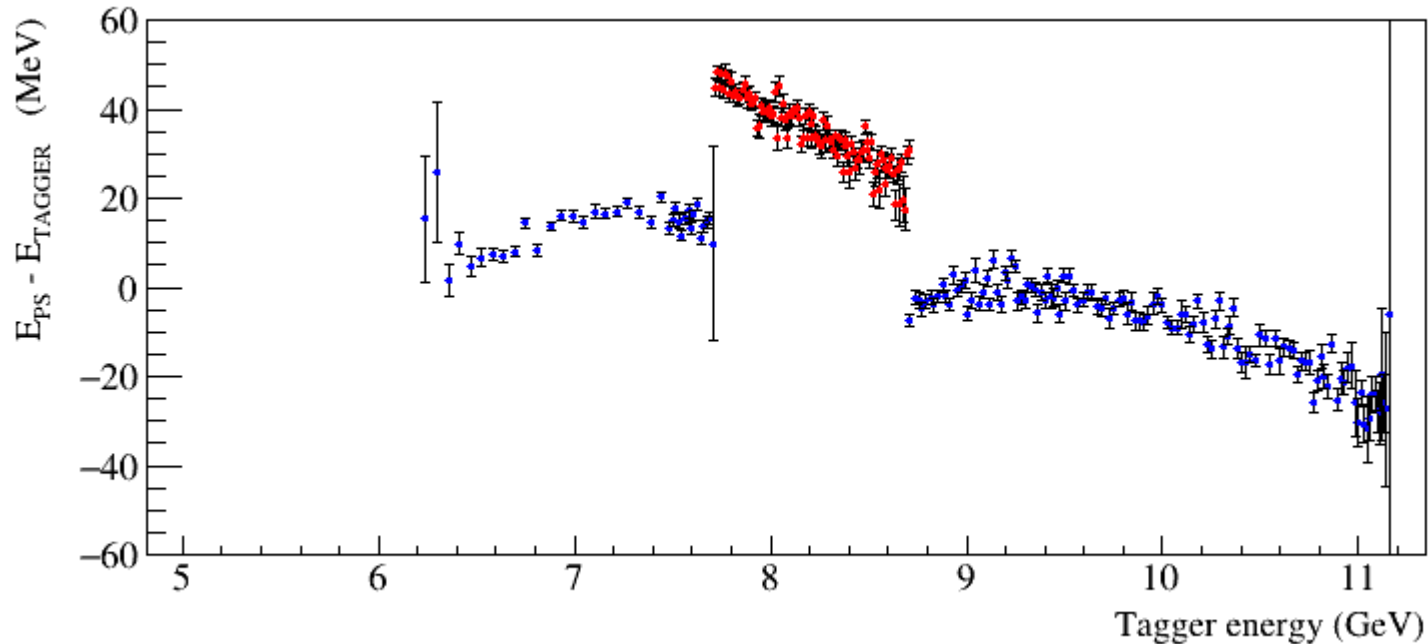


Status of the PS / Tagger Energy Calibration for Spring 2020 Runs

A.Somov, JLab

May 26, 2020

PS / Tagger Energy Before Calibration



Run 71351

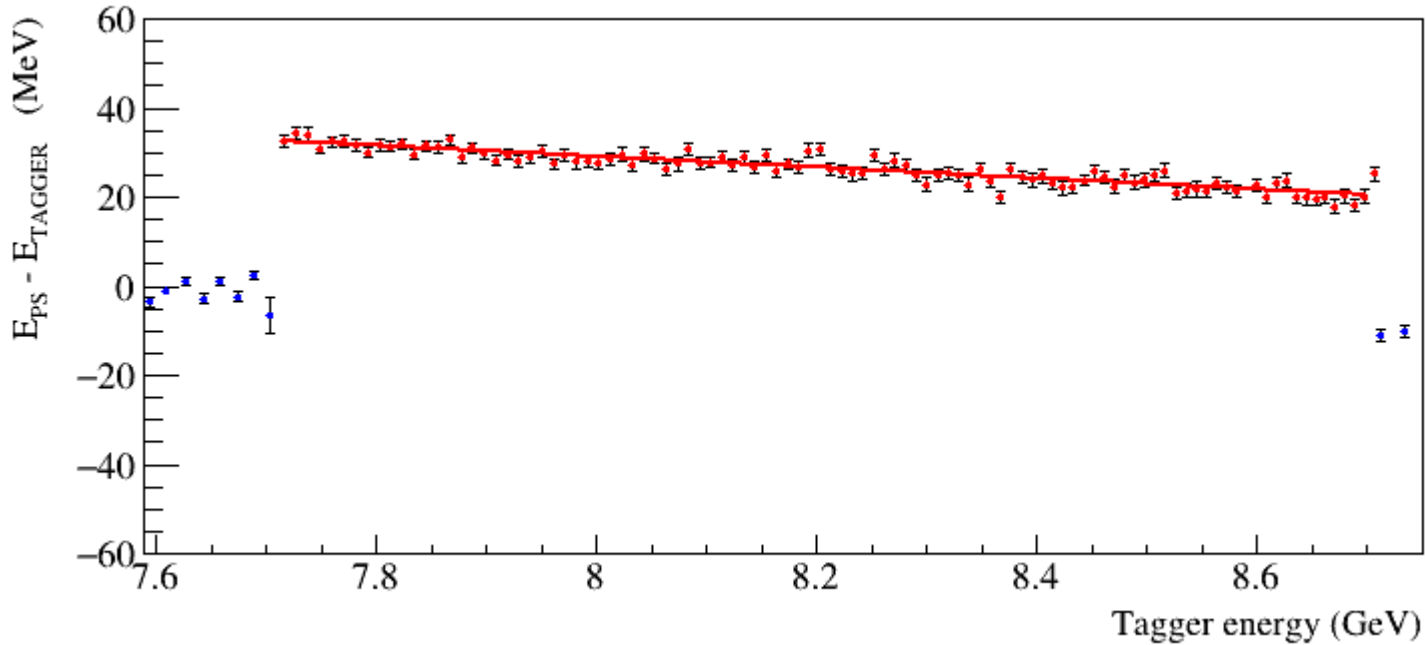
Beam energy: 11.38 GeV

Beam current: 130 Na

- low-energy TAGH counters
switched on

- Pair Spectrometer magnetic field restored to the nominal value after the PrimEx run (magnet current 910 A)
- Reconstruct PS/Tagger energy using default CCDB calibration constants
- PS / TAGH energy discrepancy in the TAGH are relatively small, at the level of 40 MeV

