CMS Phase 2 Outer Tracker @H6

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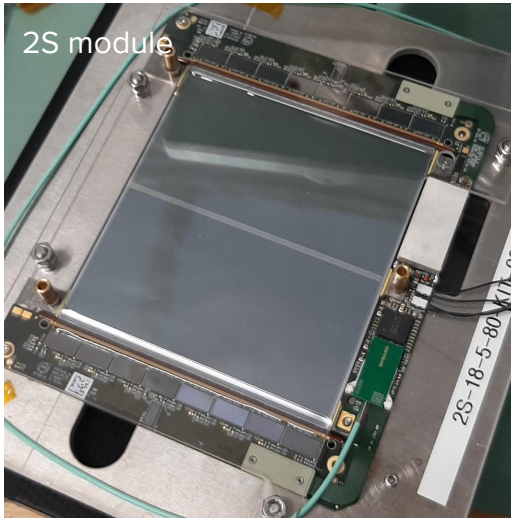
Goals of the tests

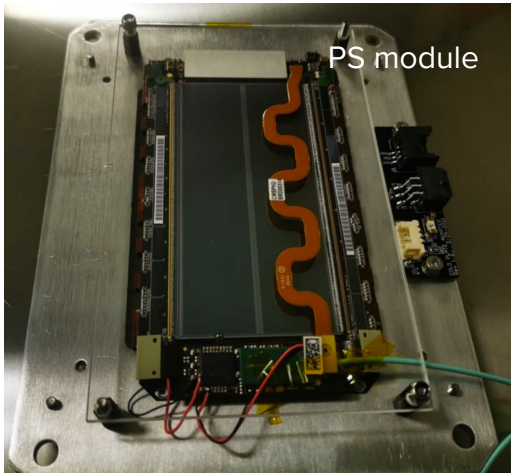
“High rate” Phase 2 Outer Tracker multi-module test

- 2S module : 10x10cm, 2x si-Strip detector
- PS module : 10x5cm, macro-Pixel & Strip detector



Run 2-4 modules in parallel in beam:

- Establish reliable readout and synchronicity
- Monitor for stability, errors/overflows
- Qualify performance: e.g. efficiency, resolution
- Validate high rate (40MHz) readout with final DAQ



Beam requirements

Need high energy (e.g. ~100 GeV) muon/pion beams

The higher intensity the better

Beam spot of ~few cm to maximise coverage of module?

- Depends on scintillator acceptance etc.
- Flexibility to adjust parameters during run useful

Infrastructure

- Dry air
- Standard mains power (~10 sockets)
  - For LV (~10V) supplies
  - For HV (~500V) supplies
  - For auxiliary electronics/DAQ
- Stage/table to support an enclosure of around 15x15x50cm
- Any beam scintillator/instrumentation available to use as trigger?
  - Needed to identify time-of-arrival wrt 40MHz clock