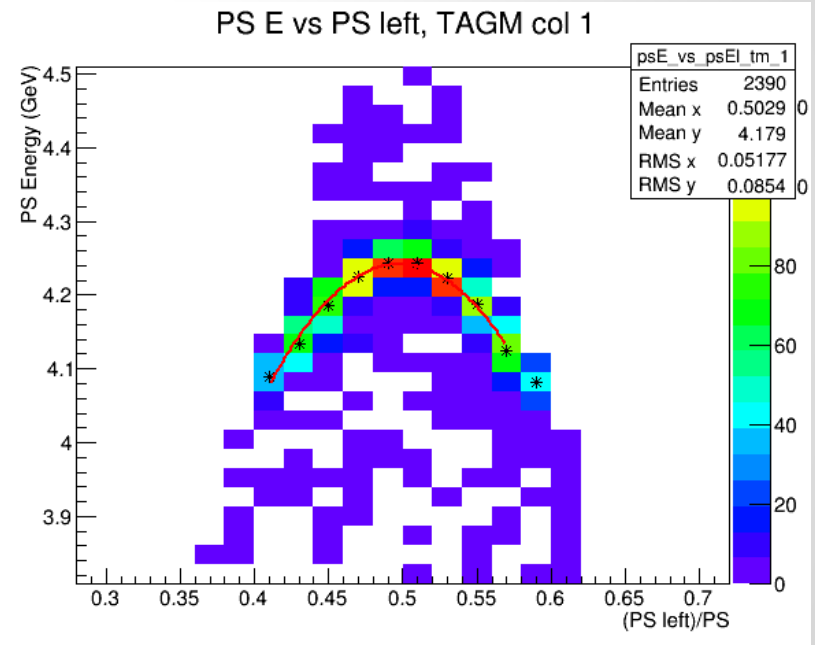


Initial PS energy calibration results

Alex Barnes
Calibration Meeting
07/15/2015

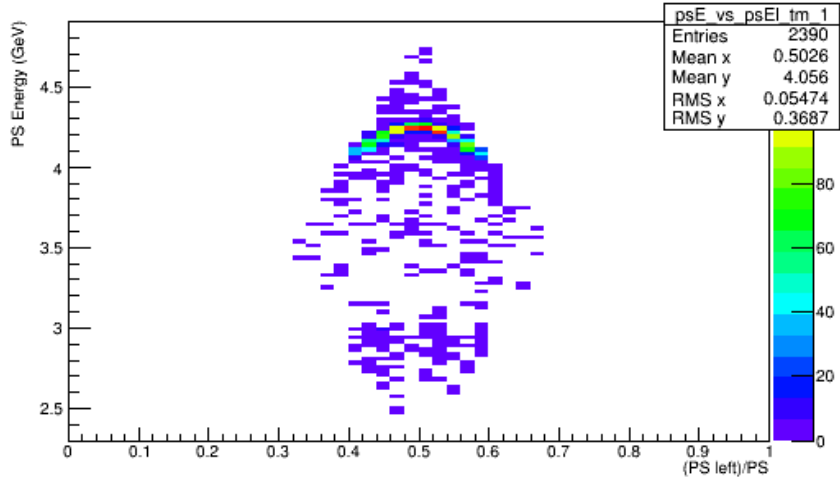
Procedure

- Plot (total PS E) vs fraction (left PS E)/(total PS E) for each associated TAGM column.
- Make a projection for each fraction bin and fit with a Gaussian, record the mean
- Plot the means and fit with a 2nd order polynomial
- Find the maximum of the fit and divide each parameter by the maximum to normalize the fit
- Regenerate the initial plots with an adjusted total PS energy: divide the sum of both arm energies by the normalized fit per associated TAGM col. These should now show horizontal lines



