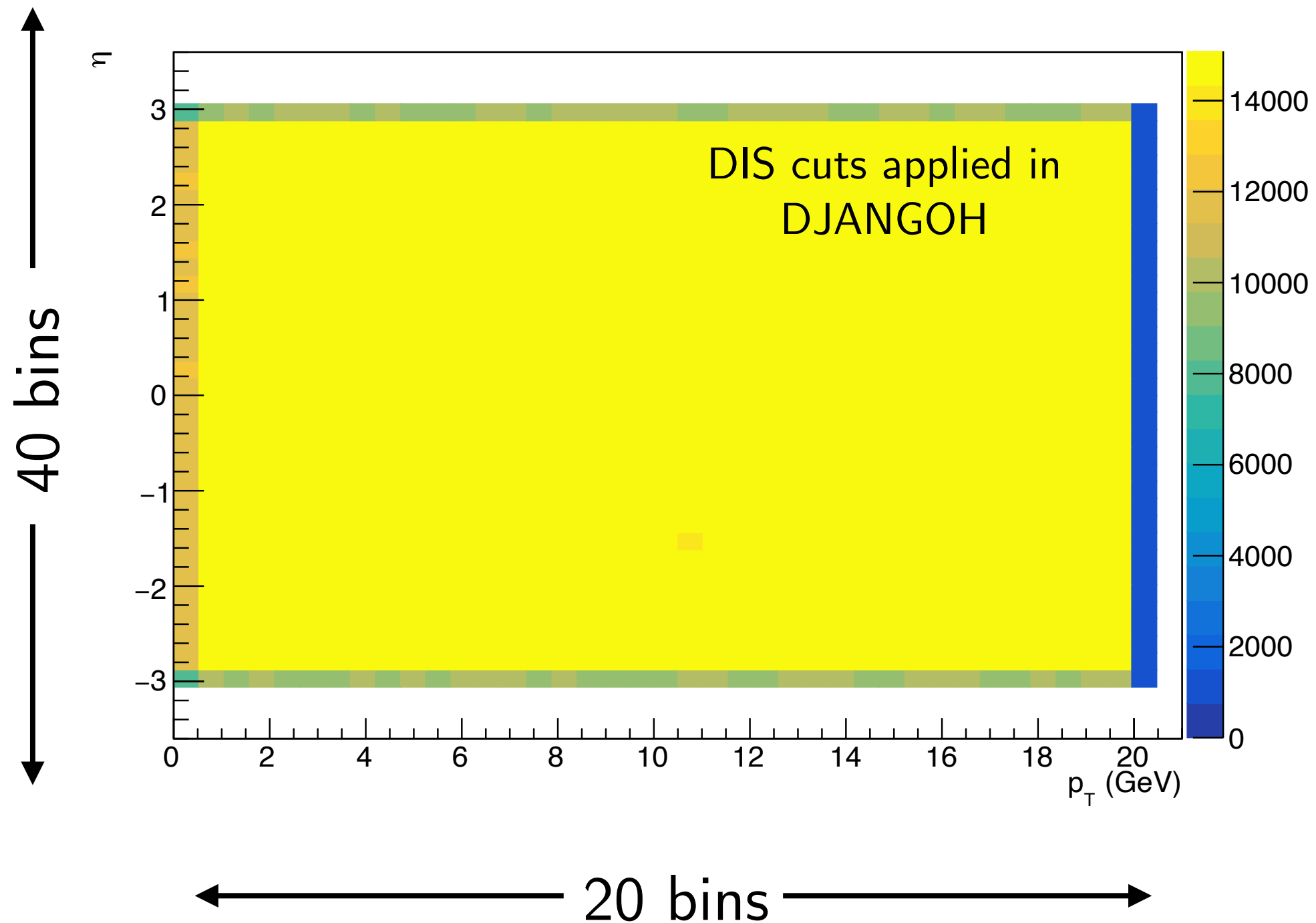


Simulation coverage

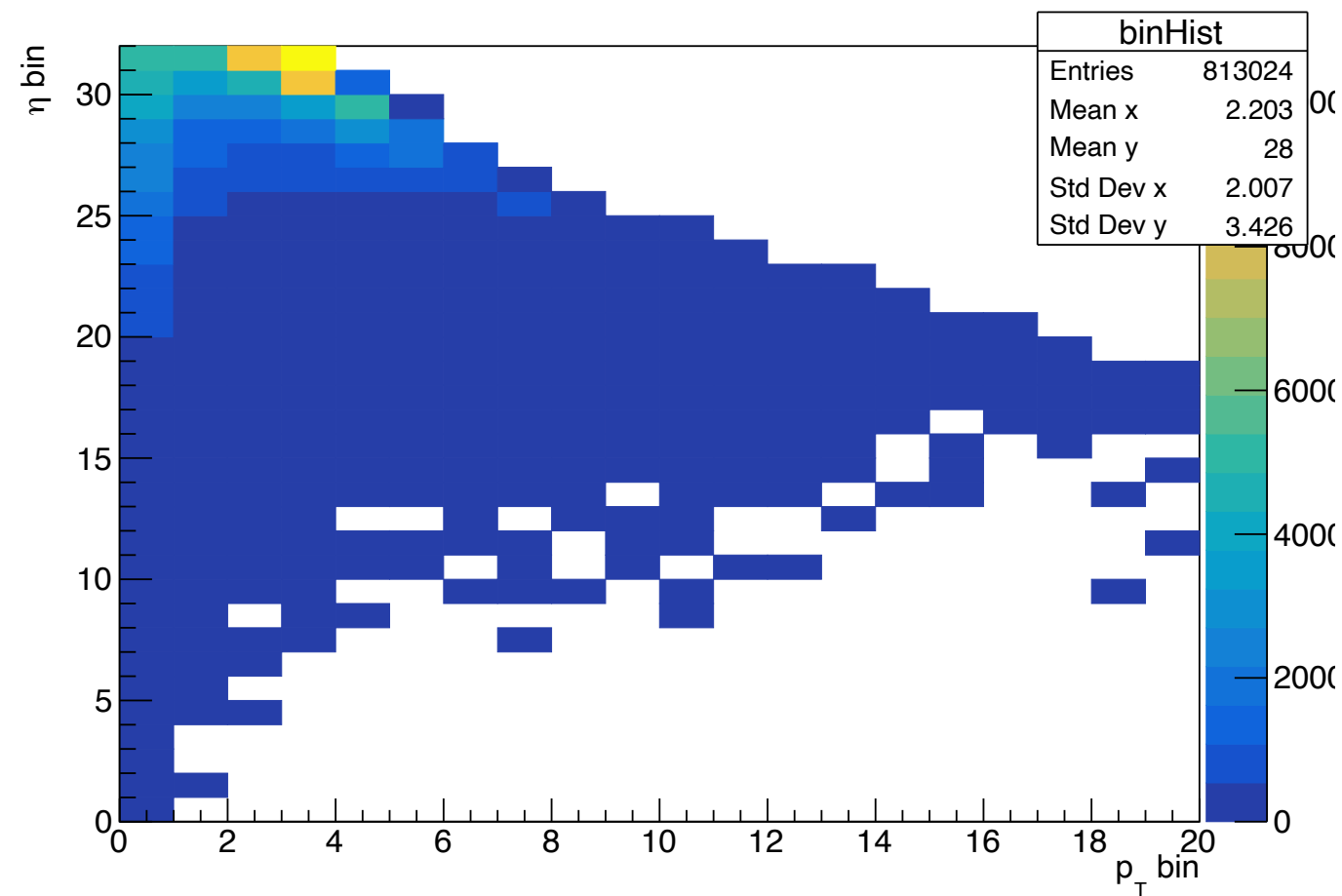
- Simulated nearly 20M electron events in fun4all
- Approximately 20-25k events/bin



