

CMS MTD & PPS (ETROC) Testbeam at CERN SPS

Murtaza Safdari

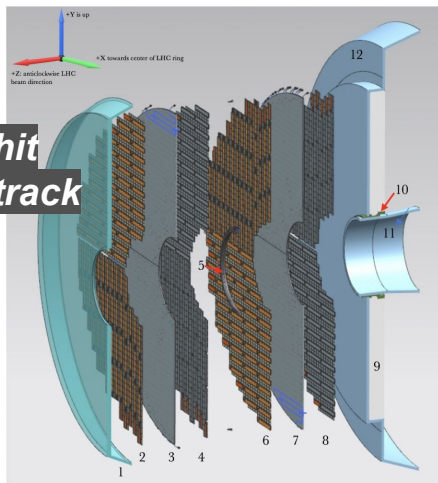
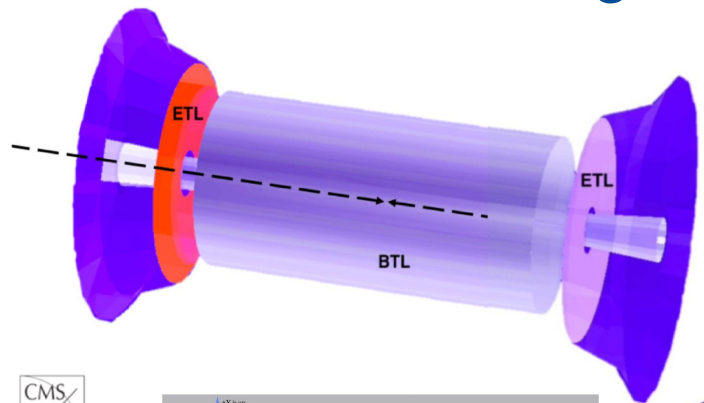
PS/SPS User Meeting

Sep 12 2024

In partnership with ETROC Collaborators:



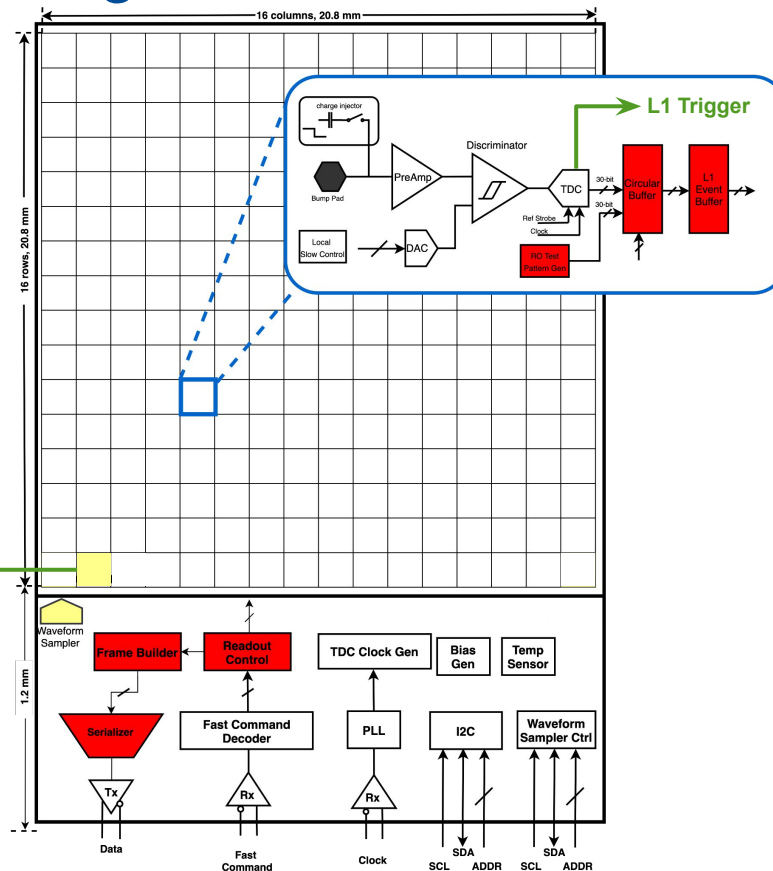
CMS Minimum Ionizing Particle Timing Detector for the HL-LHC

