INFN GEM Update:

2/24/21-3/03/21

Ezekiel Wertz (onsite), Robert Perrino(remote), Evaristo Cisbani (remote), Holly Szumila-Vance (onsite), Chuck Long (onsite)
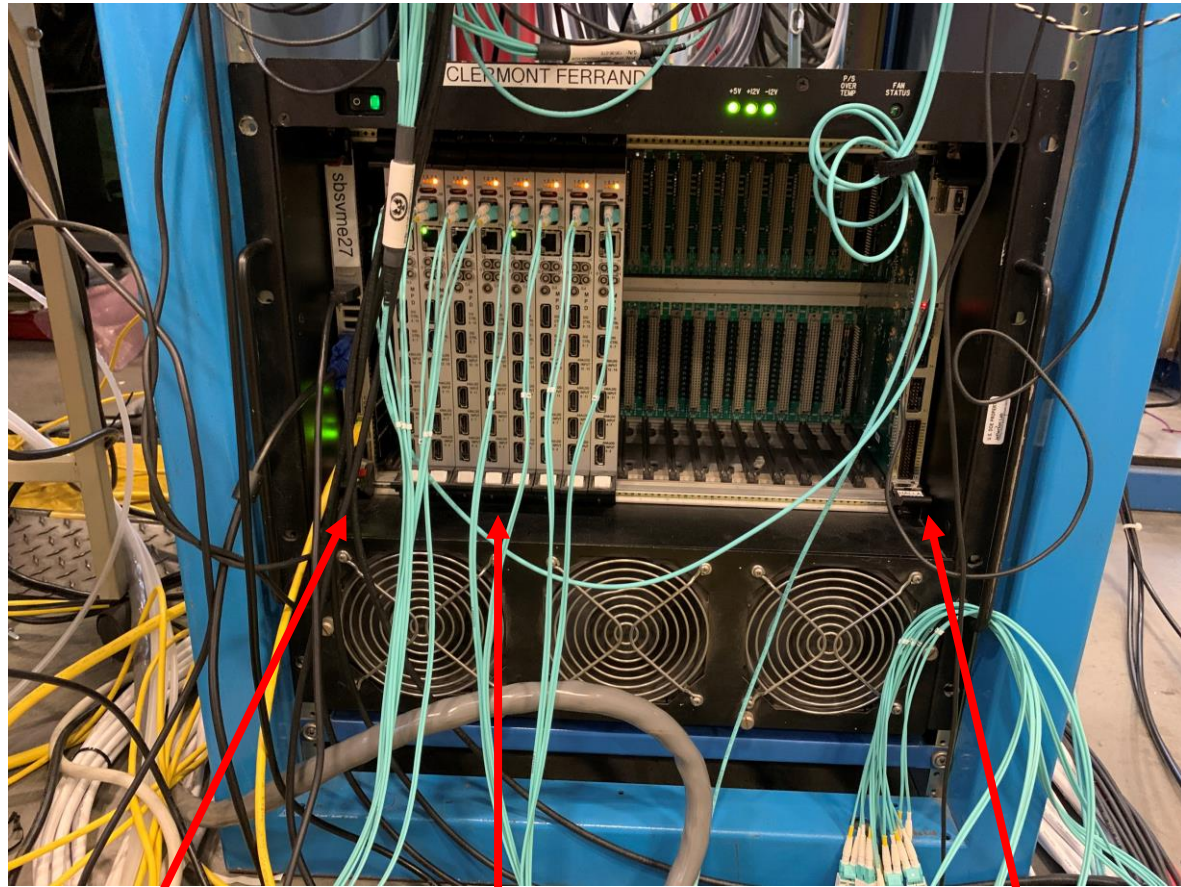
Recent Activities:

Hardware (Feb. 24-Mar. 3)