TAGM Energy



Correct Pair Spectrometer energy scale

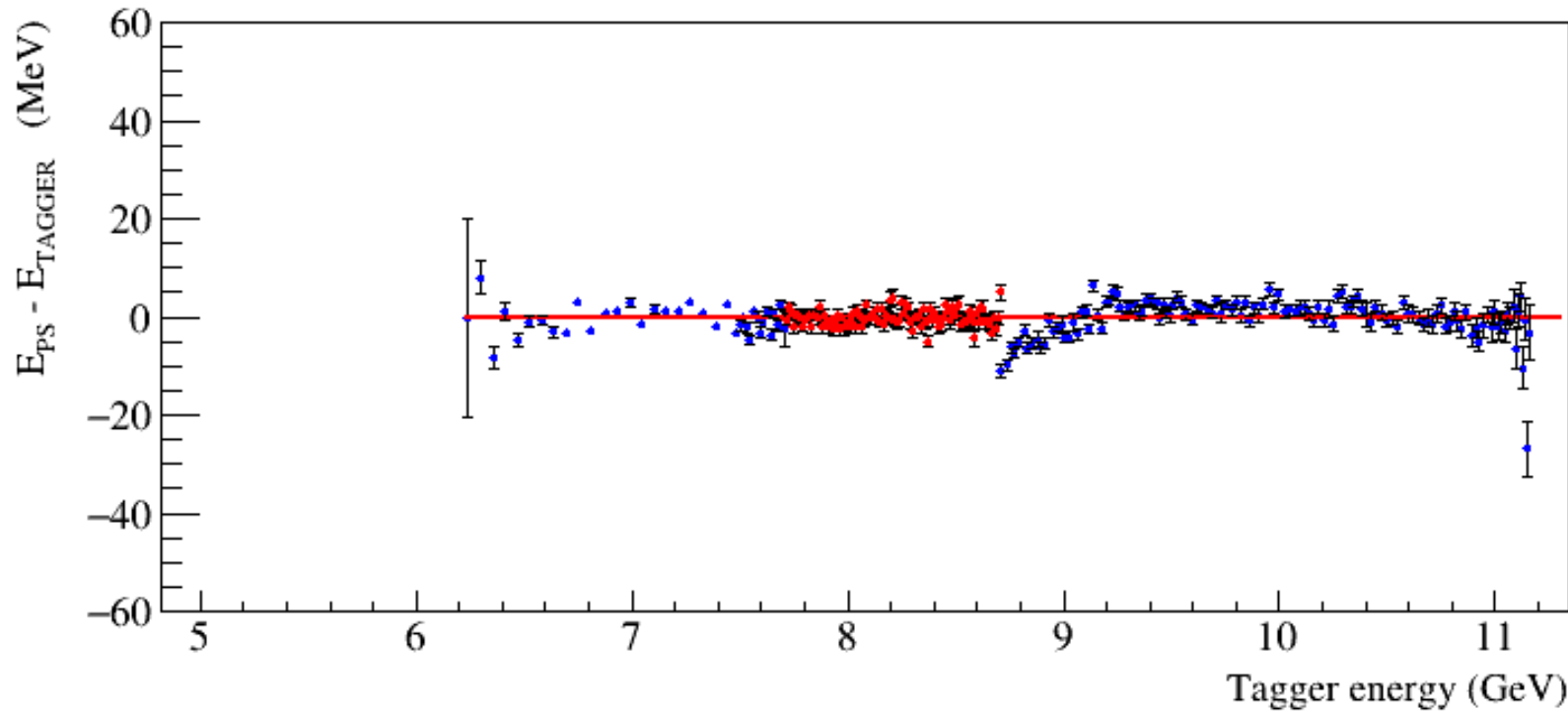
- TAGH energy is relatively good aligned