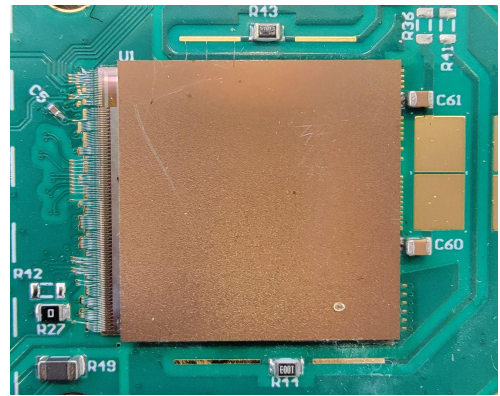
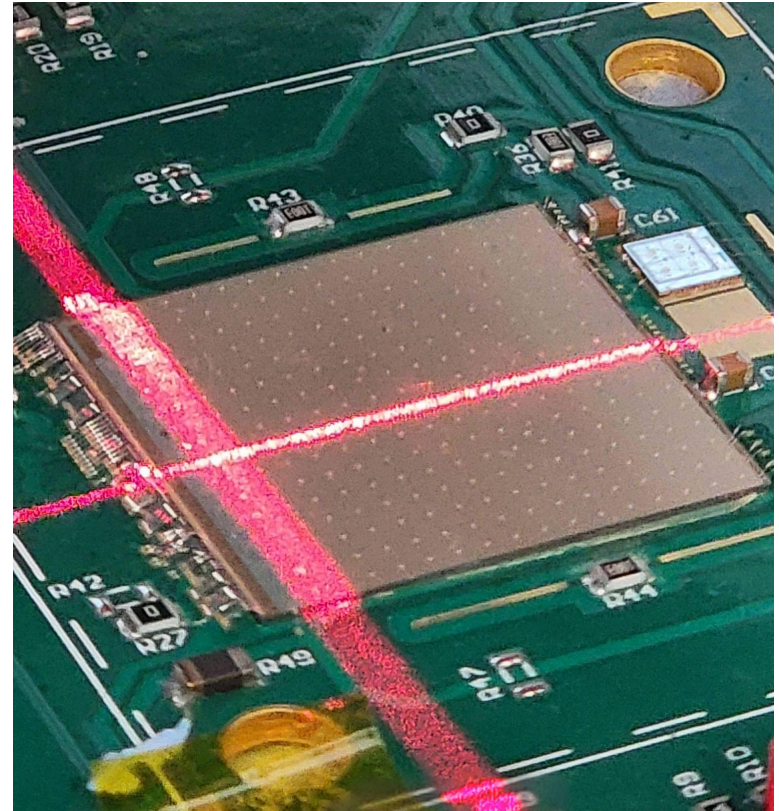
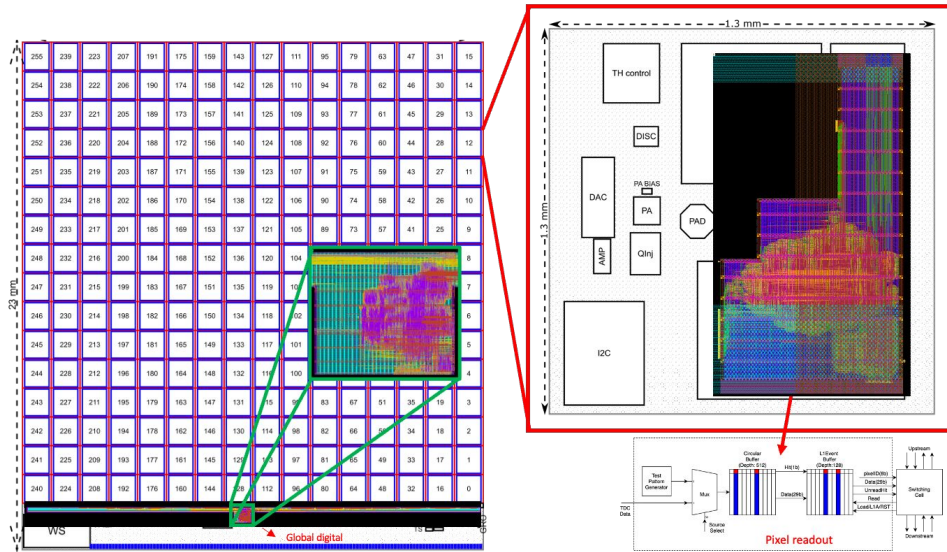


