

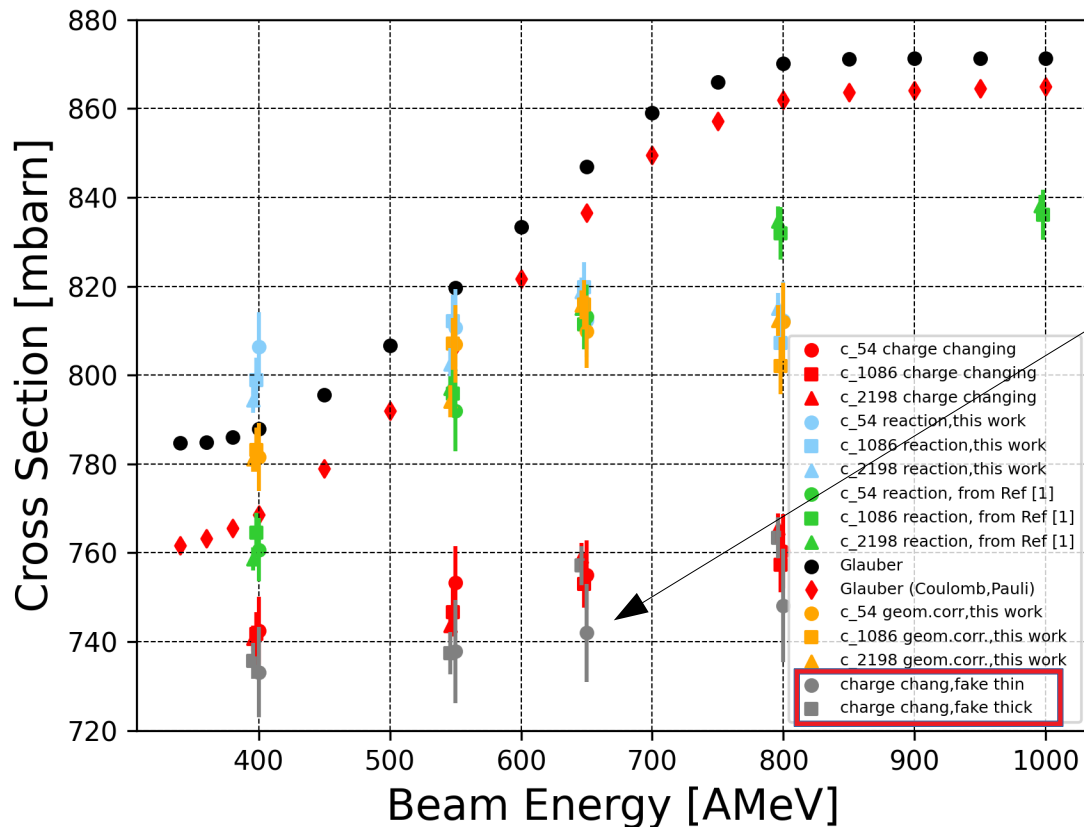
S444 Reaction cross section – Discussion during R3BWeek

Q1: In S467 empty runs were problematic. How about subtracting different target runs?