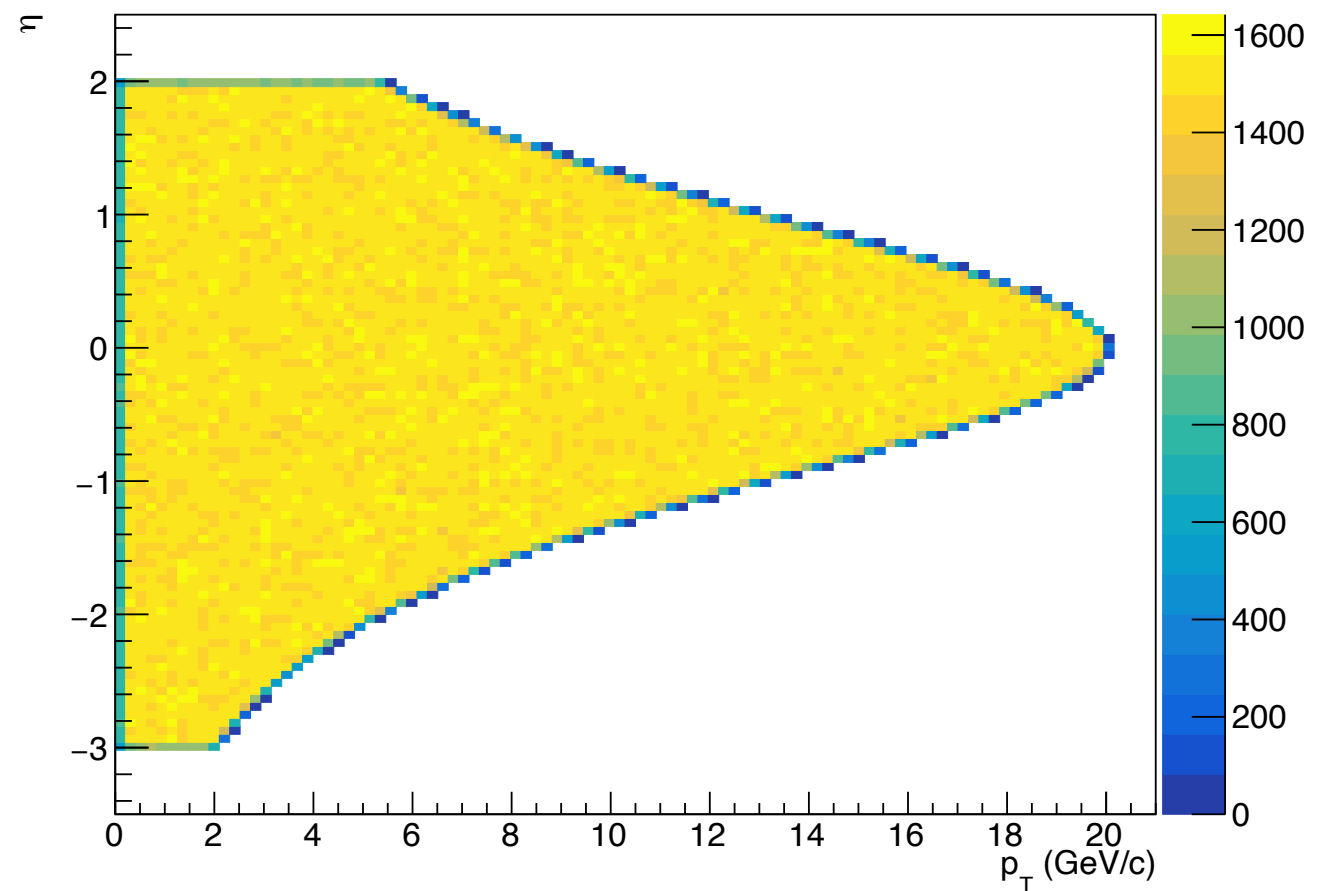
Smearing histograms

- For each (η, p_T) bin, create smearing histograms:
 - $\delta p = p_{rec} / p_{gen}$
 - $\Delta\theta = \theta_{rec} - \theta_{gen}$
 - $\Delta\phi = \phi_{rec} - \phi_{gen}$
- Save smearing histograms to ROOT file and implement sampling program for generate_tree

