

Minutes of CAL s/w telecon

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Scale factor for Run 138

Terrier

Regis is proceeding with an overall gain scale factor for run 138 that will bring the raw calorimeter sum peak in line with the sim calorimeter sum peak. This factor will turn out to be something like 0.9. Regis will do energy recon then on the rescaled 20 GeV data.

Action:

1. *(Terrier) Derive overall gain scale correction factor for run 138 and do energy recon.*

Optimizing correction factors for Run 138

Grove

Berrie has completed the tbsim of Run 138, and I've compared histograms of the relevant logs from the sim and beam test data reconstructions. The agreement is generally fair for this run, as we knew, except in the top layer (layer 0), where the dE peak happens to be centered around the transition between LE and HEX8 ranges. The peaks in layers 3 and 4 (which are near shower max) are shifted $\sim 1/2$ GeV out of ~ 2 GeV: layer 3 is too high in the data recon, and layer 4 is too low in data recon. Presumably this has an effect on the reconstruction!

I can now proceed with the new correction factors for this run. The action item is already in the list.

Simulating French calorimeter design

Terrier

CdF has begun creating a geometry file corresponding to the French mechanical design of the CAL for simulations. The mechanical design is still in progress, so this work won't be complete until likely in the new year.

Action:

1. *(Terrier?) Create geometry file for simulation of French mechanical design.*

Monte Carlo Truth, hits and digis

Burnett

We discussed the level detail required in storing Monte Carlo Truth information. Richard remarked that BaBar wishes they'd done a more thorough tracking of energy depositions in passive material. Toby, Richard, and I exchanged emails last week regarding the level of detail and total energy accounting. I think we reached a consensus to track such information in glastsim on a "per volume" basis. Toby will create and distribute a proposal to this effect.

Action:

1. (Burnett) *Create a proposal for tracking energy in passive volumes.*

Completed Action Items

1. (Grove) *Review CAL beam test paper goals. **Done.***
2. (Giebels) *Verify our understanding of trigger logic and timing for muon runs in clean room after ESA with Gary Godfrey. **Done.***
3. (Grove) *Fit GSI intlin data. **Done.***
4. (Grove) *Generate simple saturation curve from muon, C, and Ni points in a few bars. **First pass done, will repeat.***
5. (Sandora) *Complete electronic and source calibrations of Test Box crystals. **Done.***
6. (Grove) *Write first version of CAL section of beam test paper. **Done.***
7. (Giebels and Linder) *Simulate run 138 with tbsim. **Done.***
8. (dCeS) *Distribute list of runs and plots of total energy to calsoftlist so we can all play this game of Name That Total Energy. **OBE. We all see the discrepancy.***
9. (Chekhtman) *Implement switch in tbrecon. **Done.***
10. (Eric and Arache) *Complete the CAL s/w review. **Done.***

Open Action Items

1. (Giebels and Lindner) *Proceed with the two-step gain calibration.*
2. (Grove) *Get more info on upstream material, beam aperture from GSI.*
3. (Grove) *Generate simple saturation curve from muon, C, and Ni points in a few bars. **First pass done, will repeat.***
4. (Tylka) *Improve interface to dE/dx and partial cross-section routines from CREME96.*
5. (Grove) *Continue improvement of gain scales in HEX8 for run 138, incorporating expected signal from simulation. **In progress.***
6. (Giebels) *Resolve discrepancy in simulations of MIPs. **In progress.***
7. (Grove) *Study the LEX4 gain “stretching” as a fcn of time. Derive correction factors and new muon gains.*
8. (Terrier) *Derive overall gain scale correction factor for run 138 and do energy recon. **In progress.***
9. (Terrier?) *Create geometry file for simulation of French mechanical design. **In progress.***
10. (Burnett) *Create a proposal for tracking energy in passive volumes.*