

d_2^n H2 OnePass

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Track Selection and Minimizing Algorithm

Track Selection

- Reconstruct energy deposited in shower blocks into clusters (3X3 blocks).
- Select cluster with largest energy as having track.

Algorithm

- Find calibration constants by minimizing

$$\chi^2 = \sum_{n-1}^N \left[\sum_{i \in M^n} C_i^{sh} (A_i^{sh} - P_i^{sh}) + \sum_{i \in M^n} C^{ps_i} (A_i^{ps} - P_i^{ps}) - E_e^n \right]^2$$

Algorithm

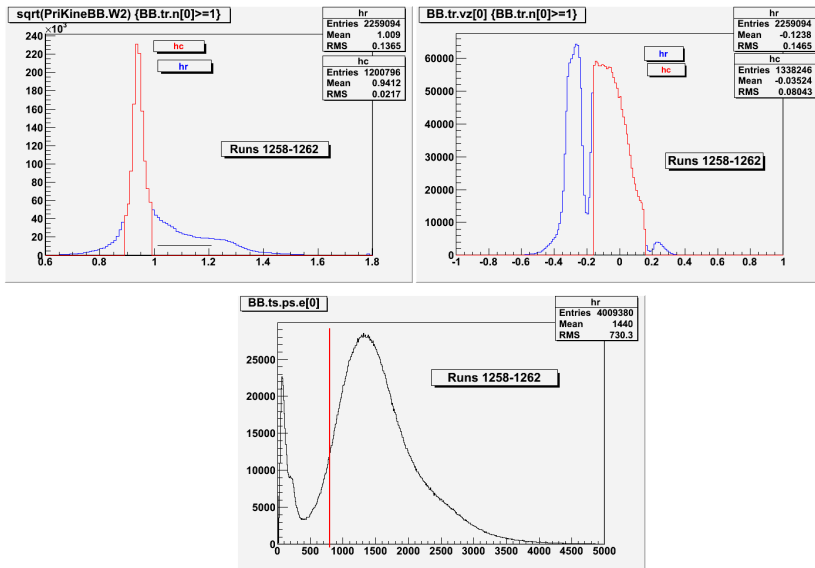
- $n = 1 - N$ Number of events
- M^n Number of block in the cluster
- C_i^{sh} Calibration coefficients of i^{th} shower block
- C_i^{ps} Calibration coefficients of i^{th} preshower block
- A_i^{sh} Amplitude of i^{th} shower block
- A_i^{ps} Amplitude of i^{th} preshower block
- P_i^{sh} pedestal of i^{th} shower block
- P_i^{ps} pedestal of i^{th} preshower block
- E_e^n Known energy of the particle

Cuts used

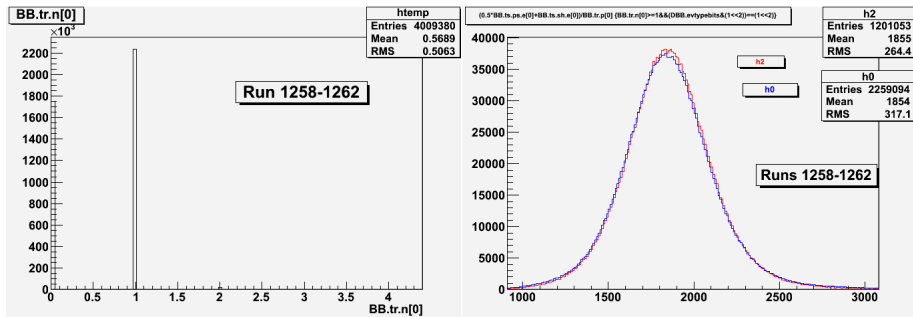
Cuts used in energy reconstruction:

- Required one or more reconstructed tracks
- evttypebits 2 (T2 trigger)
- Invariant mass
- Z vertex
- Preshower energy