Sampled bins



Bins sampled from
DJANGO events

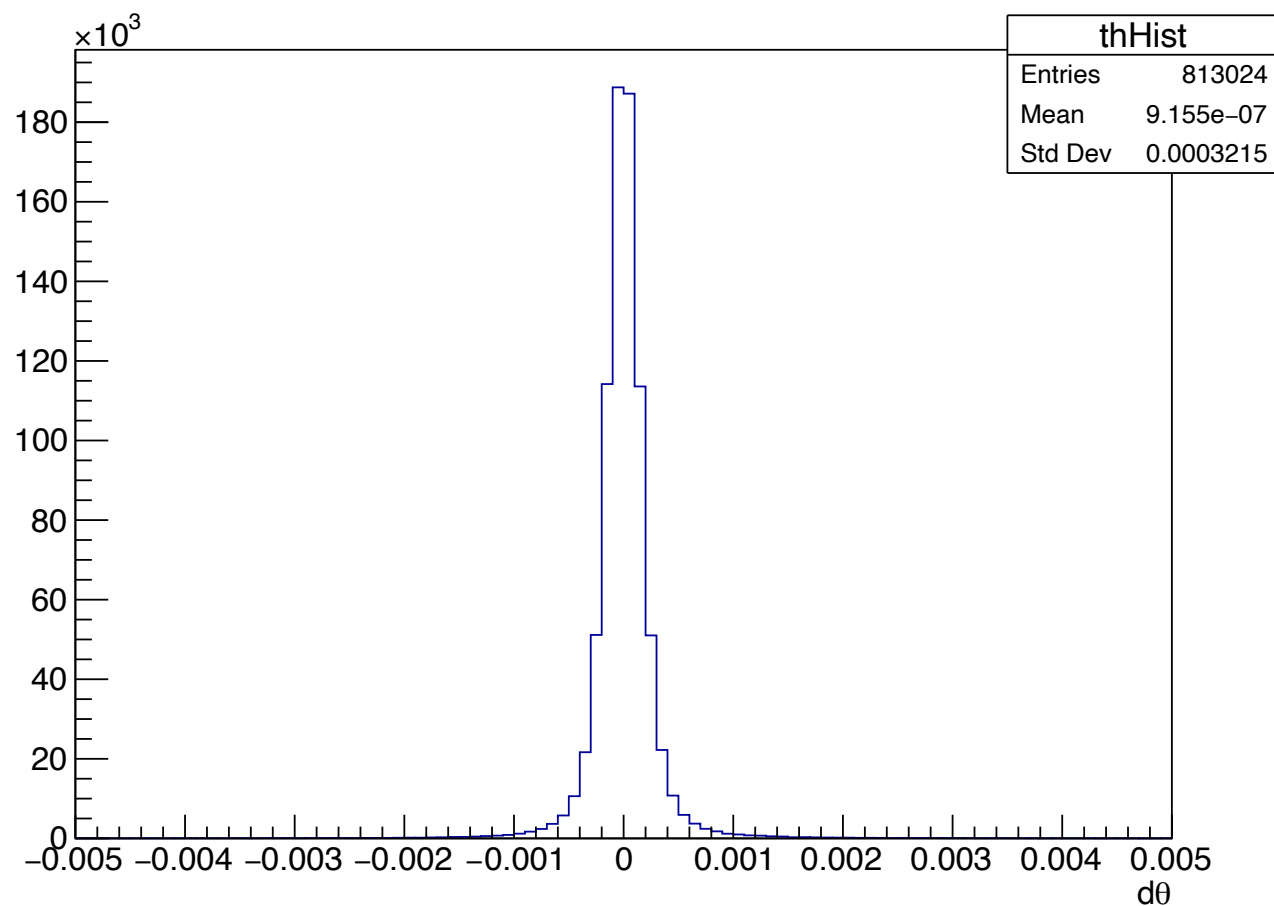
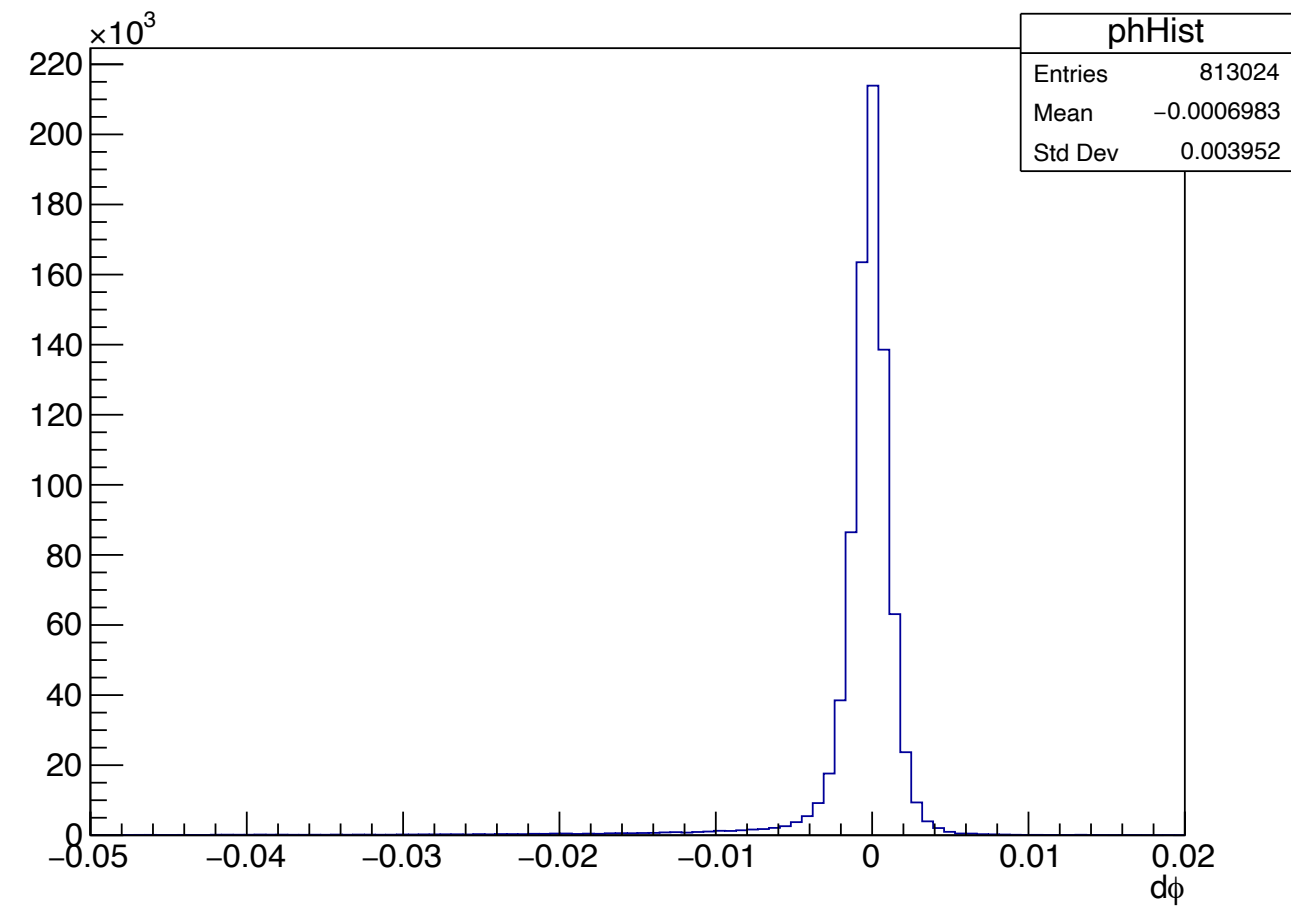
