

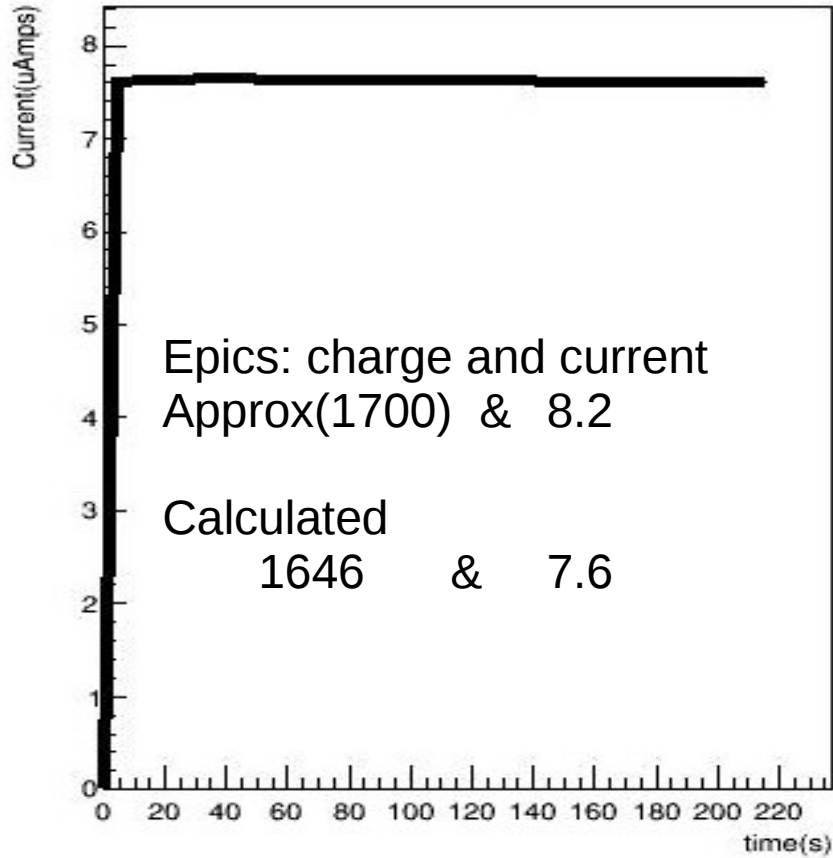
# Analysis Prep.

## Some small hints

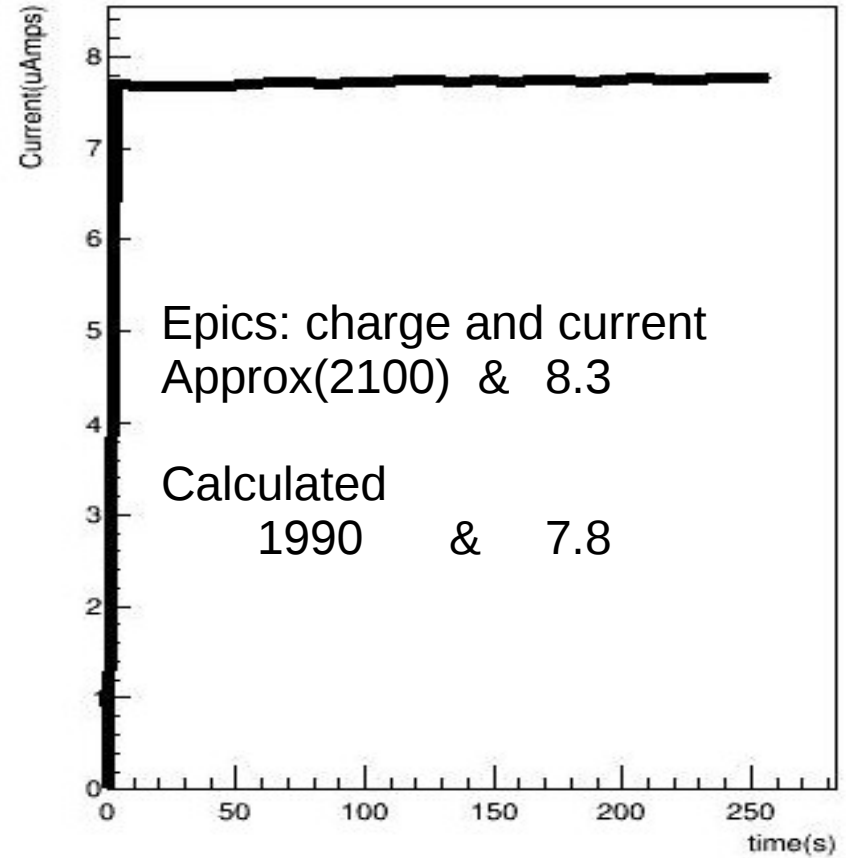
- Make sure to have the right coefficients (duh)!
- Scalar count rates are different for the different trees in the replayed root files.
- Tree(DVCS & GMP)
  - \*T for both Left and Right HRS have a rate of 103.4 kHz
  - EvRight has a rate of 1024 kHz