New “empty” runs = runs with 5.4mm carbon target

New “thin” target = 0.534 cm

New “thick” target = 1.6477 cm

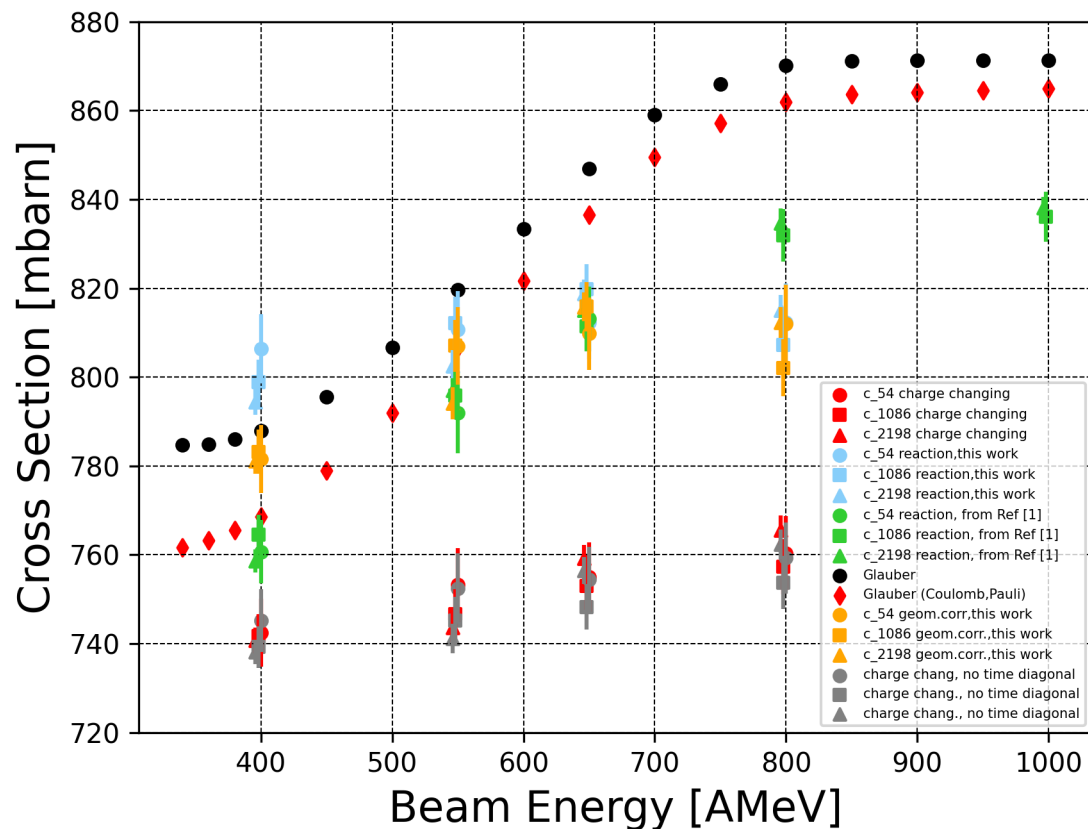


Consistent with the measurements when using “true” empty runs, slightly lower values.

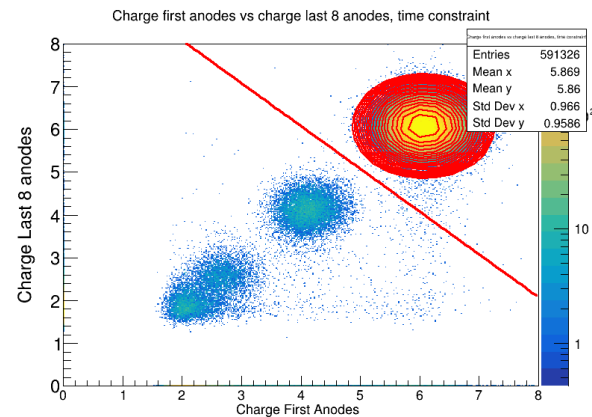
Larger error bars. This may be because of higher statistics in the “true” empty runs

Q2: You use the same sigma cut (3.5) sigma for all beam energies. What if you use a dynamic cut?

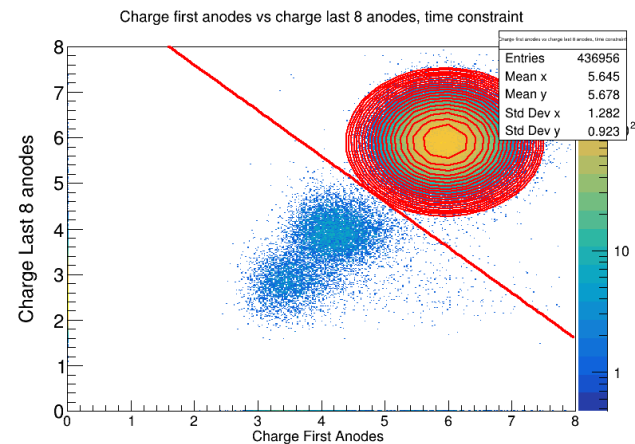
With diagonal cut in gray: no difference to the fixed sigma cut



400 AMeV

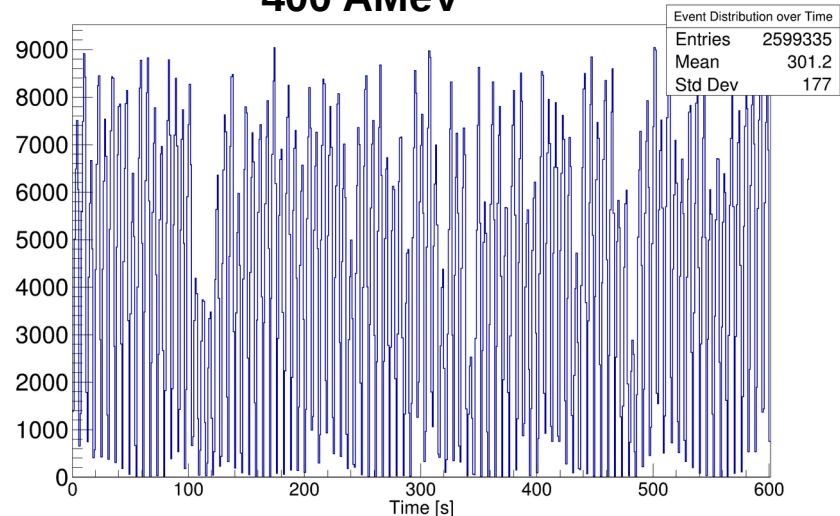


800 AMeV



Q3: Did you check the beam rate? Maybe this explains the minor values at 800 AMeV

