - Connection to EPICS

Portable CMM

- Specifications:
  - Range: 1.25 m
  - Accuracy: < 28 µm, typical: ~10 µm
- Possible measurements:
  - Distances, holes, flatness, …
  - Angle, parallelism, …
  - Comparison to CAD
- Planned measurements:
  - LSM
  - Box
  - Half detector relative to lid
  - Test stand for the aluflex cables



Conclusion

- Radiation test of voltage regulators successful
- Basic control of vacuum system with PLC running
- Portable CMM delivered

- Programming of the PLC for the vacuum control ongoing
- Radiation test of remaining components in February
- CMM will be delivered this year?