- Moved MPDs to VME crate in TEDF.
- Elongated cables on J0 and J2 to reach wire holders mounted on steel plates.
- Mounted wire holders on steel plates.
- Connected long HDMI cables between GEM chambers and DAQ.
- Took HV module from INFN room in Test Lab and put it in slot 20 of black VME crate in TEDF.
- Connected HV cables to GEM chambers and laid cable for connecting to HV module.
- Holly moved config files to sbsvme27.
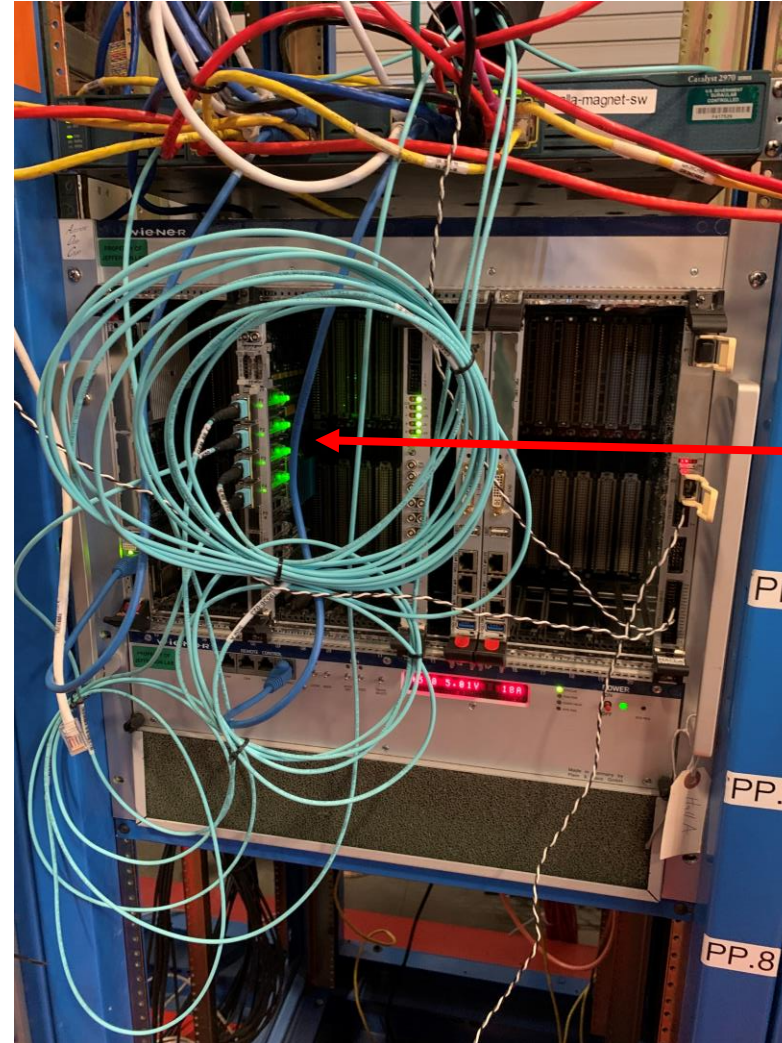
DAQ Status, Feb. 23-24

- MPDs are in VME crate.