ETL
 50 ps / hit
 35 ps / track

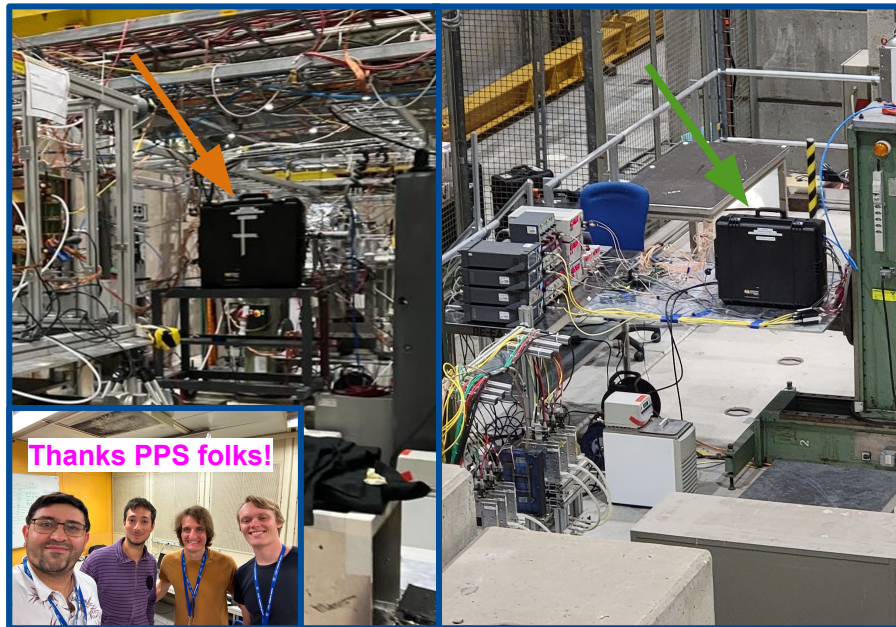
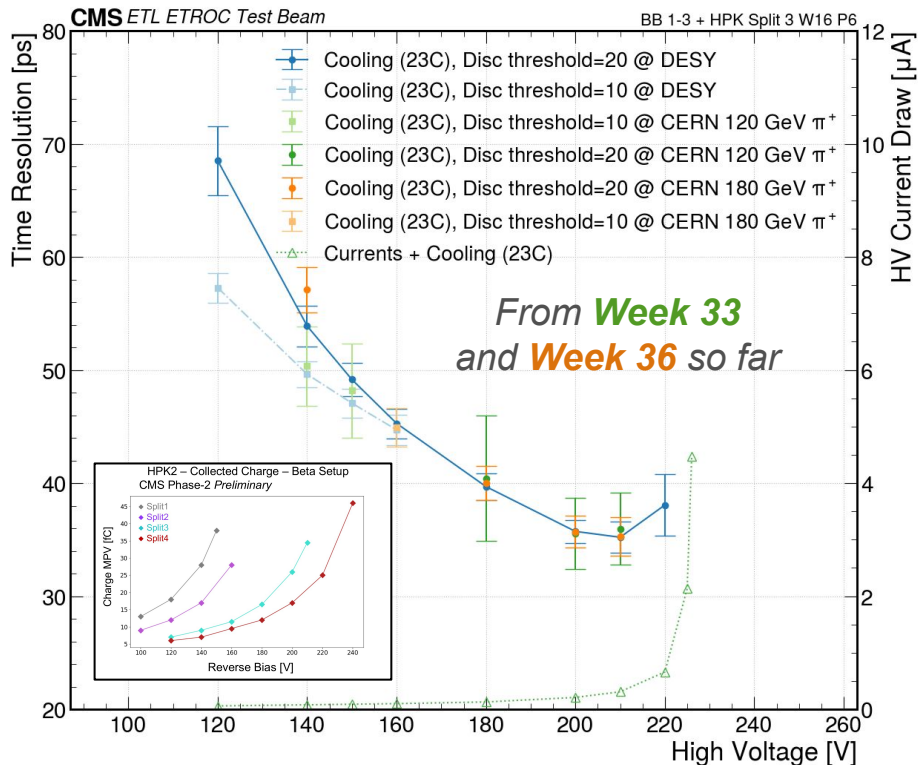
- 1: ETL Thermal Screen
- 2: Disk 1, Face 1
- 3: Disk 1 Support Plate
- 4: Disk 1, Face 2
- 5: ETL Mounting Bracket
- 6: Disk 2, Face 1
- 7: Disk 2 Support Plate
- 8: Disk 2, Face 2
- 9: HGCal Neutron Moderator
- 10: ETL Support Cone
- 11: Support cone insulation
- 12: HGCal Thermal Screen