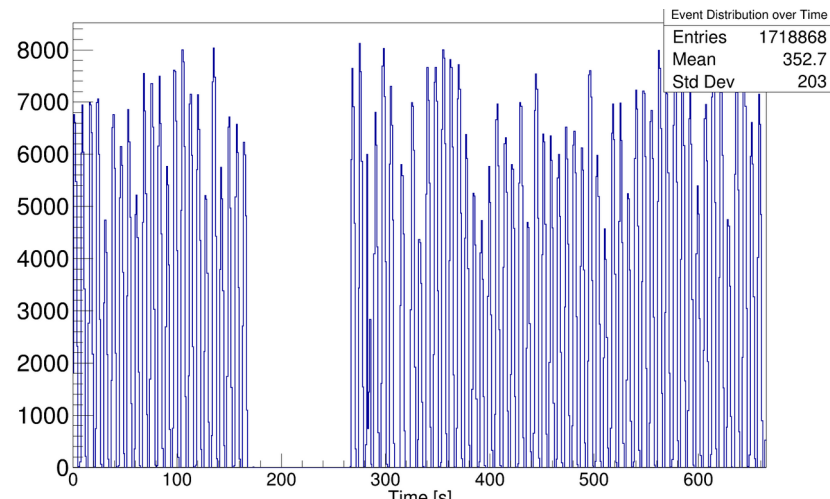
400 AMeV



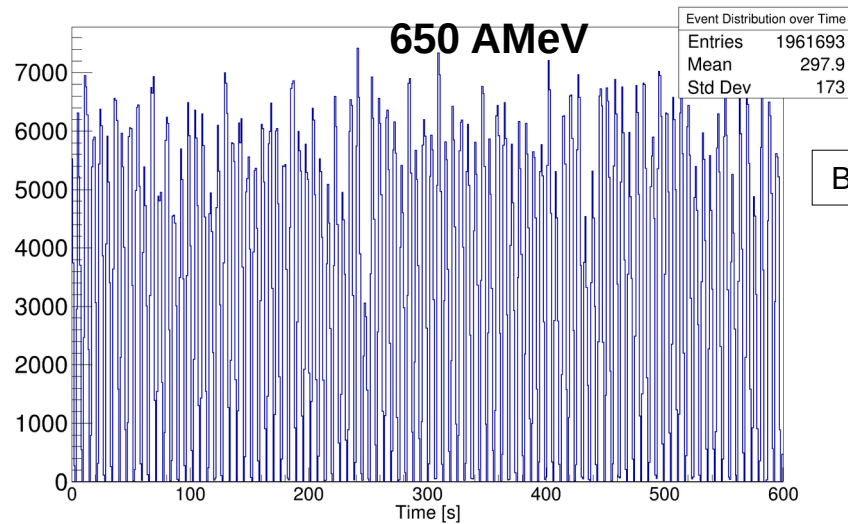
Target runs:

