

PREX GEM/Main detector Group needs for
setting-up at Jlab this December

Dustin McNulty

PREX GEM Meeting: 8/24/2018

Needs for setting-up at Jlab in December (round 1 and 2)

- Space: around 20 m² (enough for 4 people to work in with 2 desks, a table and a rack)
- Support Items:
 - Gas – 75/25 Ar/CO₂ (or similar—**non flammable**). A “T”-sized gas cylinder would last 1 - 2 months; need Model 355 regulator. **Manifolds, couplers, adapters, tubing, filters, flow meters all provided by ISU (and SBU).**
 - HV – minimum of 6 channels needed (-4100 V and 300 μ A per channel). Note that we’ll also need another 4 – 8 channels (-2000 V) for quartz dets and few more channels for trigger paddles. **Also require HV cables from Jlab for this.**
 - LV – 1.25 V (2 A), 2.5 V (4 A), and 5.0 V (2 A) for APVs and det preAmps; will need two sets of these eventually (one for each arm). **SBU and/or ISU will likely provide this.**
 - **Electrical power needs: ~Two standard 120 V 15 or 20 A circuits with ~4 outlets for each circuit.**
 - **Network: We require a gigabit switch with ~8 or more ports available. Will also need ethernet cables to connect ROCs and server,...**

Needs for setting-up at Jlab continued

- DAQ: (need server running CODA 2.6.2 – maybe one for each ROC)
 - Two VME 64x crates with Linux ROCs and at least 4 available slots in each crate to accommodate a TI, two MPDs, and QDC
 - 1 – 2 NIM bins (with all voltages working) to hold:
 - Digital and Analog Fan in/out modules (e.g PS Mod746)
 - Coincidence module (e.g CAEN N405)
 - Discriminator(s) 4 – 8 channels (e.g PS Mod715)
 - Level Translator (PS Mod726)
 - Dual Timer (CAEN N93B) or gate delay generator
- ❖ Would like lab table (desk-sized) to mount detector stands to (with clamps)
- ❖ Need desk with CODA server and space for laptop and logbooks; chairs (possibly 2 desks for multiple students)
- ❖ **Need at least 1 electronics rack.**
- ❖ I may bring one of my 3D printers to setup in this area (only needs 0.5 m²)