

Status of HCal project

Sept. 5/2018

Scope:

Production of 12 X 24 module hadron calorimeter array
with

Supports

Pulser system

Electronics/DAQ

Cables

Software

Light-collection, relative QE, gain vs. HV, calibrated for each module,
ready to install

Completed:

Design/production of 288 (+4 spare) modules

Design, construction, loading of subassemblies

Design, development, installation of pulser system

Tasks to complete

Modification of 100 bases for XP 2282 PMT's (200 for XP 2262 ready)

Measurement of relative QE of all tubes

Calibration of light-yield of all fibers

Installation of tubes/bases on modules (orientation, optical grease?)

Replacement of one module ?

Calibration of gain vs. HV for all PMTs

Characterization of yield/light-collection of each module

Final design/construction of gantry

Design/construction of HCal support/positioning system

PMT-patch panel cables sorted/tested/labeled

Electronics installed in racks/cabeled

Long signal cables tested/labeled

Tasks to complete (cont.)

Construction of all long/short HV cables & boxes

Procure/install all DAQ modules

Readout/decoding (done?)

Event display / signal monitoring software

Pulser-based calibration/monitoring system

Cluster-finding

Cosmic testing

Timeline/workforce

Modification of 100 bases for XP 2282 PMT's

< 2 weeks / Eric Day (CMU machinist)

Measurement of relative QE of all tubes

September-October / Juan Carlos

Calibration of light-yield of all fibers

Finish first measurements September / Juan Carlos

Final measurements Summer '19 / Brian, student

Installation of tubes/bases on modules (orientation, optical grease?)

September-October / Juan Carlos, Eric Day

Replacement of one module ?

Test module performance / CMU postdoc spring '19

Replace (if necessary & practical) Summer '19 / Brian, Eric

Calibration of gain vs. HV for all PMTs

Summer '19 / Brian, CMU postdoc, students

Characterization of yield/light-collection of each module

Summer '19 / Brian, CMU postdoc, students

Final design/construction of gantry

2019? / JLab

Design/construction of HCal support/positioning system

2019? / JLab

PMT-patch panel cables sorted/tested/labeled

January '19 ? / students?

Electronics installed in racks/cabled

Fall '18? / John Matter

Long signal cables tested/labeled

January '19? / students?

Construction of all long/short HV cables & boxes

Fall '18 ? /Chuck Long

Procure/install all DAQ modules

Spring '19? / Alexandre

Readout/decoding (done?)

September / Juan Carlos

Event display / signal monitoring software

Fall / Juan Carlos

Pulser-based calibration/monitoring system

Summer '19 / Brian, CMU postdoc

Cluster-finding

Fall '18 / Juan Carlos

Cosmic testing

Fall '18 ? Spring&Fall '19/ Brian, CMU postdoc,
Catania?, others?