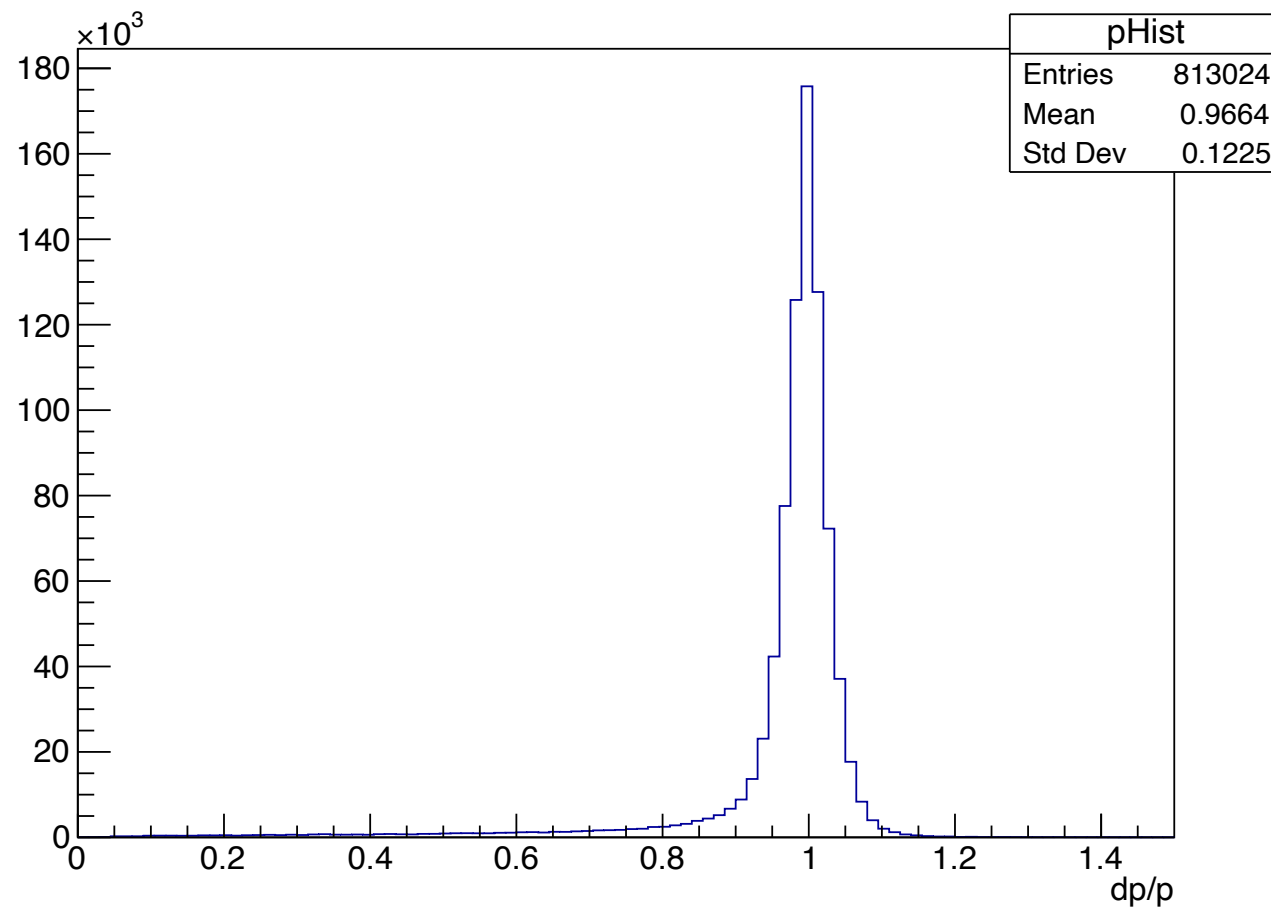