Selected events:
→ tpat != 0
→ hitnr start = 1

550 AMeV

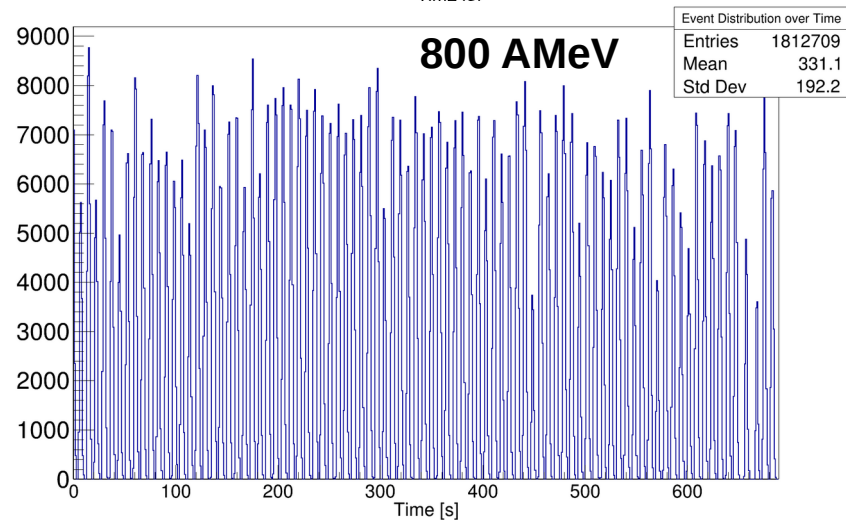


650 AMeV



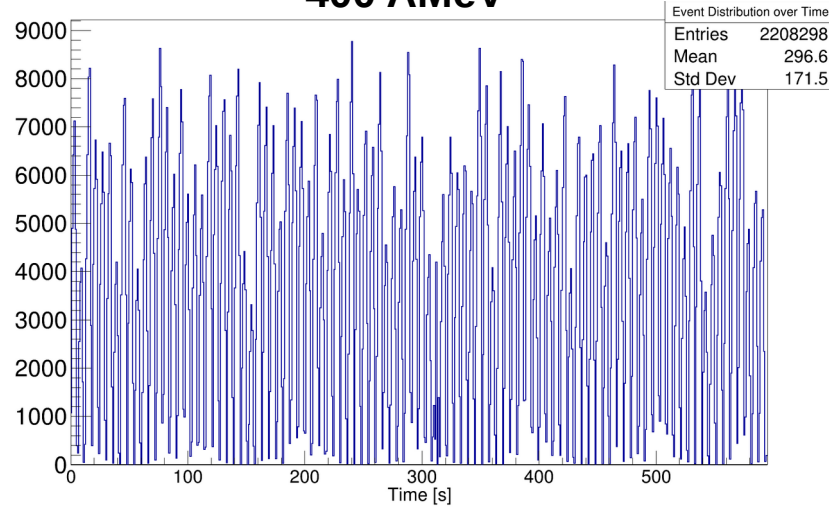
Binsize = 1 second

800 AMeV

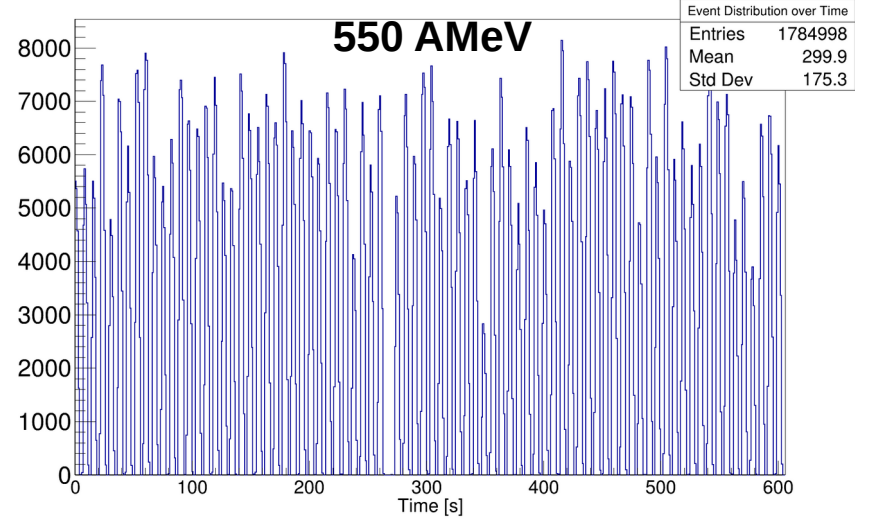


Empty runs

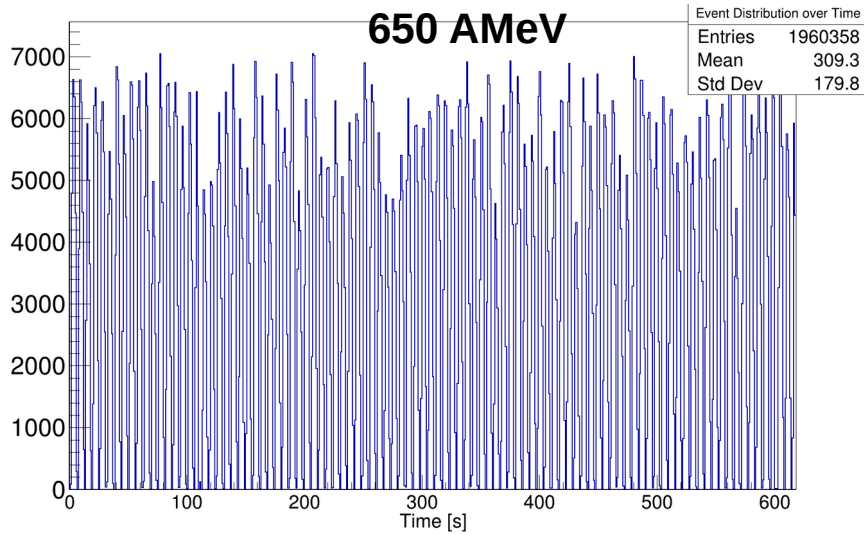
