

Status of the Analysis

Sasha, June 26, 2020

Recent changes in the reconstruction in the middle of March - May:

- modification in parsing of fadc250 (Richard)
- new timing calibration of the TAGH/TAGM
- modifications in the TAGM hit reconstruction

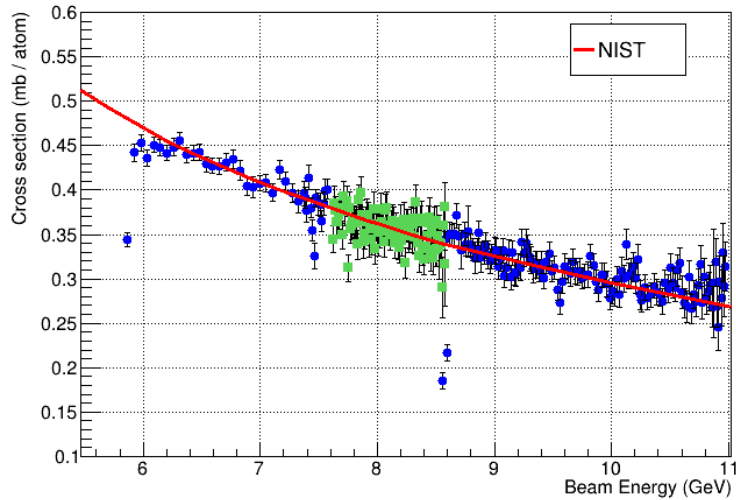
Can impact reconstruction of physics channels and lumi

- observe some decrease of hits having coincidence between tagger and PS detectors ($< 10\%$). Compare number of hits before and after changes