Simulated kinematics with:

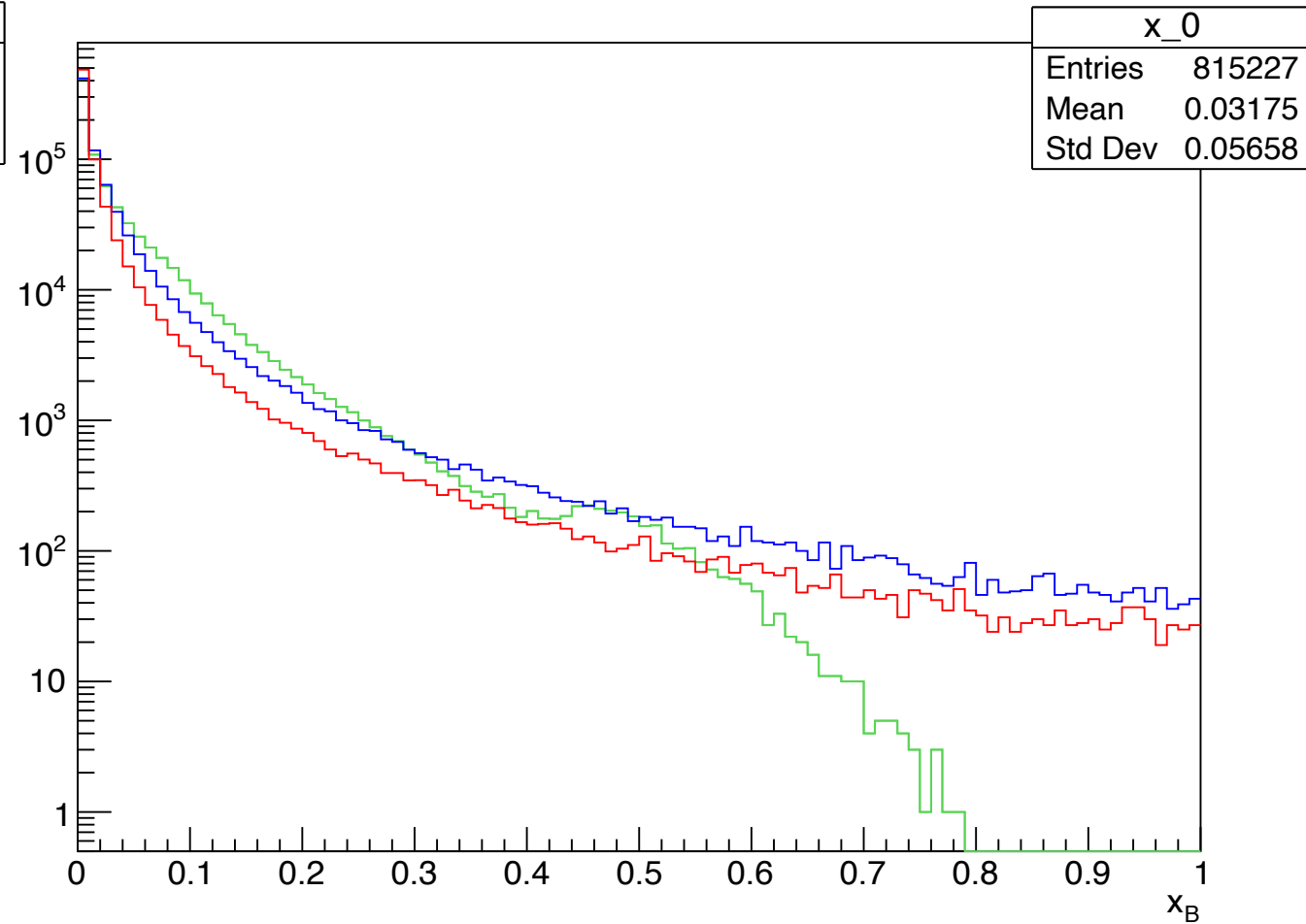
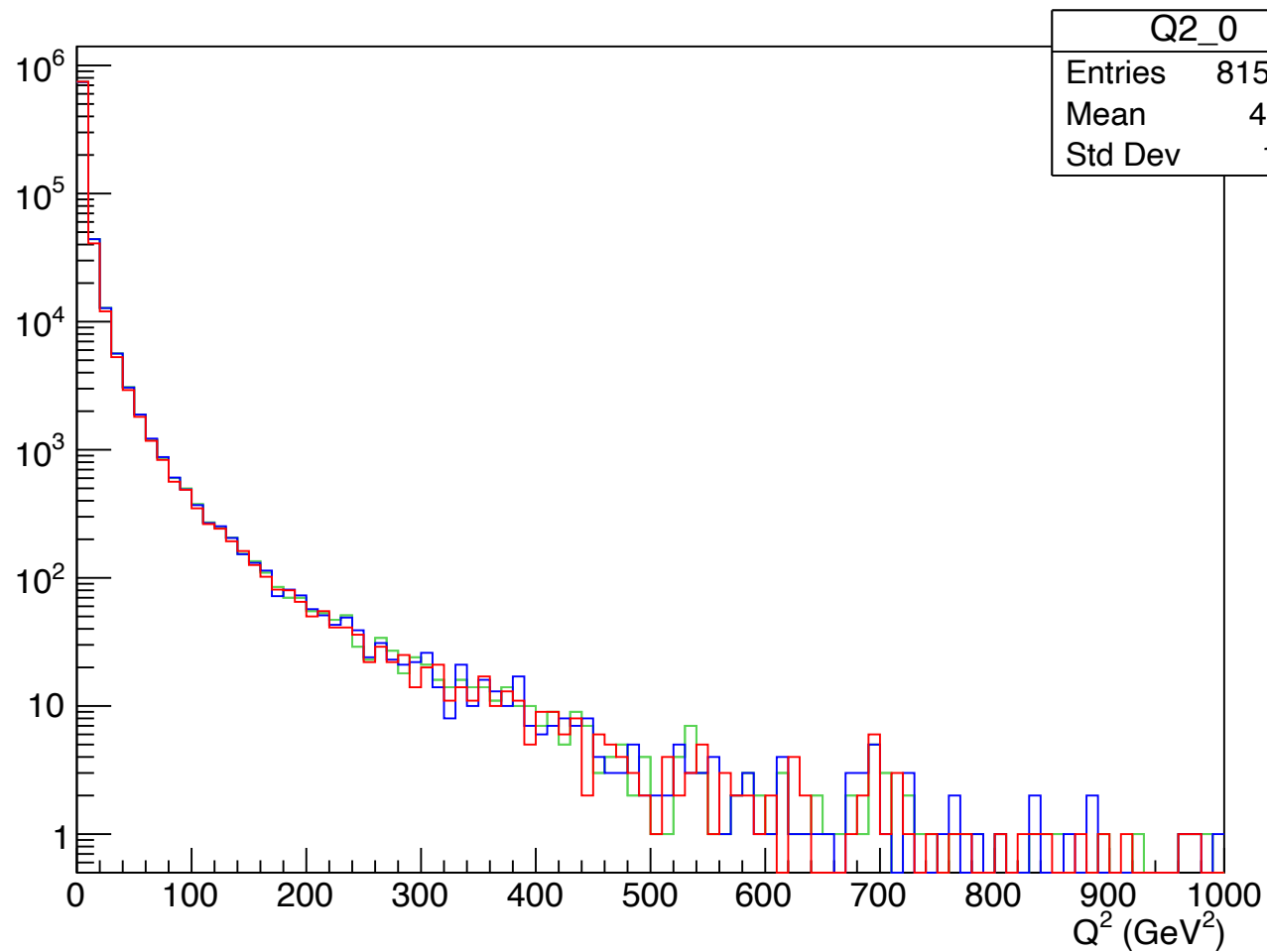
$$0 < |p| < 20 \text{ GeV/c}$$

$$-3 < \eta < 2$$

Smearing values



Results on x, Q^2



- No smearing
- Smearing with resolutions (original)
- Smearing with 3D histograms

Next

- Run `generate_tree` for all beam configurations
- Start plotting physics