400 AMeV



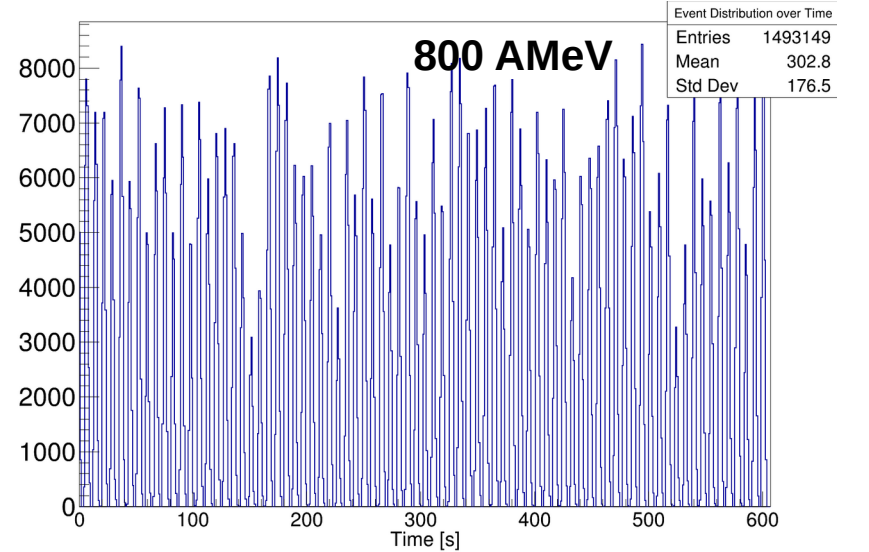
550 AMeV



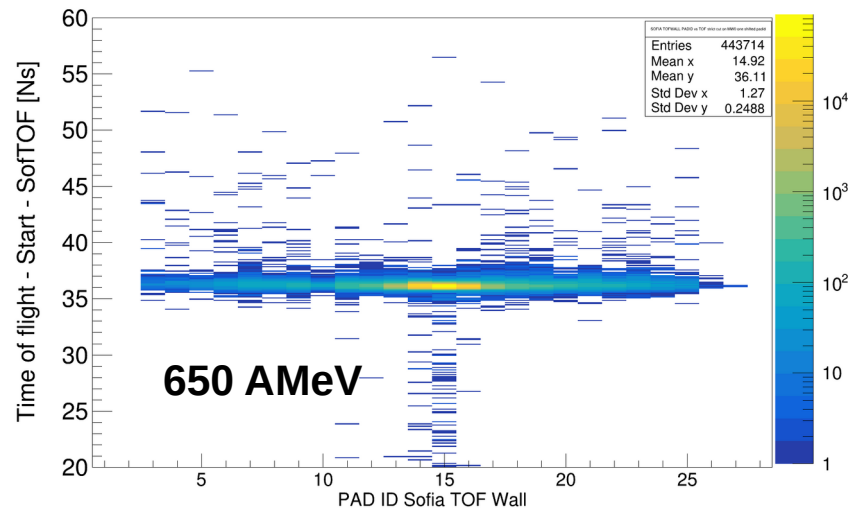
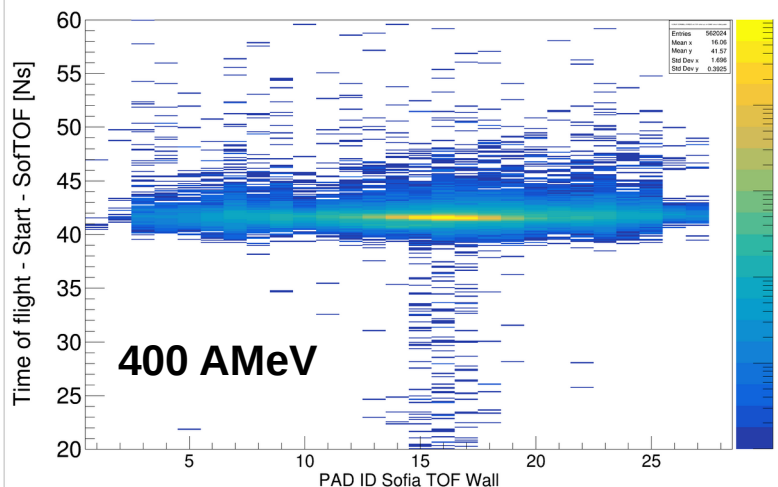
650 AMeV



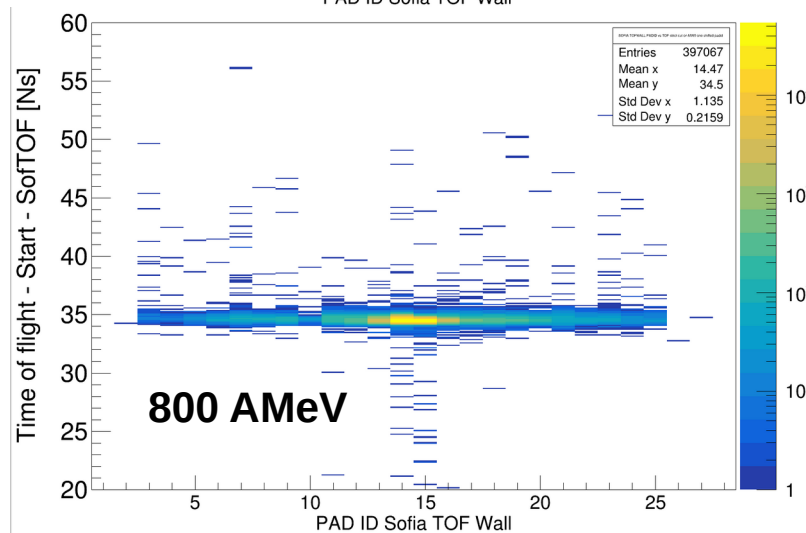
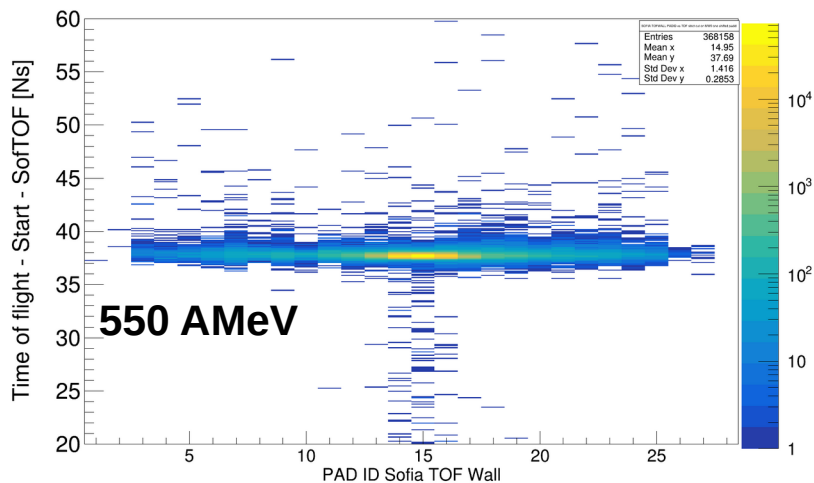
800 AMeV



