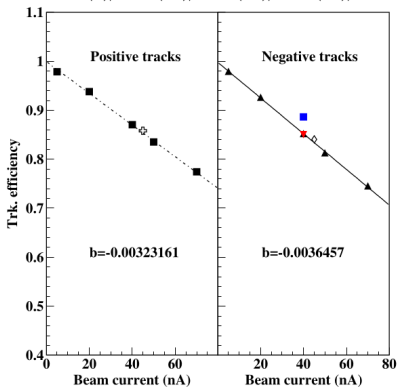
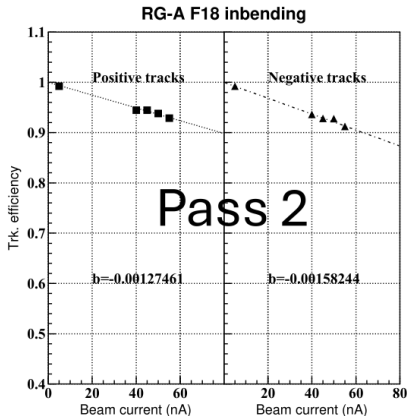


Runs 5443(5)/5444(20)/5453(40)/5543(50)/5595(70)

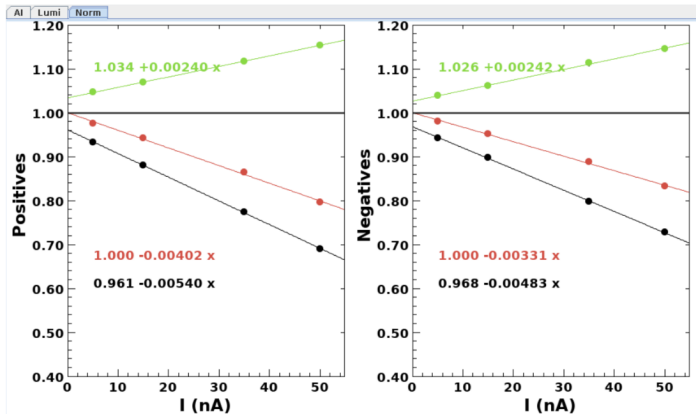


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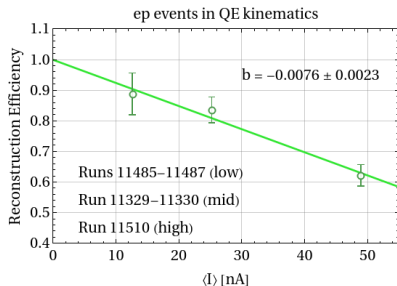
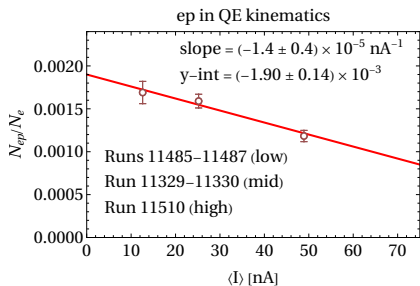
## RGB Pass 2 Review



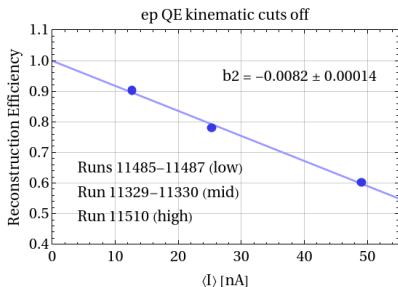
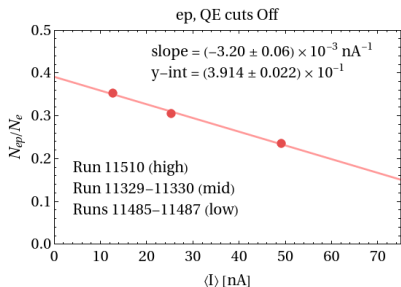
Normalized yields  
of  $e h^{+/-}$

**Conventional**  
**AI-assisted**  
**Ratio**

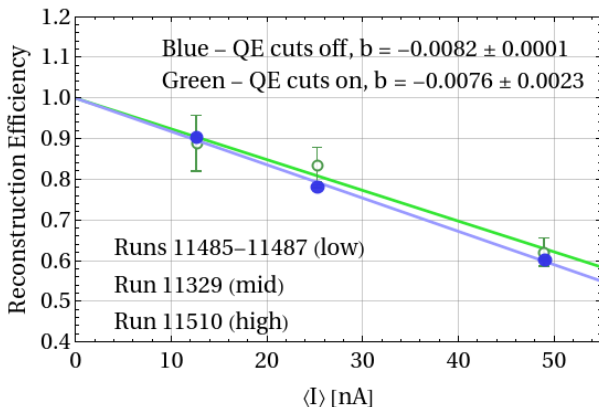
RGB  $N_{ep}/N_e$  luminosity dependence with QE cuts on - beam energy calculated from particle angles,  $\theta_{pq}$ , and  $\Delta\phi$ .



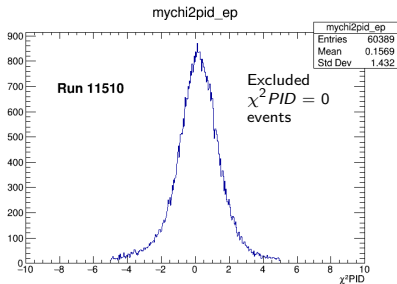
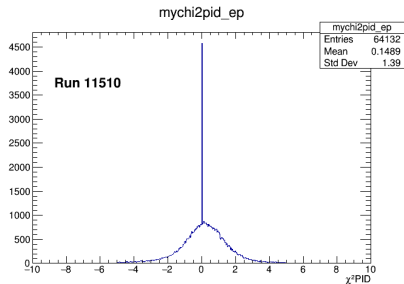
RGB  $N_{ep}/N_e$  luminosity dependence with QE cuts off - dropped cuts on beam energy calculated from particle angles,  $\theta_{pq}$ , and  $\Delta\phi$ .



RGB  $N_{ep}/N_e$  luminosity dependence with QE cuts on/off.



To be consistent with CLAS12-NOTE 2020-005 and recent work.



The value of  $\chi^2PID$  is the number of  $\sigma$  away from the expected vertex time for the best hypothesis  $d/p/K/\pi$  for a positive track PID.

From CLAS12-NOTE 2020-005

- 1  $p_{\pm} > 0.4 \text{ GeV}/c$
- 2  $|\chi^2_{PID}| < 5, |\chi^2| < 10|$
- 3 Reject tracks with FTOF Panel 2 - don't see any.
- 4 Vertex  $-15 < v_z < 5 \text{ cm}$  in RGA. RGB had  $-13 < v_z < 12 \text{ cm}$  for inbending.
- 5 fiducial cuts

- 1 Continue testing cuts from CN 2020-005 to the impact on the reconstruction efficiency slope.
- 2 Contact Silvia to find out more about the cuts used for the Pass 2 review. Was AI used?
- 3 Add more beam current points.



- 1 Use NB method to get the current at frequent intervals - Get ungated Faraday cut reading in RUN::config bank which records integrated current since last time the bank was written out.
- 2 Get the timestamp from Trigger Interface board in RUN::config.
- 3 Divide by the time since the last recording of RUN::config bank.
- 4 Require the current exceed a threshold of 1 nA to remove beam trips.