

Draft run plan for HYCAL preparaton at Hall B

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Abstract

The proposed is the the draft of the measurements required at Hall B after transportationg the Detector

Detector adjustment after moving to Hall B

The list of the work and tests required in Hall B immediately after moving the detector without DAQ.

- Mechanical works and tests:
 - Installation all mechanical staff:
 - * Glasses;
 - * Strengthen mechanics for lead glass (better before moving to Hall B);
 - * Cables;
 - * PC boards;
 - * Grounding and required checks; Try to identify all possible loops;
 - * Disassembled fibers;
 - * Electronick racks and corresponding power and grounding;
 - * DAQ compyuterer;
 - * all connections.
 - Check grease for “hot” counters and for “small amplitude” counters;
 - Check LMS and cosmic in repaired channels by oscilloscope;
 - Check LMS and cosmic in few channels by oscilloscope;
 - Check timing for all triggers;
 - Check HYCAL interlocks (see another note);
 - Tests for all HV channels;
 - Tests for all ADC modules;
 - Test cooling system without insulation;
 - Survey Detector on the transporter;

- Calibrate Transporter.
- Run DAQ to check all channels:
 - Pedestals (check all ADC's);
 - LMS;
 - Cosmic data signals (for both delay and trigger cables);
- Repair “bad” channels;
- Insulation the detector;
- Cooling the detector;
- HV gain measurements if needed, required for repaired or replaced channels;
- Trigger group tests and threshold adjustment for cosmic data;
- Chose LMS signal amplitude;
- Test transporter controls.

Tests at closed HALL B without the beam

- Cosmic data run using all detectors and DAQ;
- HV pre-adjustment (gain equalizing) using cosmic data;
- Check LMS system amplitude;
- Trigger group tests and threshold adjustment for cosmic data;
- Final software preparation and tests;
- Alarms check;

Calibration Run

- Check pedestals and LMS;
- Fast calibration by the centers of each crystal :
 - HV adjustment (gain equalizing)
 - trigger testing and adjustment

The detailed description of the procedure will be discussed in additional item. Main principle proposed: stay at the center of the crystal, analyse statistics, adjust HV to have desired trigger or anode signal (in few steps), move to another cell;

- Trigger group threshold adjustment using beam data;
- Detector Calibration (homogeneously) on all cells, the algorithm of moving will be discussed later;
- Shower shape measurements for transition region;
- Gain dependence of intensity measurements.

After Calibration checks - detector is placed on the position

- Detector Survey;
- LMS and Cosmic data run using all detectors and DAQ;
- “Radiation Calibration” run (another document);
- “Compton Calibration” run (another document).