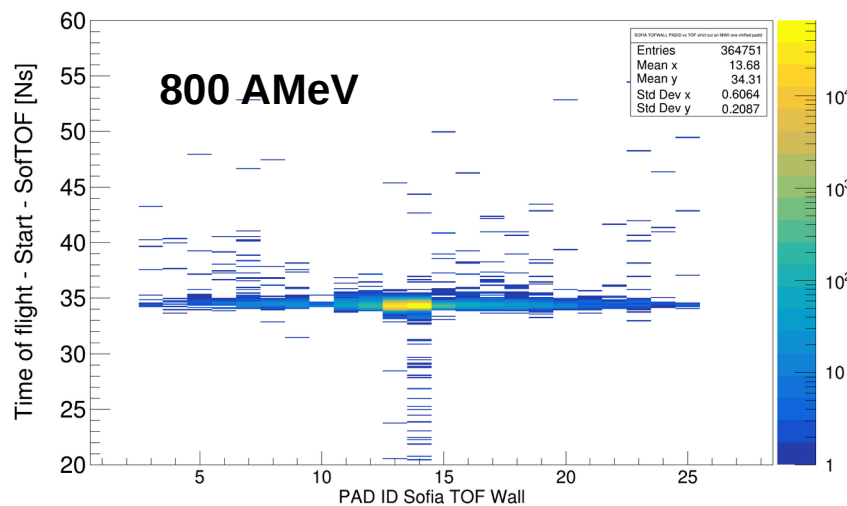
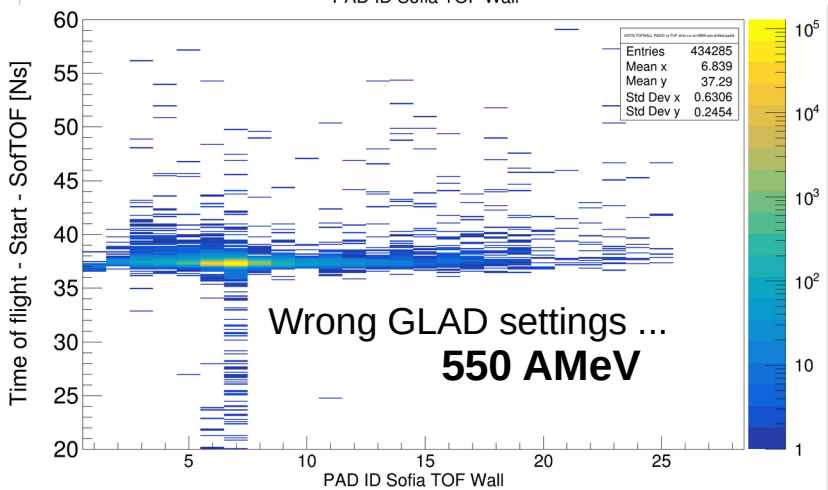
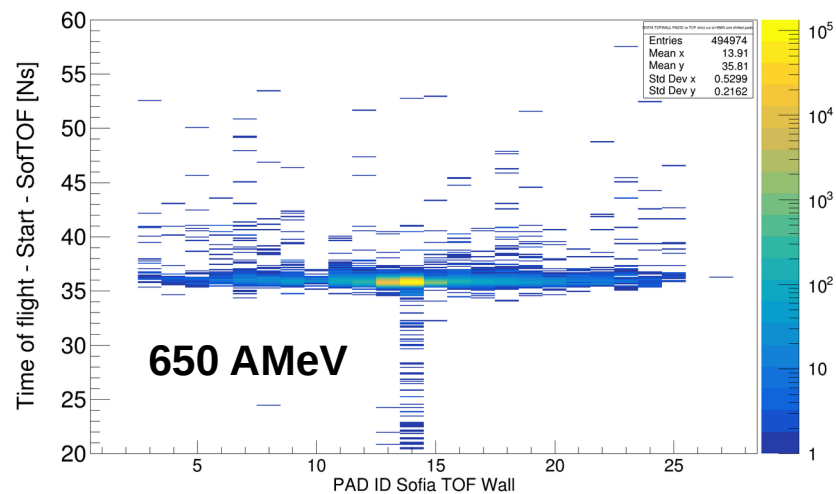
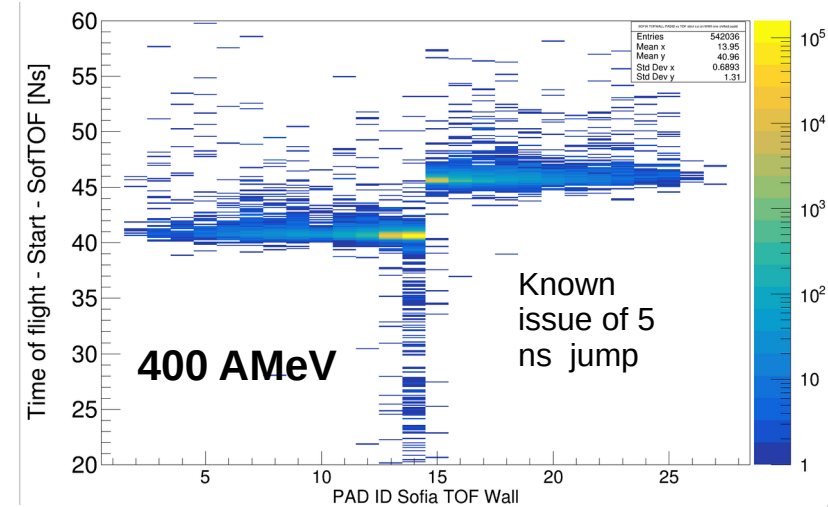
Q4: Have you plot TOF PadID vs time of flight? In S467 the beam was striking ROLU. This could affect measurements



