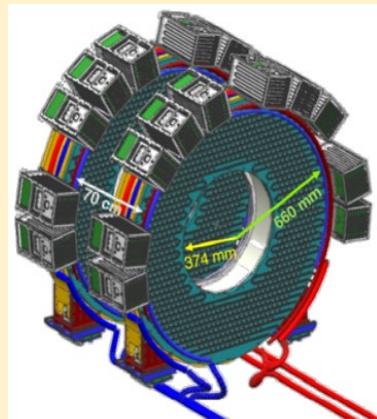


Mu2e calorimeter readout electronics

F. Spinella – INFN Pisa

Mu2e calorimeter:

- 1348 undoped CsI crystals
- Custom 6 cells SiPM
- 2 SiPMs per crystal
 - 2696 electronic channels



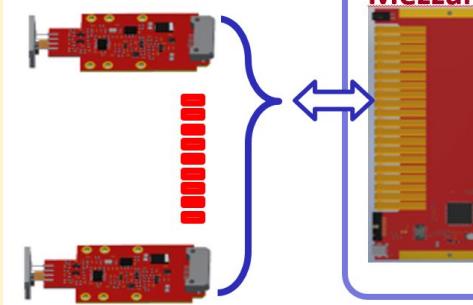
Harsh environment for detector and electronics:

- Ionizing and non-ionizing radiation
- Magnetic field (1T)
- Vacuum

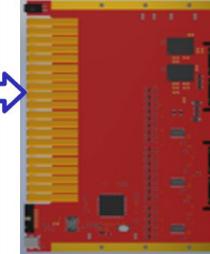
Need to qualify the system for dose (12 Krad) and neutrons (5×10^{11} 1 MeV Si)



FEE(X20)



Mezzanine Board



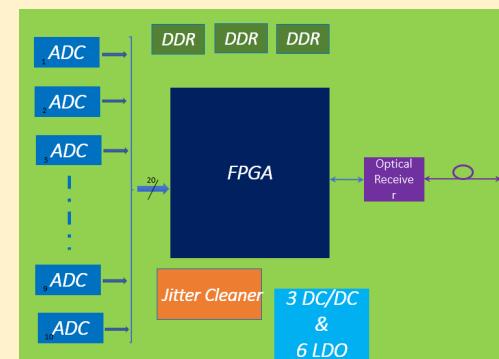
DIGITIZER



Readout electronics:

- FEE: amplification, shaping
- Mezzanine board: signal collecting, I&V monitors
- Digitizer (DIRAC) : 20 channels/board.

Digitizer: 200 MHz sampling, 12 bits



- ADC: ADS4229
- FPGA: Polarfire MPF300
- DC-DC: LMZM33606
- LDO: MIC69502
- Jitter Cleaner: LMK04828
- Optical Transceiver: CERN VTRX