# Total Charge extraction!

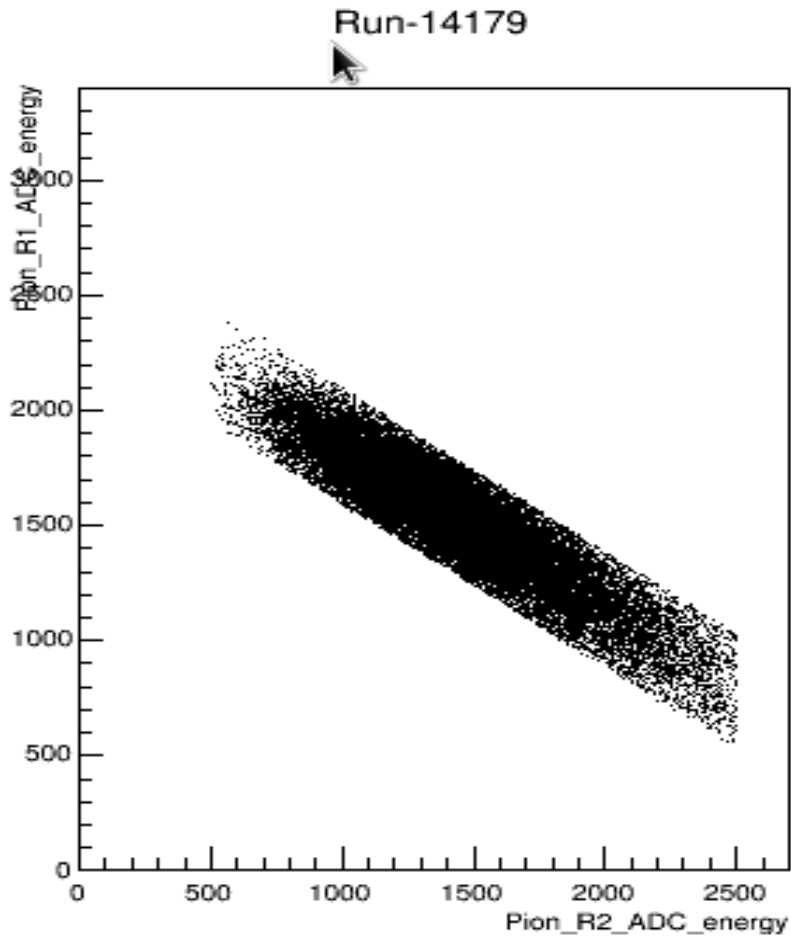
Run 14179



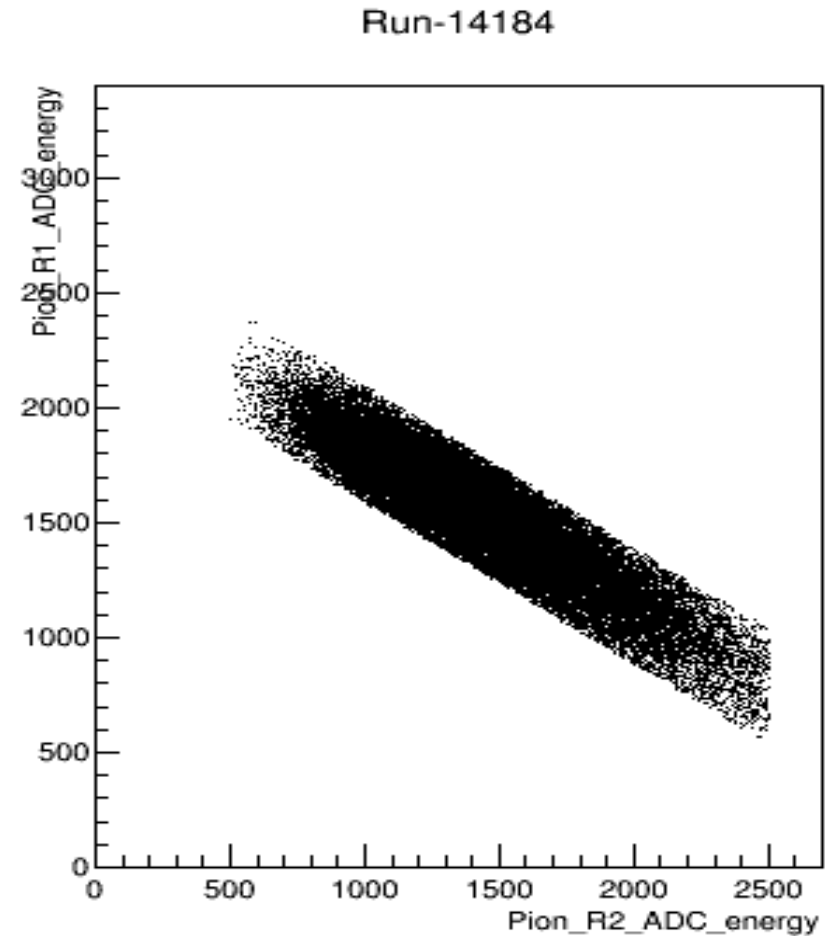
Run 14184



# Normalized yield:



Number of Good Electrons 29011  
Total number of Electrons  $1.02738 \times 10^{16}$   
Yield 17.65 e/uC or  $2.82 \times 10^{-12}$  e/e



Number of Good Electrons 42989  
Total number of Electrons  $1.24242 \times 10^{16}$   
Yield 21.63 e/uC or  $3.46 \times 10^{-12}$  e/e

# New Runs

1000	Base Run no scaling factor	No modification file.
1003	1.92	He3
1004	2.94	He4
1012	3.89	C12

The modification look up tables are made from data in Or Hen's paper.  
[arXiv:1304.2813](https://arxiv.org/abs/1304.2813)