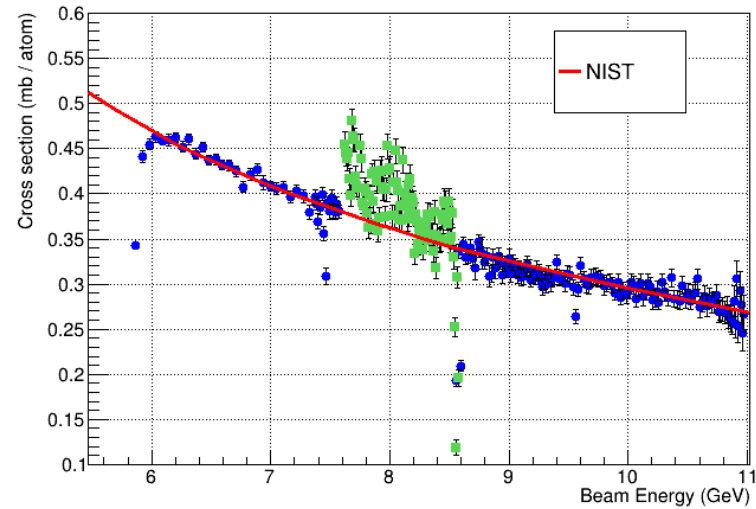
Trying to understand what's going on

Compton Cross Section

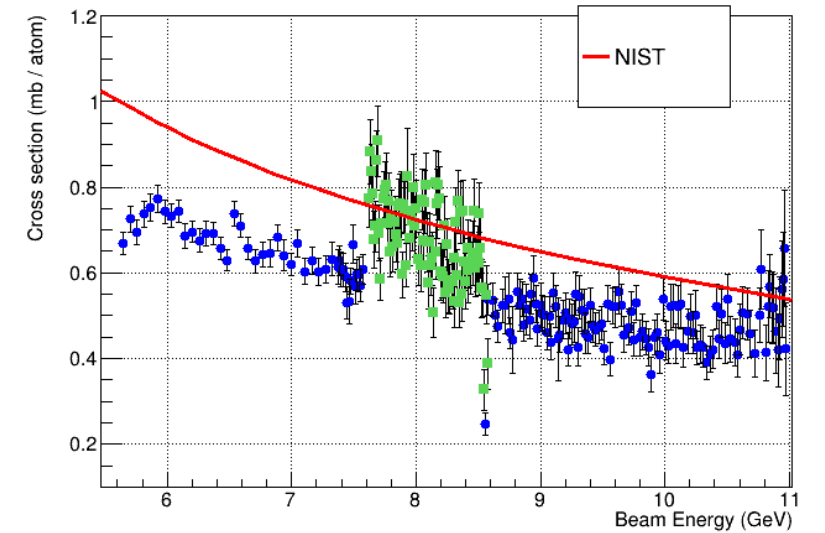
He target, Run 61914, 50 nA



He target, Run 61950, 100 nA



Be target, Run 61340, 200 nA



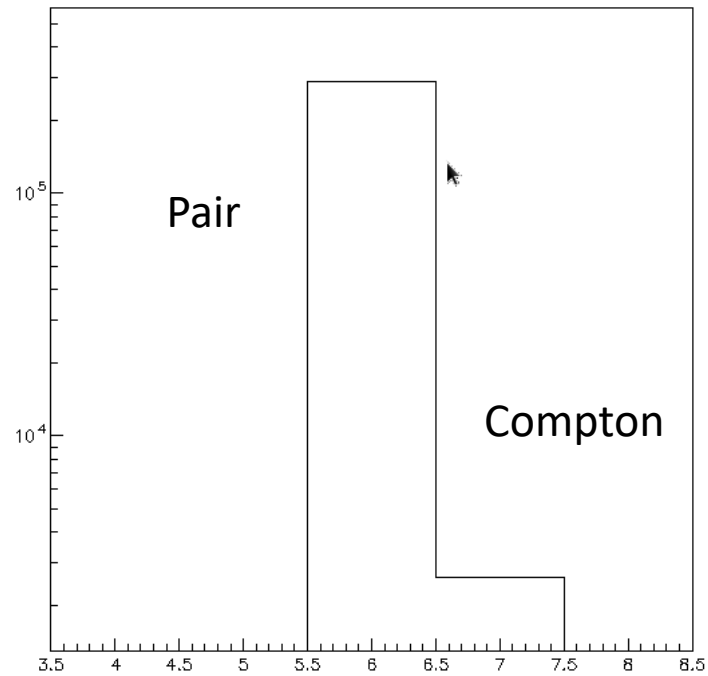
Lumi processed in March
(correct TAGM reconstruction)

TAGM not corrected

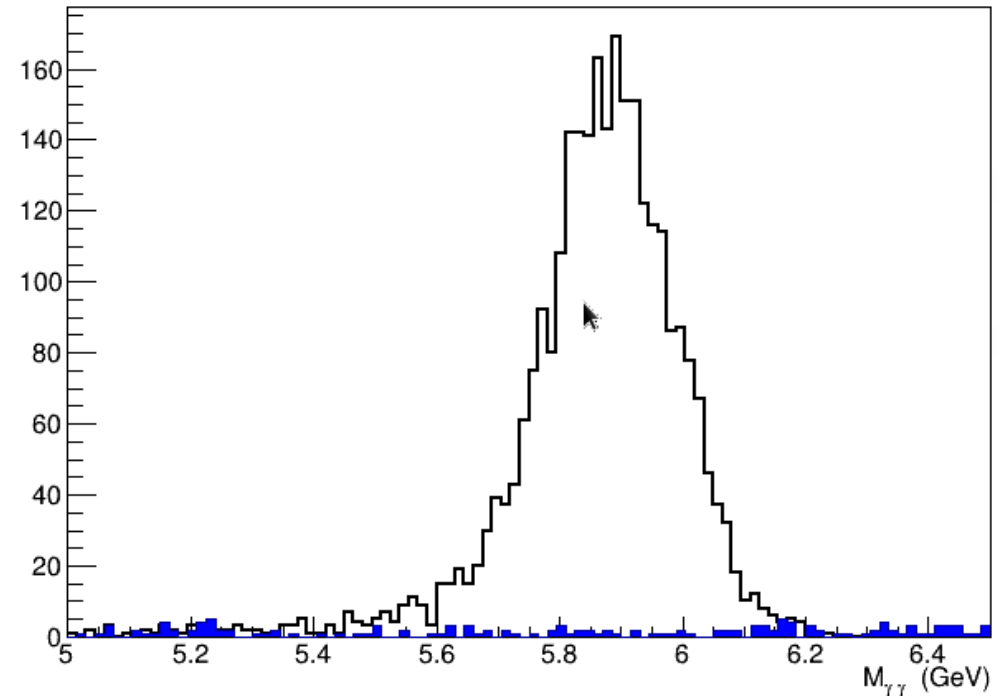
Assume the same efficiency as
for He runs

Pair Production in Geant

Geant process (LMEC)



σ (Compton) / σ (Pair) = 0.09 at 6 GeV (He target)
NIST - 0.087



Fraction of pair under Compton peak: 3 – 5 %

Background: Empty Target

Process larger empty target sample

Empty Target, 6 - 7 GeV