VME controller

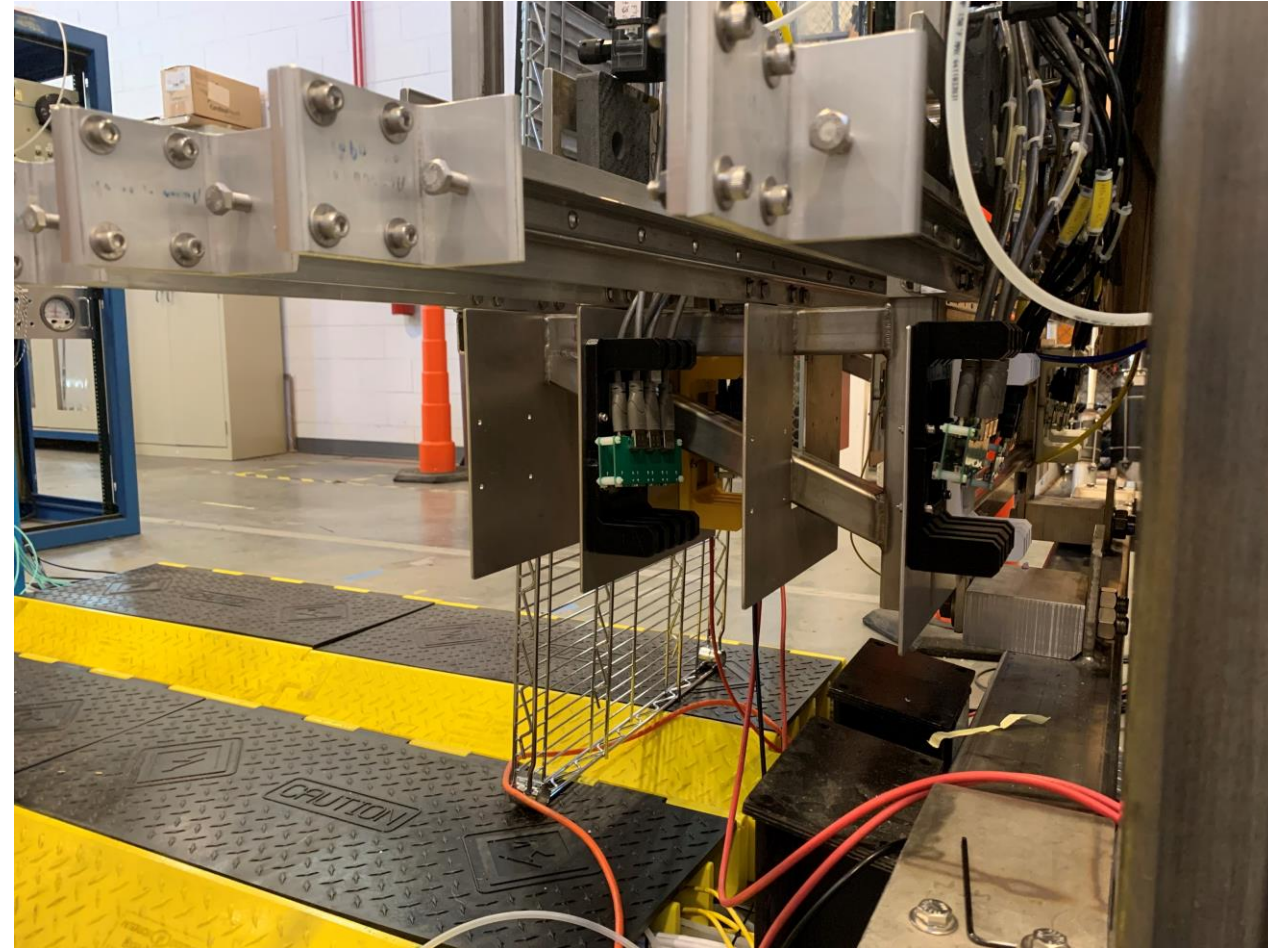8 MPDs, 4 for J0 and 4 for J2
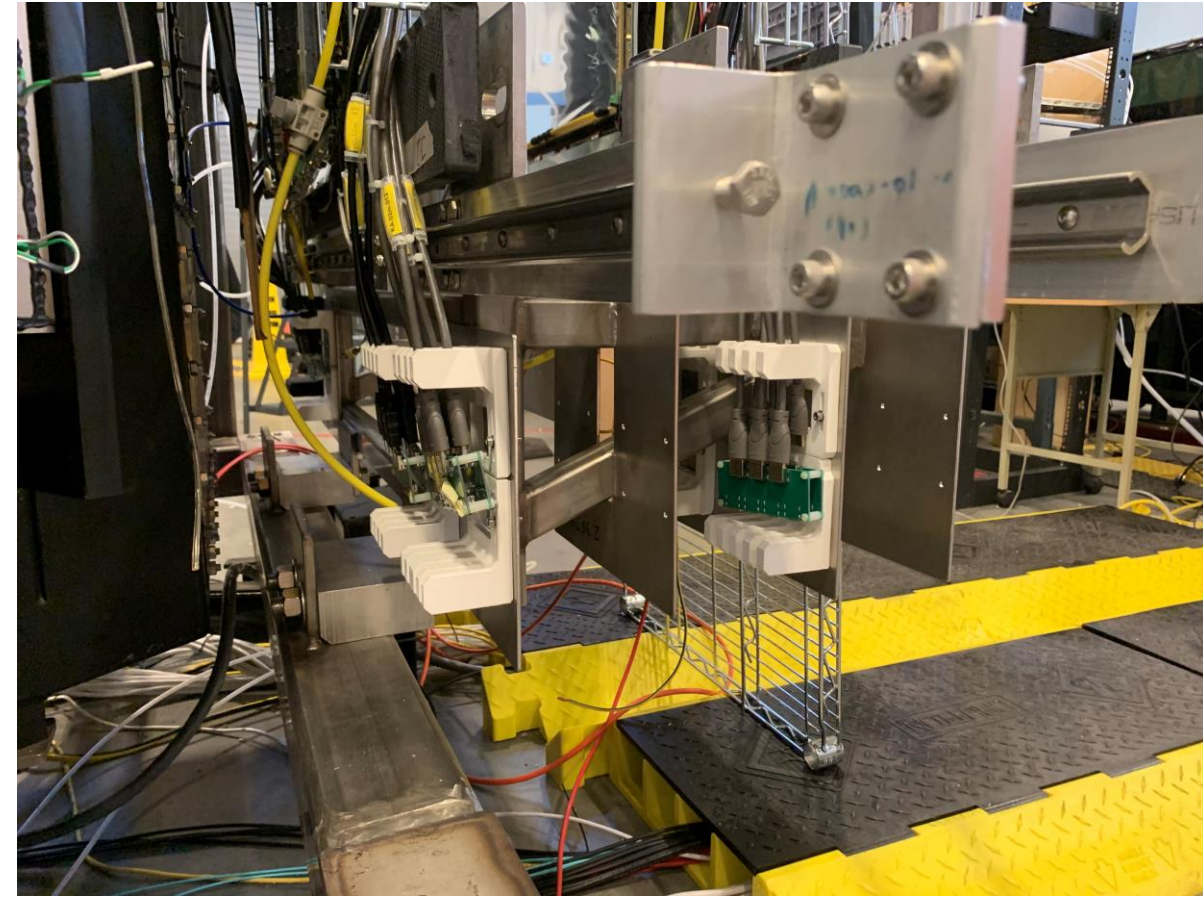
TI