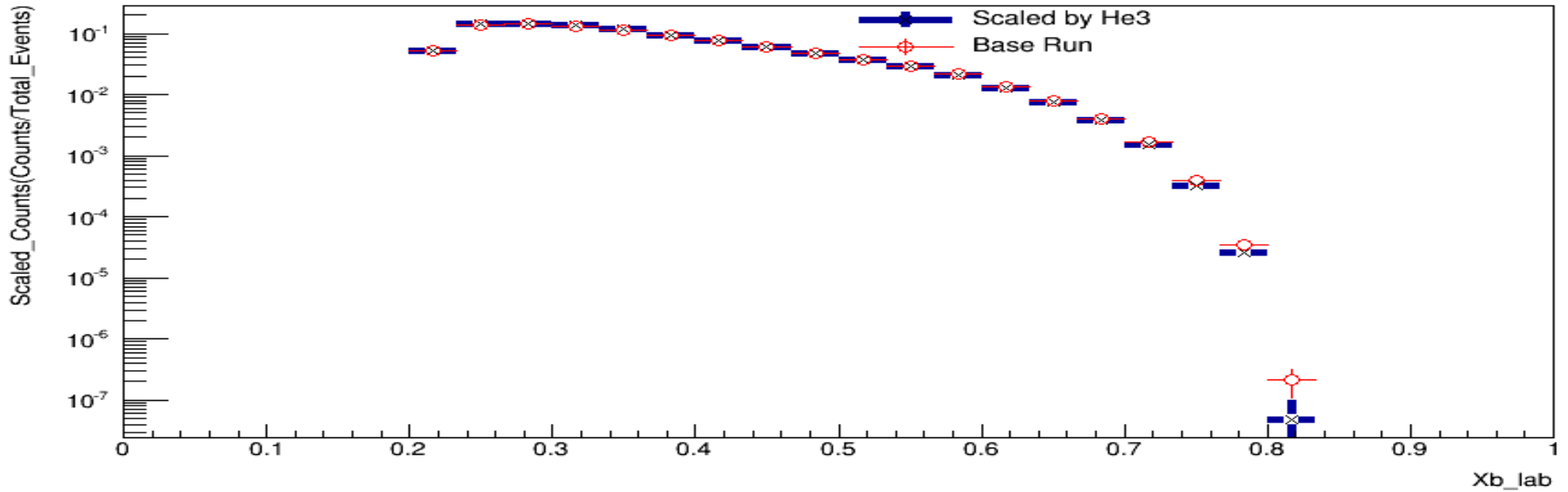
	E02-019	SLAC	CLAS	$R_{2N}$ -ALL	$a_2$ -ALL
$^3\text{He}$	$1.93 \pm 0.10$	$1.8 \pm 0.3$	–	$1.92 \pm 0.09$	$2.13 \pm 0.04$
$^4\text{He}$	$3.02 \pm 0.17$	$2.8 \pm 0.4$	$2.80 \pm 0.28$	$2.94 \pm 0.14$	$3.57 \pm 0.09$
Be	$3.37 \pm 0.17$	–	–	$3.37 \pm 0.17$	$3.91 \pm 0.12$
C	$4.00 \pm 0.24$	$4.2 \pm 0.5$	$3.50 \pm 0.35$	$3.89 \pm 0.18$	$4.65 \pm 0.14$
Al	–	$4.4 \pm 0.6$	–	$4.40 \pm 0.60$	$5.30 \pm 0.60$
Fe	–	$4.3 \pm 0.8$	$3.90 \pm 0.37$	$3.97 \pm 0.34$	$4.75 \pm 0.29$
Cu	$4.33 \pm 0.28$	–	–	$4.33 \pm 0.28$	$5.21 \pm 0.20$
Au	$4.26 \pm 0.29$	$4.0 \pm 0.6$	–	$4.21 \pm 0.26$	$5.13 \pm 0.21$

Table from [arXiv:1206.6343](https://arxiv.org/abs/1206.6343) on “A detailed study of the nuclear dependence of the EMC effect and short-range correlations” I used the  $R_{2N}$  values, which contains all measurements