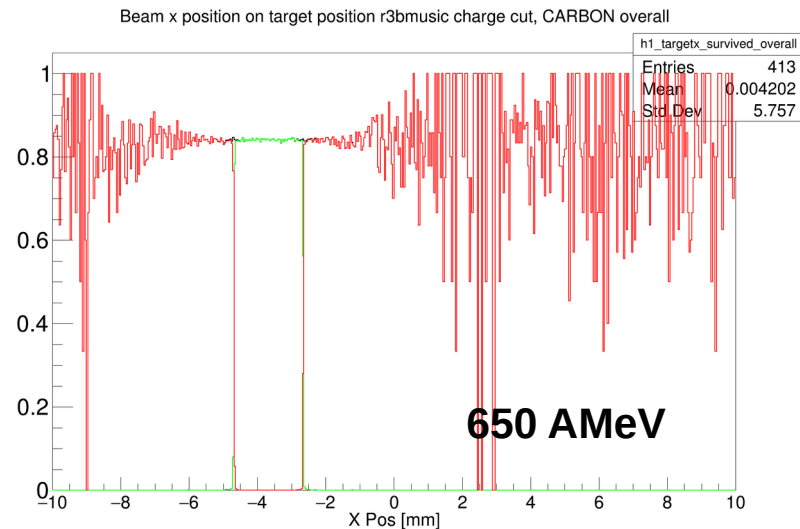
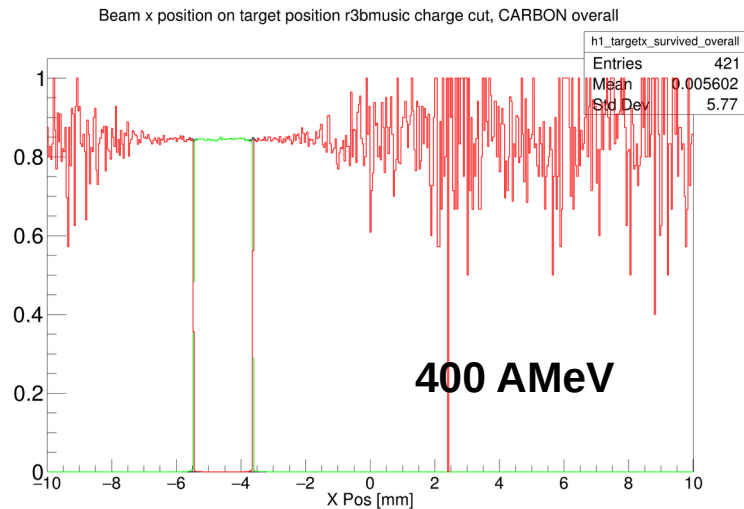
Applying strict cuts on charge of incoming ion and MW0 x-y cut



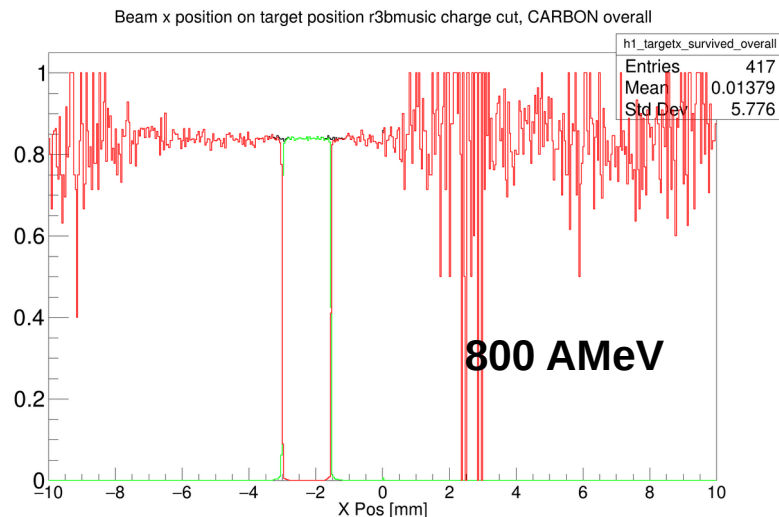
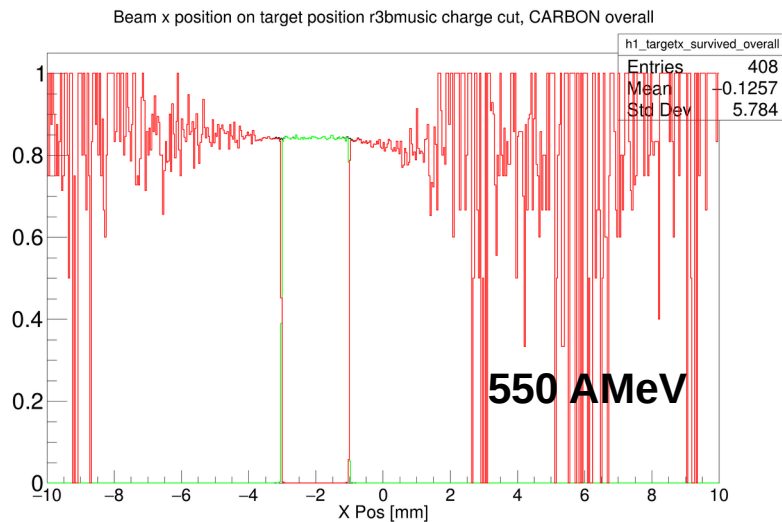
Empty runs



