VMM SPS test beams 2018

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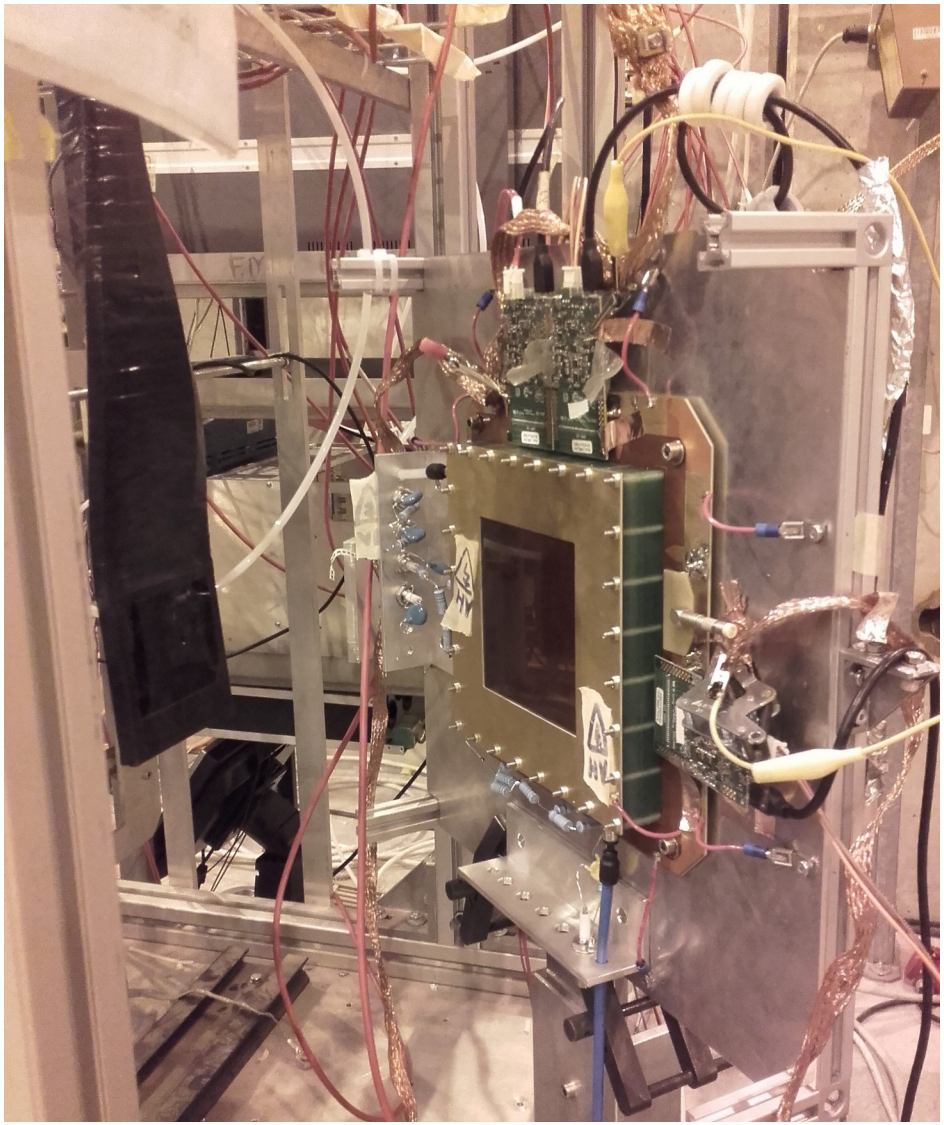
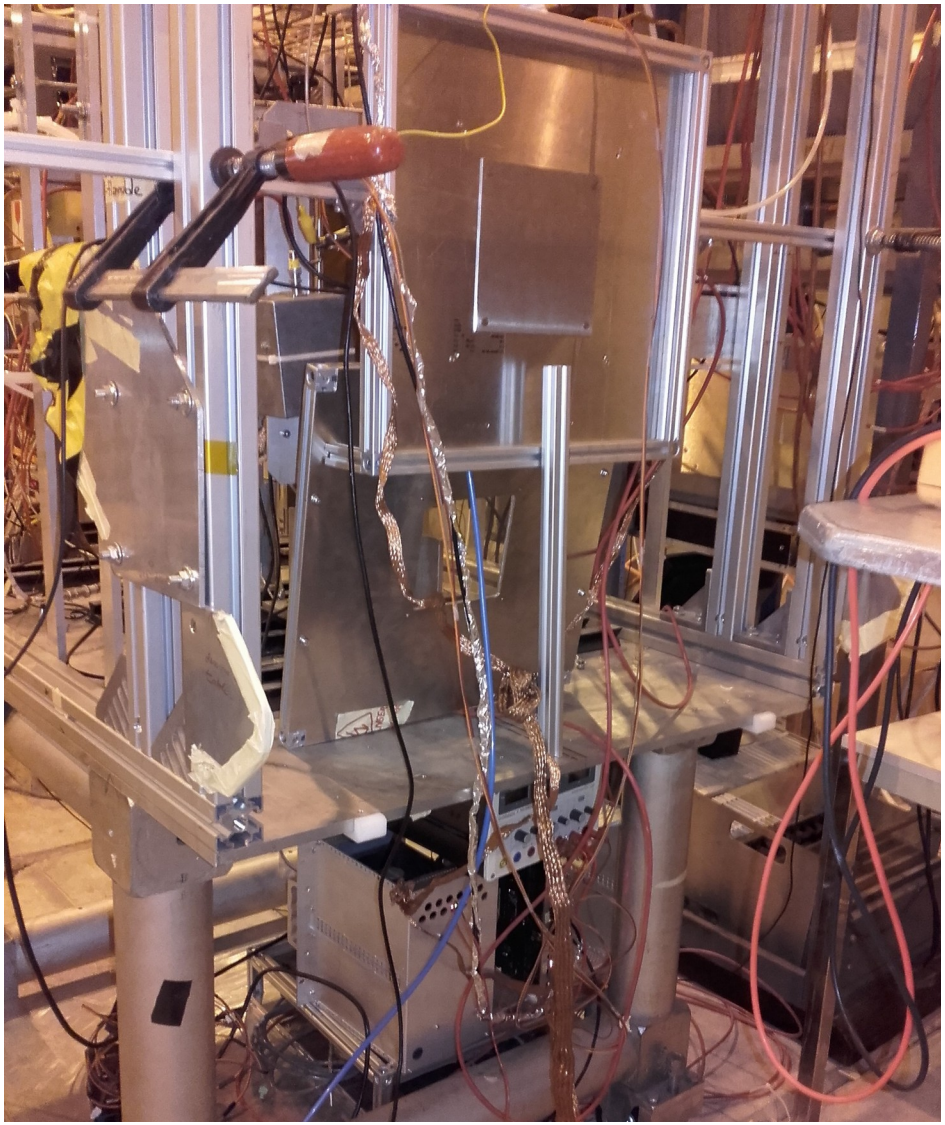
Setup





Setup

- DUT: Standard 10 cm x 10 cm triple GEM detector, read out by 4 VMM hybrids
- Services needed (all three periods):
  - 1x HV
  - Power for SRS crate, lab power supply, oscilloscope
  - Gas Ar/Co2 70/30
  - Space on the end of a tracker table for mounting
  - Ethernet: 1 line in patch panel
- New: trigger signal from a tracker for particle count (efficiency)
  - Lemo cable from other setup or own tracker for SRS trigger or to counter in control room

Goal of test beams

- Understand VMM data taking
  - Test new (tbd) external trigger option
  - Different acquisition settings
- Effect of calibration (Summer Student project)
  - Precise time for micro-TPC
  - Channel to channel threshold variations
  - Channel to channel baseline variations
- Efficiency to detect single particles
- Rate capability → pion beam with different intensity
- **First tests with VMM3a**