SSP Readout for BigBite GEMs

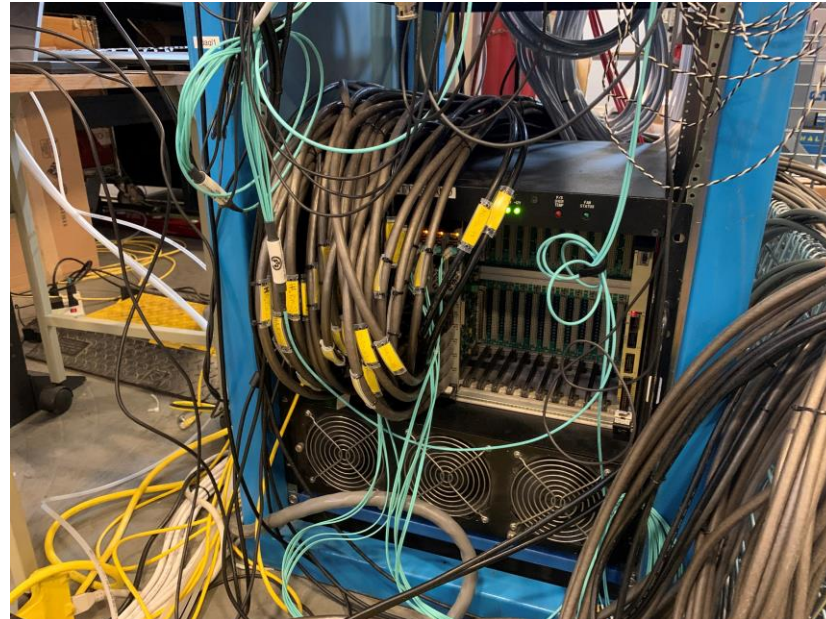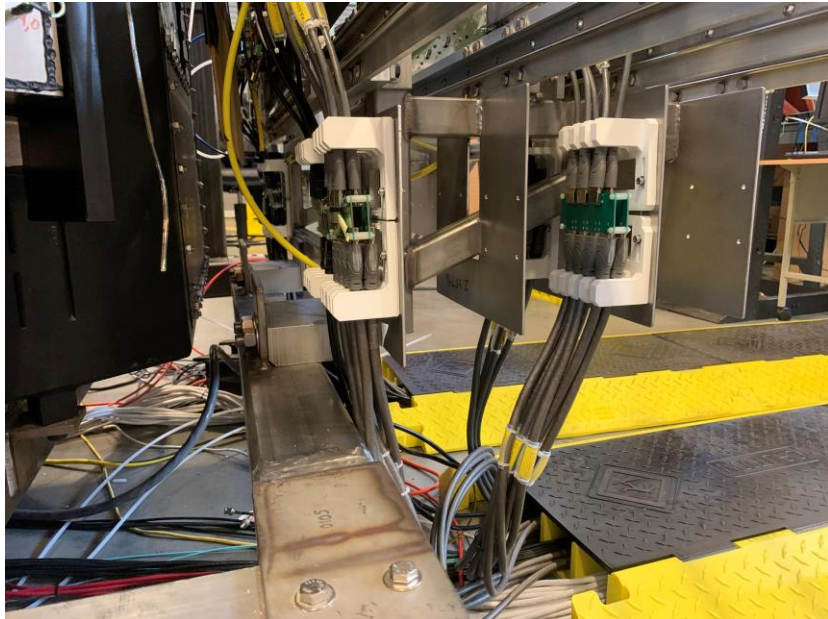# Elongating HDMI cables for J0 and J2, Feb. 24-25

