Checklist

December 2, 2016

HyCal Snake Scan

- ✓ gain calibration (2 algorithms, 3 methods)
- ▶ energy resolution
  - ✓ crystal, lead glass, edge
  - ✓ depending on position for transition region
  - ✓ depending on distance to module center
  - × inner modules
- ✓ linearity (not usable for physics periods)
- ✓ trigger efficiency for all regions (need some explanations)
- ✓ island position reconstruction (logarithm or double logarithm method)
- ▶ position resolution for all regions (ongoing)

HyCal Physics Calibration

- ✓ gain calibration (1 algorithm, 1 method) for all production periods (might need to split some long periods if some changes are found)
- ✓ linearity with 2 points
- ▶ alignment run by run (ongoing)
- × cross-check of gain calibration
- × energy resolution for Møller/*ep*

GEM Calibration

- ✓ clustering algorithm
- ✓ alignment run by run
- ✓ detection efficiency
- ✓ crosstalk
- ✓ Hycal and GEM matching condition

Physics Analysis

- × define cuts for warning regions (last outer layer, first inner layer, dead modules)
- × define event selection cuts (ep, double arm Møller, single arm Møller)
- × extract yields versus θ/Q^2
- × simulate acceptance from efficiencies
- × calculate cross-section from yield
- × apply radiative corrections (to yield or to cross-section?)
- × normalize ep by Møller