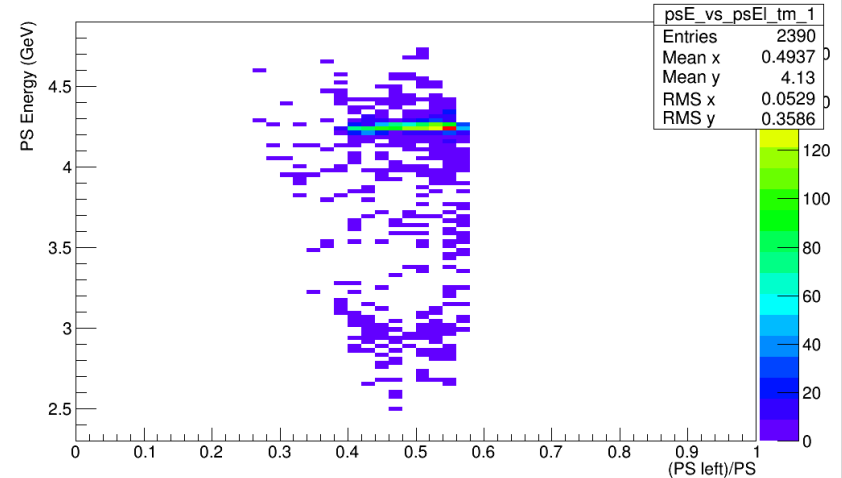
Run 3185

PS E vs PS left, TAGM col 1



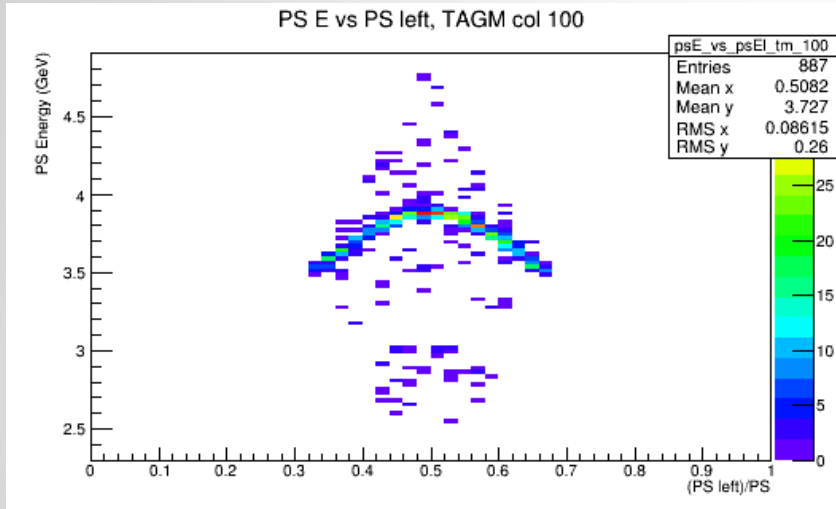
Total PS energy vs fraction (left PS E)/(total PS E) for events associated with TAGM column 1.

PS E vs PS left, TAGM col 1

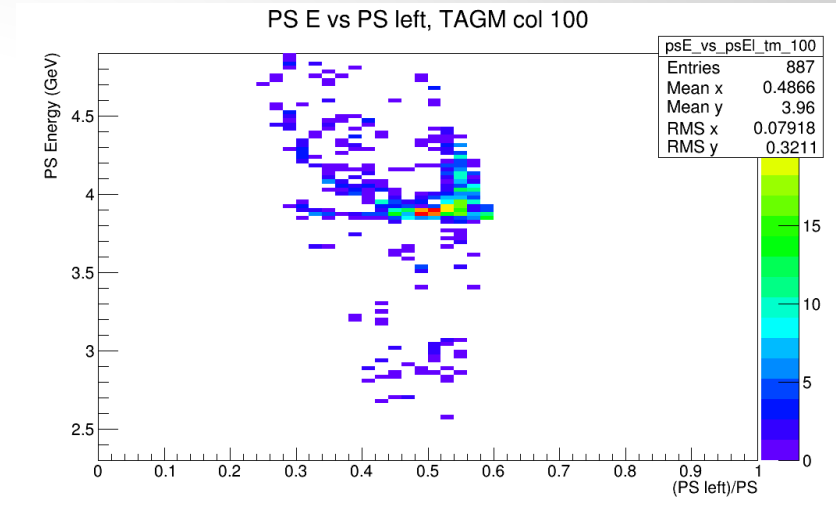


After corrections, for events associated with TAGM column 1

Run 3185



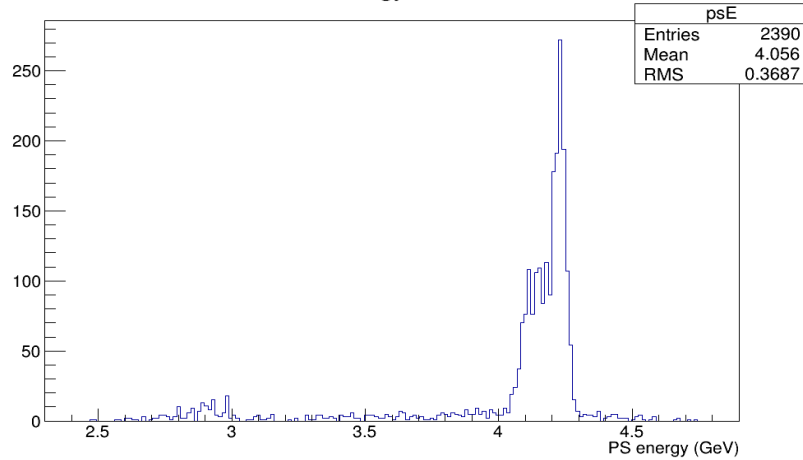
Total PS energy vs fraction (left PS E)/(total PS E) for events associated with TAGM column 100.