- TAGM energy is slightly shifted

Correct TAGM energy

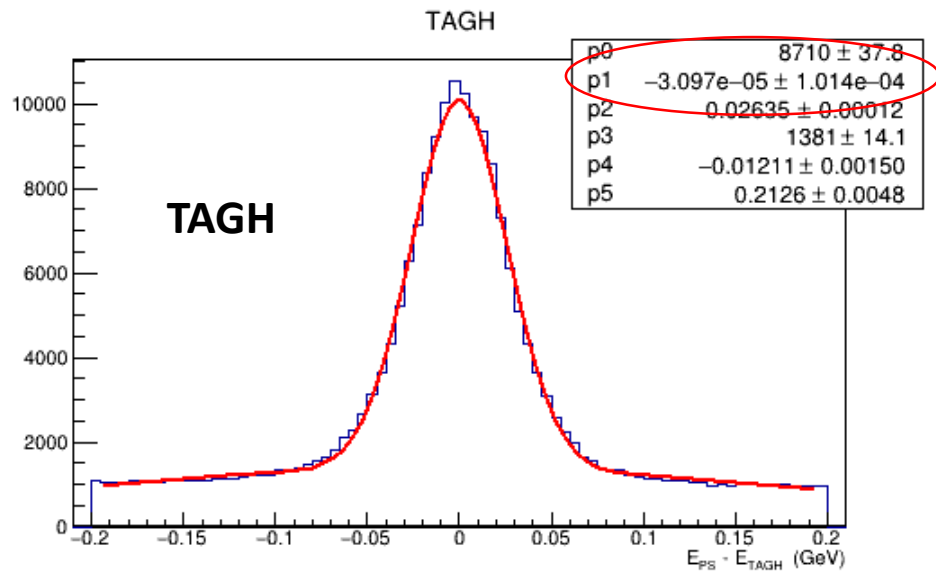
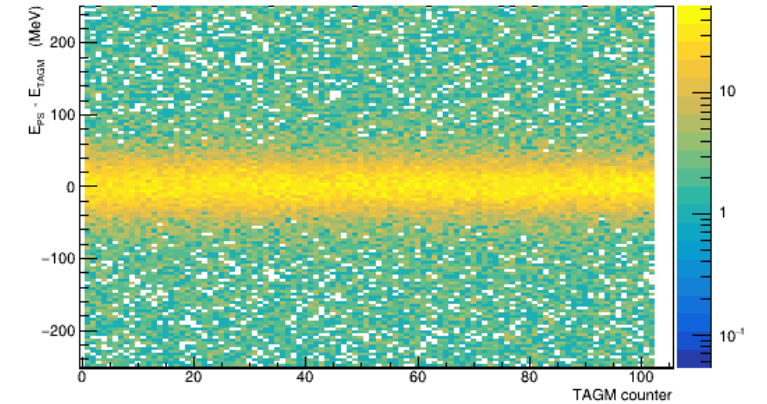
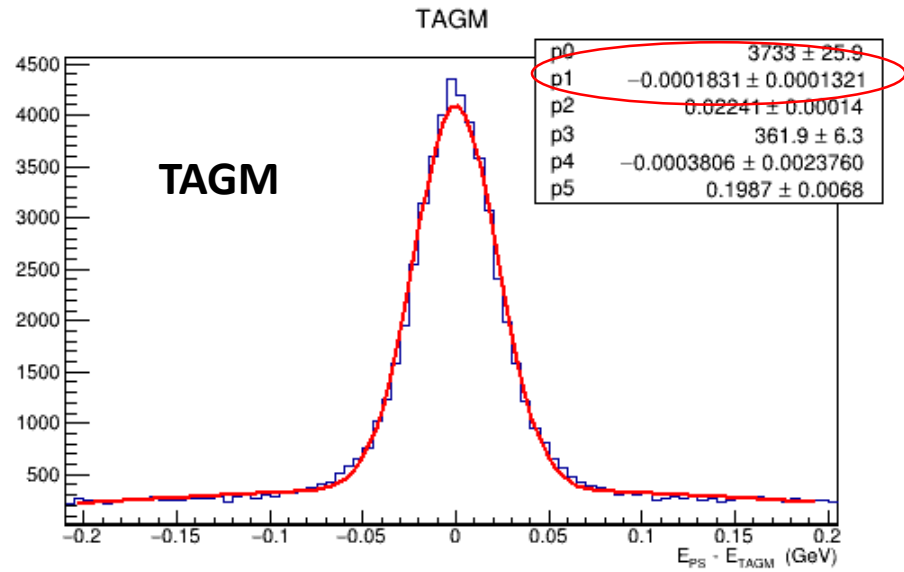
- use linear function to shift TAGM energies

Energy Scale After Calibration



- Maximum energy deviation between PS and TAGH for some counters is < 10 MeV (negligibly small)
- Energy of TAGH counters was not corrected
- Some improvements in calibration are possible (plan to continue working on it), but it's good enough for physics analyses

Energy Scale After Calibration



- Energy residuals, $E_{PS} - E_{TAGGER}$, for all counters
- Updated PS ad TAGM energies in CCDB for run periods (70001 – 79999)