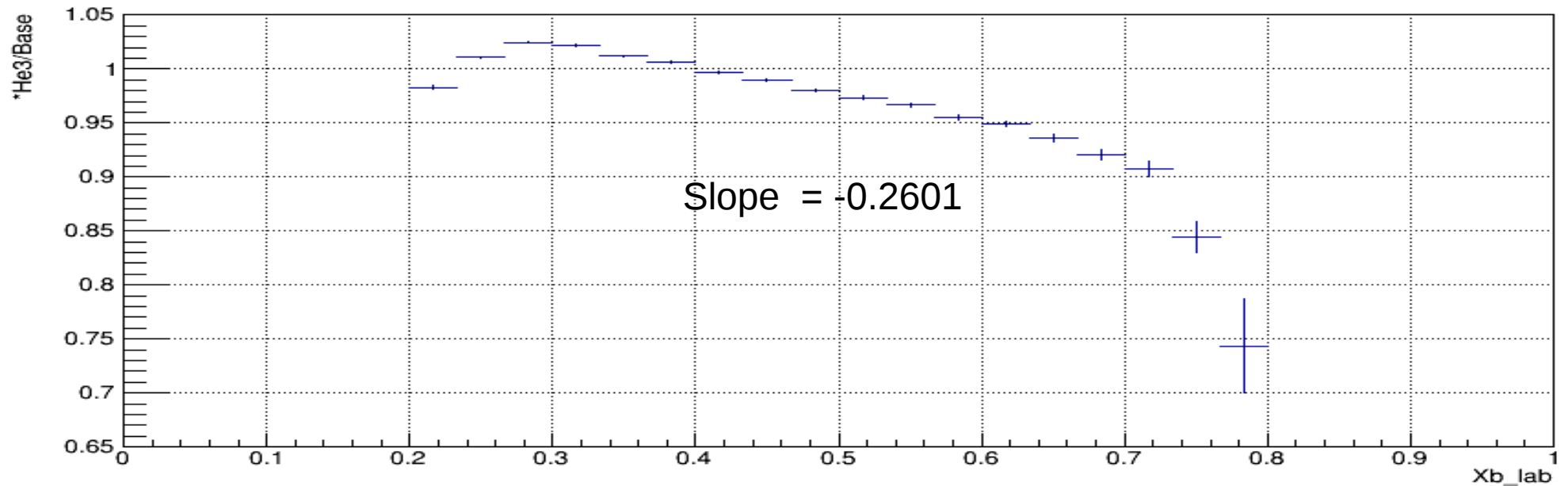
# Simulation results

- Fixing the scattering angle of the electron in the rest frame between 35 and 50 degrees to compare with results from Hall C exp.
- Making cuts in  $Q^2$  and  $W^2$  to match.
  - $2 \leq Q^2 \leq 5$
  - $W^2 \geq 1.5$
  - $\nu = E - E'$  ;  $0 \leq \nu \leq 5$

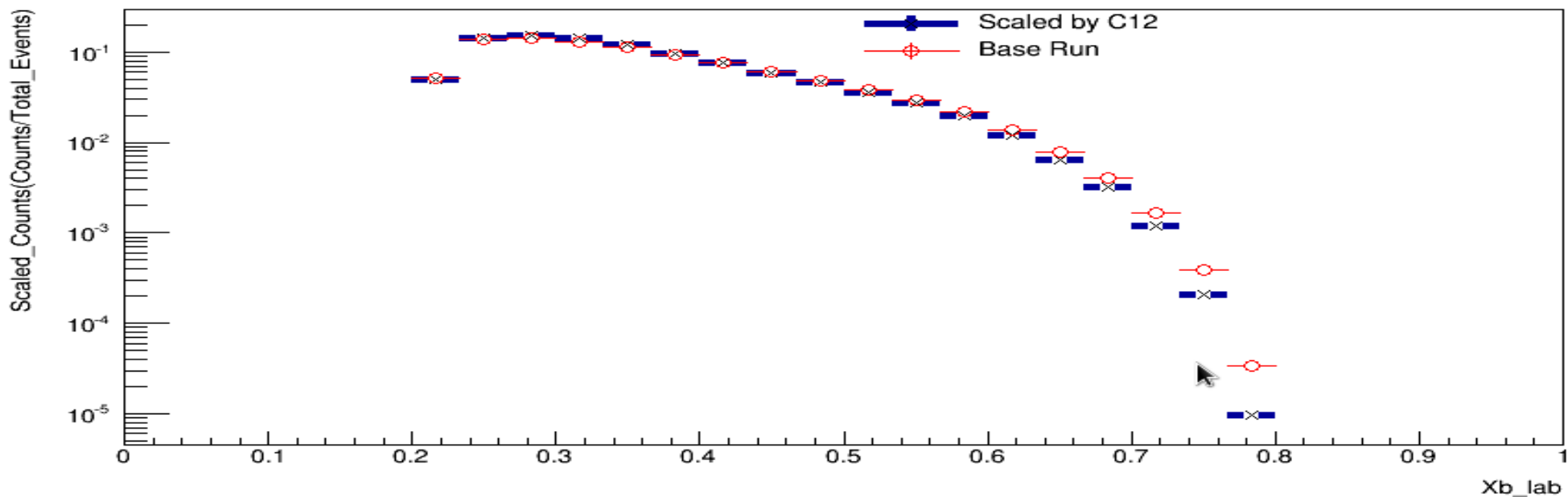
Counts in bins of Xb(F2 modified).



Ratio of the scaled by He3 run and the base run (F2 modified).



Counts in bins of Xb(F2 modified).



Ratio of the scaled by C12 run and the base run (F2 modified).