- All of the HDMI cables on both J0 and J2 were move closer to the GEM modules by about 2-3 inches.
- Orange lines is where HDMI cables were previously located.
- Necessary to have HDMI cables reach wire holders, without drilling new holes into the steel plates.

Wire Holders, Feb. 24-25

- All the HDMI cables on both J0 and J2 reach wire holders, as designed.

Cabling HDMI March 1-2

- All long HDMI cables connected and secured in wire holders on GEM side for J0 and J2
- All long HDMI cables connected to MPDs in VME crate in TEDF
- All long HDMI cables zip-tied and organized by MPD in cable basket
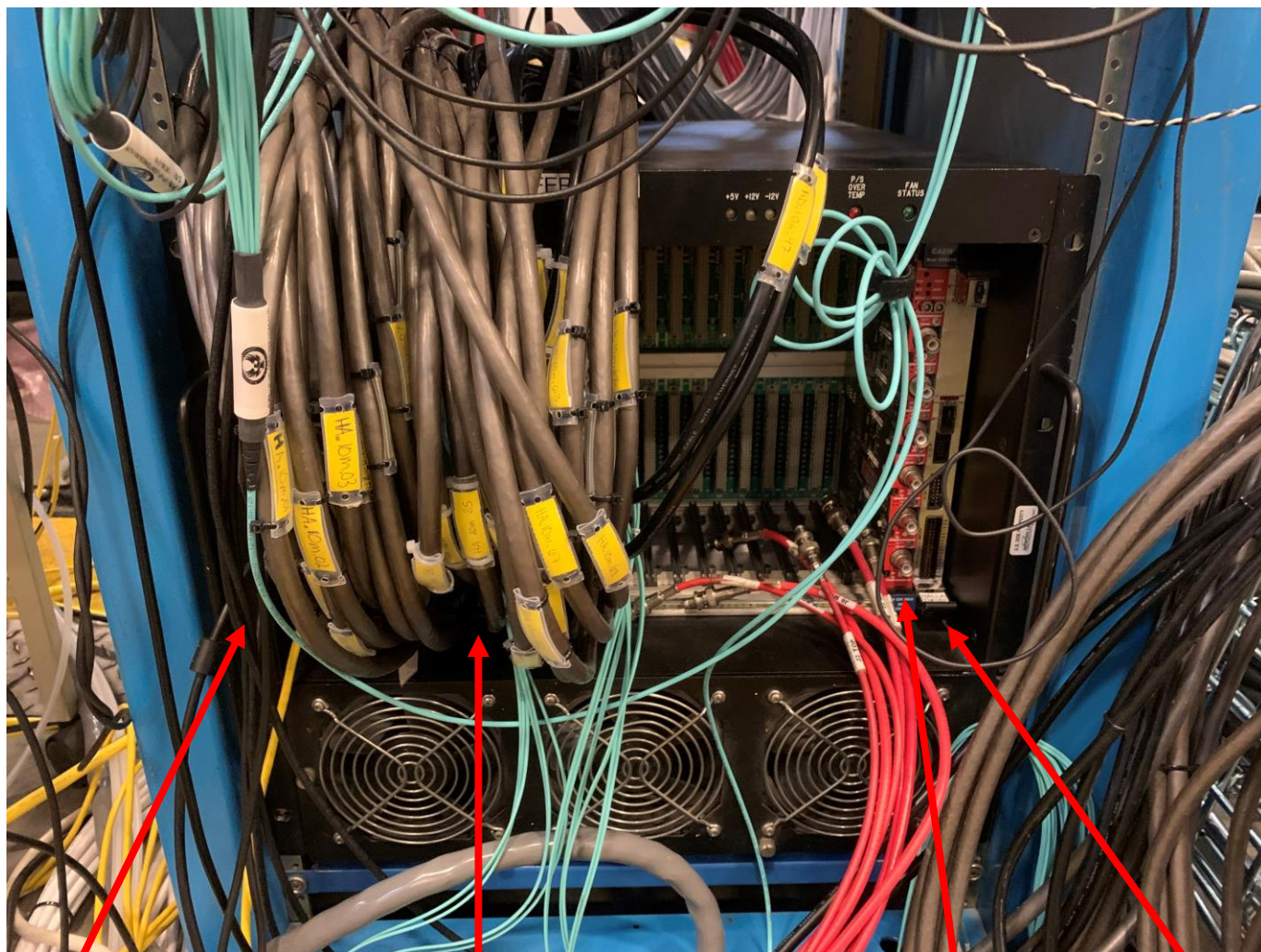- Made updated cabling map for INFN GEMs in TEDF