After corrections, for events associated with TAGM column 100

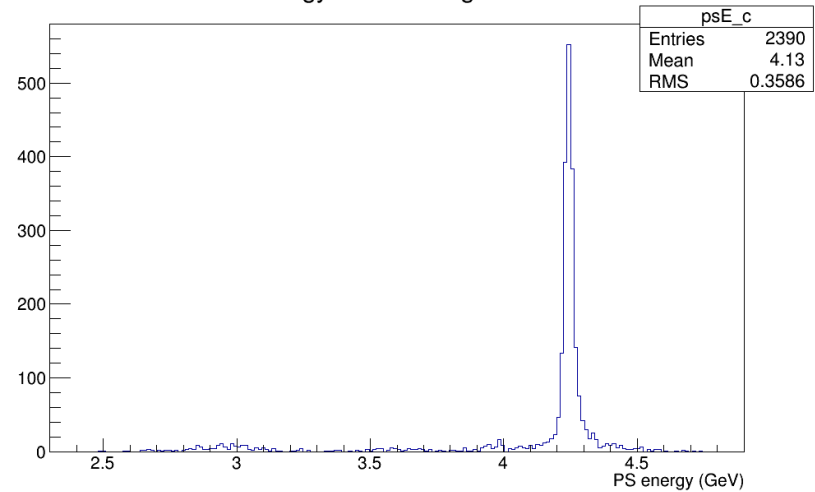
Run 3185

PS Energy for col 1



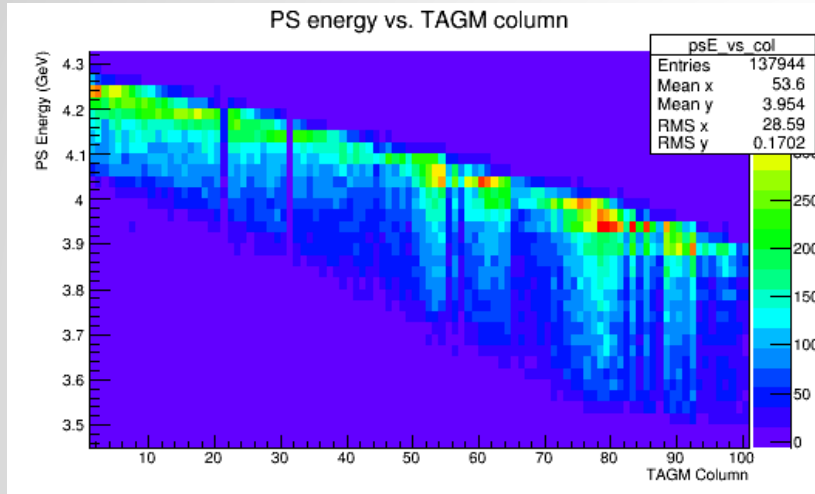
Total PS energy for events associated with TAGM column 1.

PS Energy for col 1 avg corrected

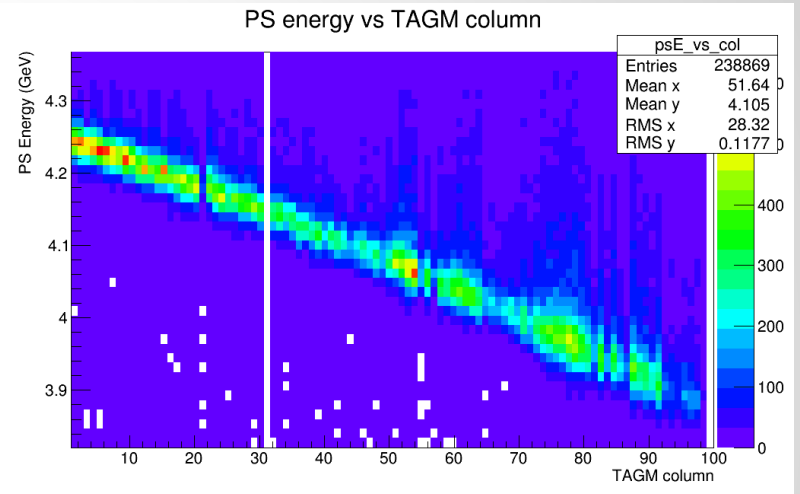


After corrections, for events associated with TAGM column 1. Gaussian fit yields a sigma of 18 MeV.

Run 3185



PS energy vs TAGM column before the corrections.



PS energy vs TAGM column after corrections

Still to be done

- Correct fits for higher TAGM columns (lower photon energies)
- Extend to include TAGH
- Compare results from individual corrections based on associated tagger counter with a single, average correction
- Test on runs other than 3185 (will need to adjust timing window)