Straws and DOGMA users

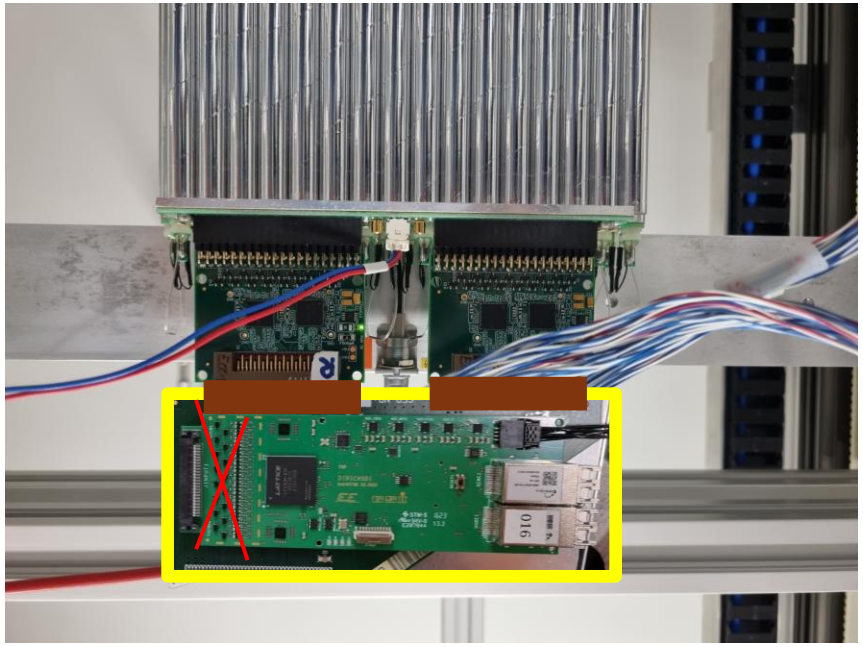
07.05.2024

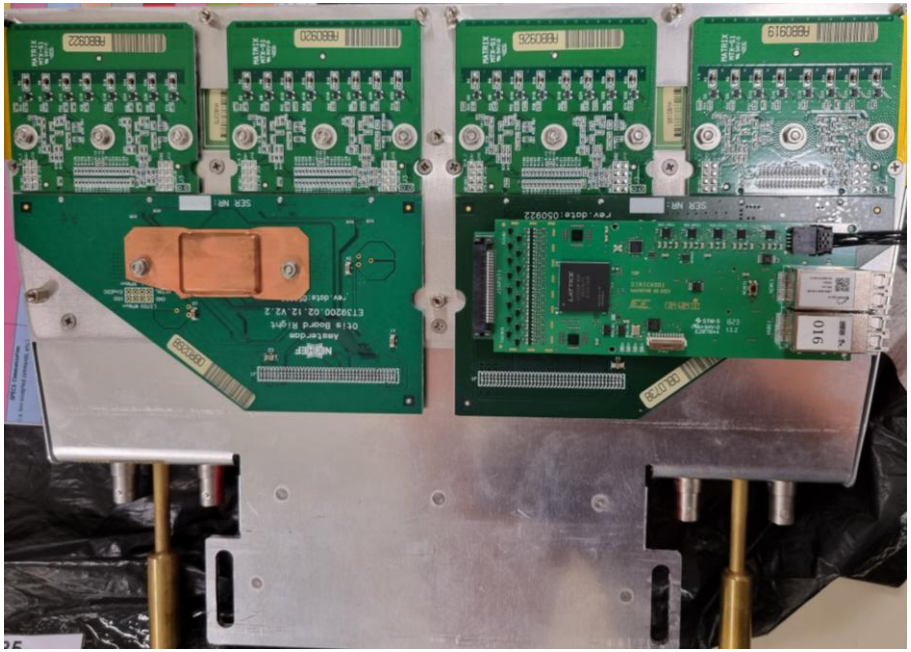
The setups

- PANDA Forward Tracker straws (Cracow)
  - PASTTREC + TRB5SC
  - Transition to DOGMA
  - Possible installation at CBM (integration with CRI)
- PANDA LHCb Outer Tracker straws at CBM (Tassos Belias)
  - ASDBLR + DIRICH + CRI
  - Possible transition to DOGMA
- CBM RICH (Christian Pauly)
  - DIRICH + CRI
  - Transition to DOGMA
- Beam Monitoring at CBM (Jerzy Pietraszko)
  - DOGMA + CRI
- PANDA straws at INSIGHT@ELSA (Christoph Schmidt)
  - PASTTREC + DOGMA + Ethernet
  - Initial setup with DOGMA, under evaluation
- Straws at P349 (Dieter Grzonka)
  - PASTTREC + TRB + Ethernet?
  - Transition to DOGMA under evaluation

- PASTTREC/ASDBLR integration with DOGMA
  - Already discriminated inputs
  - TDC platform
  - Alternative form factor
  - ASIC registers access
- DOGMA integration with CRI
  - Ethernet receiver on CRI?
  - CBMNet receiver on DOGMA?
  - Synchronization
  - Control and monitoring

PASTTREC/ASDBLR + DOGMA





Concept for DOGMA for straws:

- No discriminator, logic LVDS signals as inputs
- Two horizontal KEL connectors
- 32 channel TDC (possibly low resolution ~200ps)

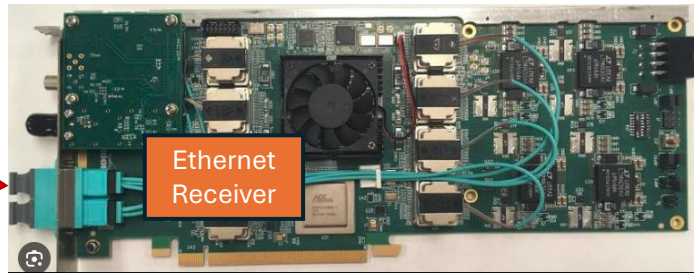
- Shortest signal path
- No need for problematic Hitachi LVDS tapes
- No problem with proper grounding
- Cheap, light, long, optical fibers instead

DOGMA + CRI

Ethernet
Slow Control?
Possible switch in betweenalso for aggregation

A.

Ethernet
→Readout data



DOGMA protocol
← Sync

DOGMA Control Module

CBM Sync source

White Rabbit ?

B.

CBMNet
← Sync + slow control
→ Readout data

C. Ethernet readout to regular Eth NIC on FLES servers