Ratio survived ions vs x position at target

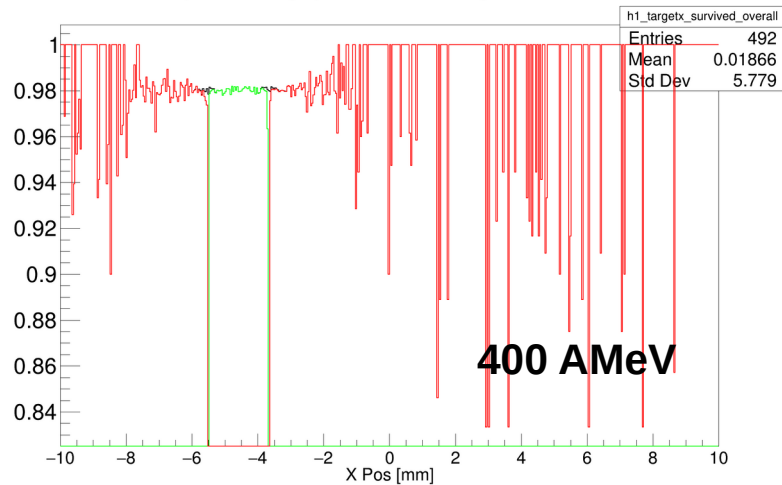


Red: ratio survived vs incoming carbon, outside MW0 -x cut
Green: ratio survived vs incoming carbon, inside MW0-x cut
Black: ratio survived vs incoming carbon both inside and outside MW0 -x cut (not well visible)

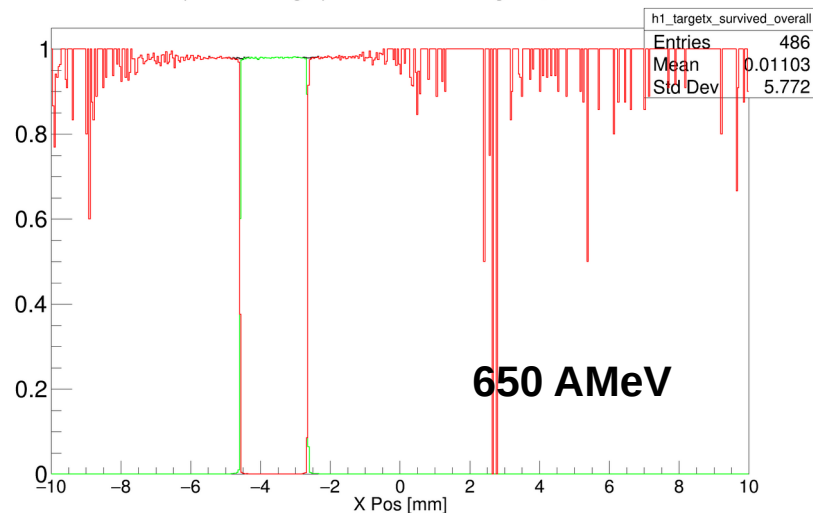


Empty runs:

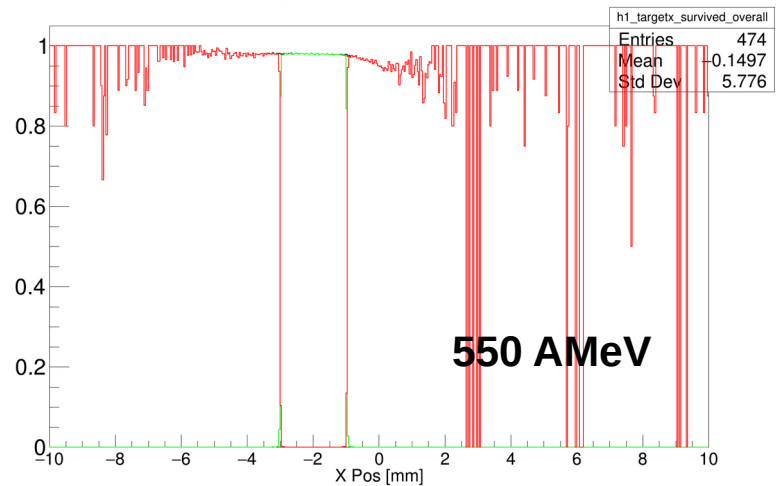
Beam x position on target position r3bmusic charge cut, CARBON overall



Beam x position on target position r3bmusic charge cut, CARBON overall



Beam x position on target position r3bmusic charge cut, CARBON overall



Beam x position on target position r3bmusic charge cut, CARBON overall