Left Top: Wire holders with all HDMI cables Rollup Door side of TEDF

Left Bottom: Wire holders with all HDMI cables Gate side of TEDF

Right Top: cable basket next to DAQ

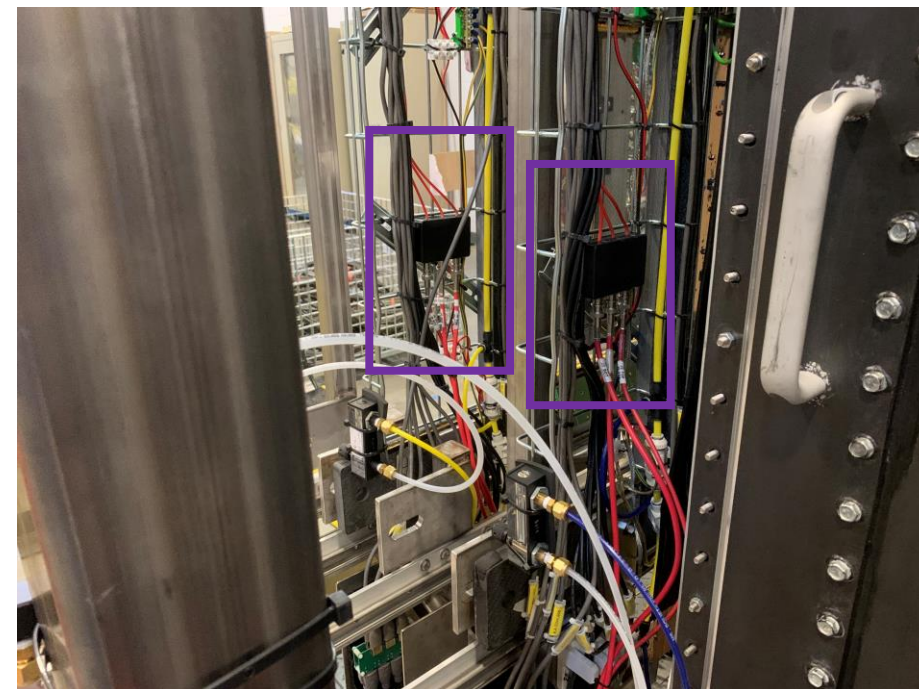Right Bottom: VME crate with connected HDMI cables to MPDs

HV March 2

VME controller

8 MPDs, 4 for J0 and 4 for J2

HV Module

TI

- Need to move HV program from sbsvme20/triton
- HV Module is in slot 20

What to do next?

- Test Lab GEM Chambers
  - Figure out problems with J4 and J3, possibly linked to MPDs 7 and 15.
  - If MPDs are available move J1 to the cosmic stand and integrate in into the system.
  - Make sure DAQ is properly connected in Test Lab.
  - Change J3 cable trays to metal.

- GEM Chambers in BigBite
  - Setup any necessary software/programs for INFN GEMs in TEDF configuration. Basically move stuff from sbsvme20 or triton.
  - Recable LV, and grounding in TEDF.

- Data Analysis:
  - Create Efficiency plots by adjusting Malinga's macro for INFN GEMs.
  - Adjust Evaristo's macro if necessary to remove dead areas.