2.56 GSps
 Waveform Sampler
 (On-chip Oscilloscope)





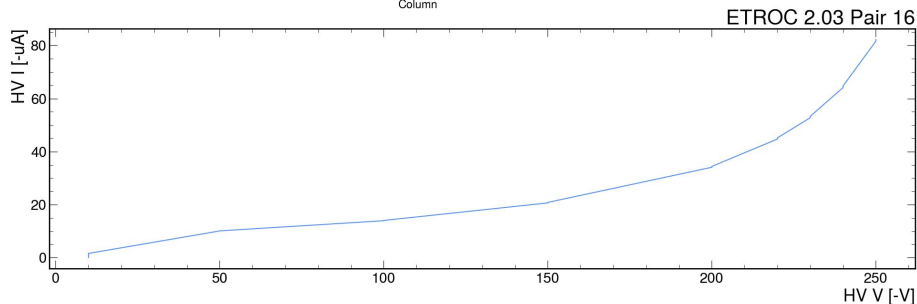
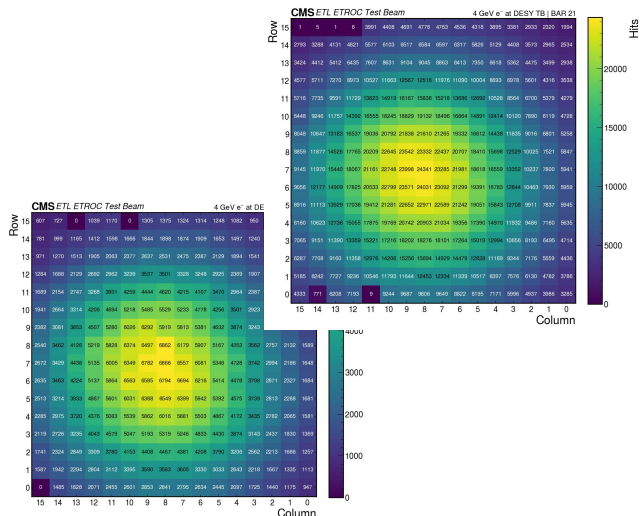
ETROC2.01 Telescope at SPS Aug and Sep 2024 (Week 33 & 36)



Successfully reproduced $\sim 35\text{ps}$ res. with this board.
Results from CERN 120-180 GeV π beams agree
with those from DESY 4GeV e beam

ETROC2.03 Chip at SPS Sep 2024 (Week 36)

First tests of new assemblies



3 board telescope mounted on AIDA tele.
PI Stage without temp control