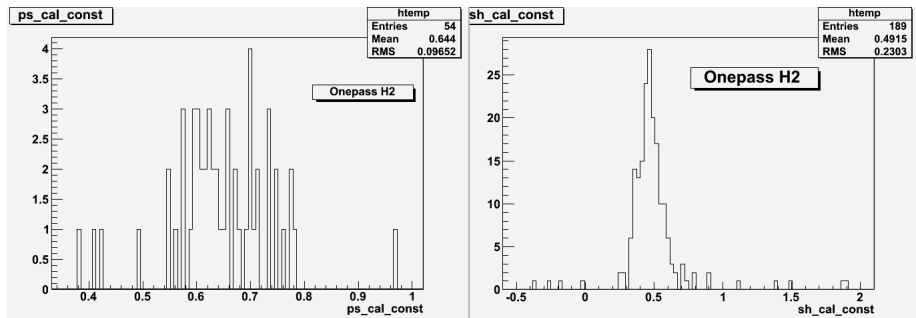
Cuts Used



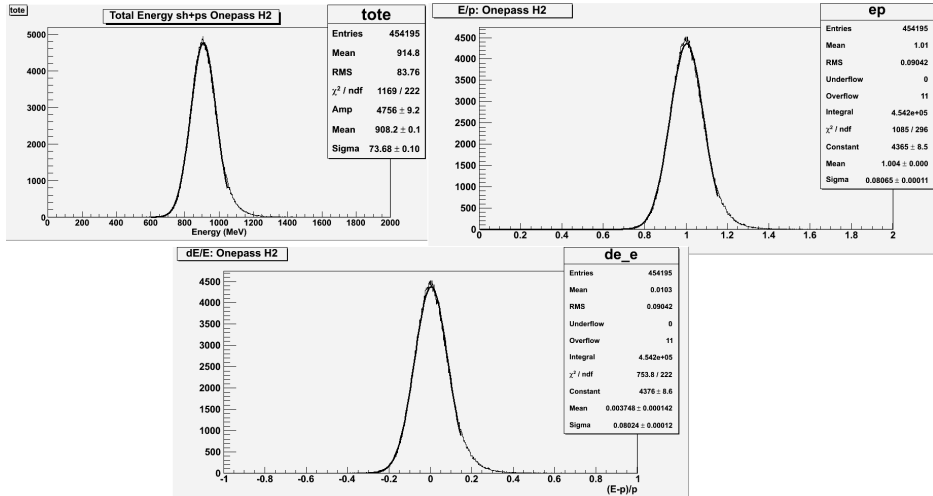
Cuts Used



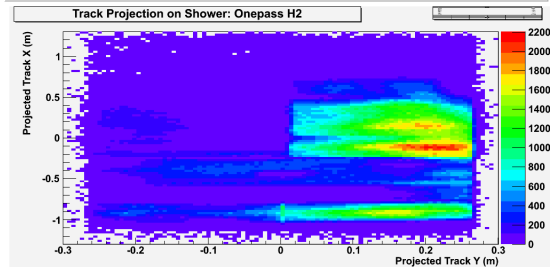
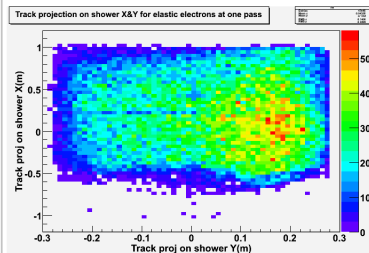
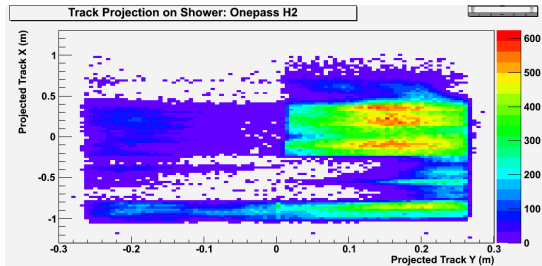
Calibration Constants



Shower Calibrations



Track Projection on Shower



↑
Transversity

To-Do

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- Finish up trigger work.
- Determine cause of negative calibration constants.
- Run two-pass data and combine with one-pass.