# Matt Murphy

Weekly Meeting Oct. 26

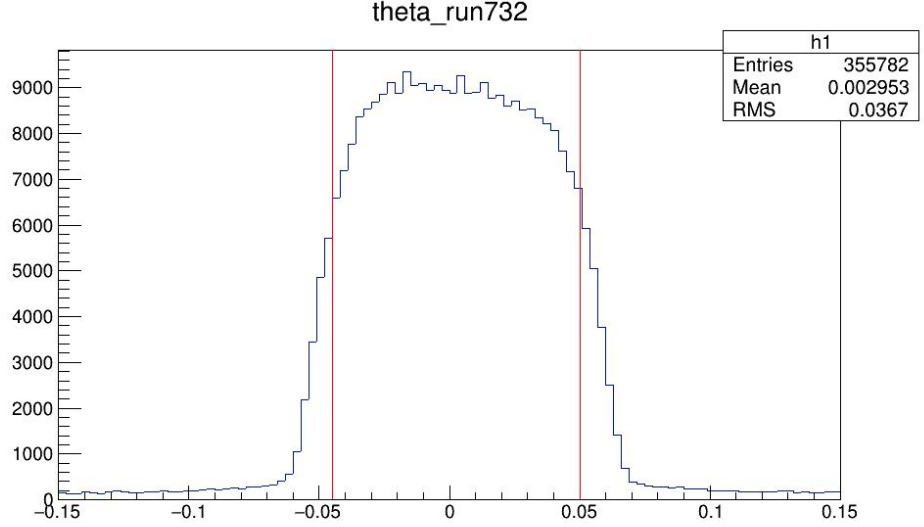
# Acceptance Cuts

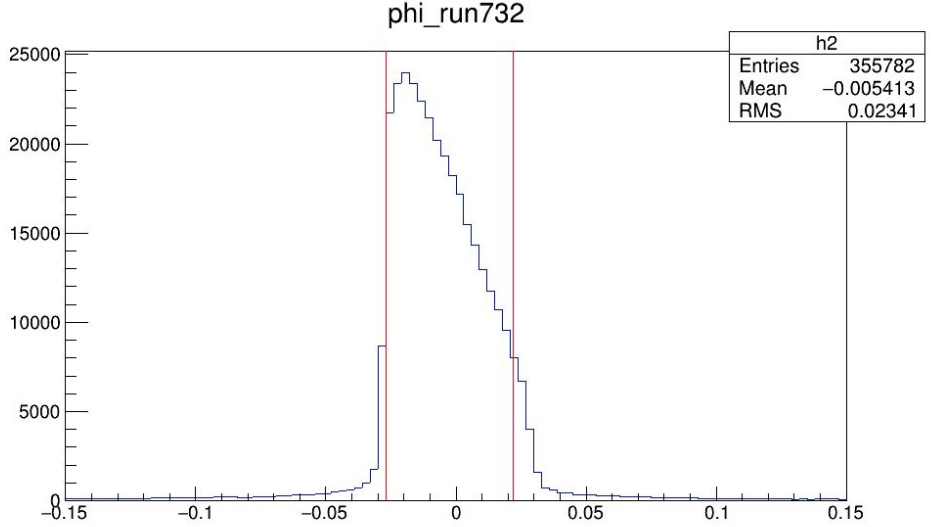
Trigger: T3: (S0&&S2) && (GC||PR)

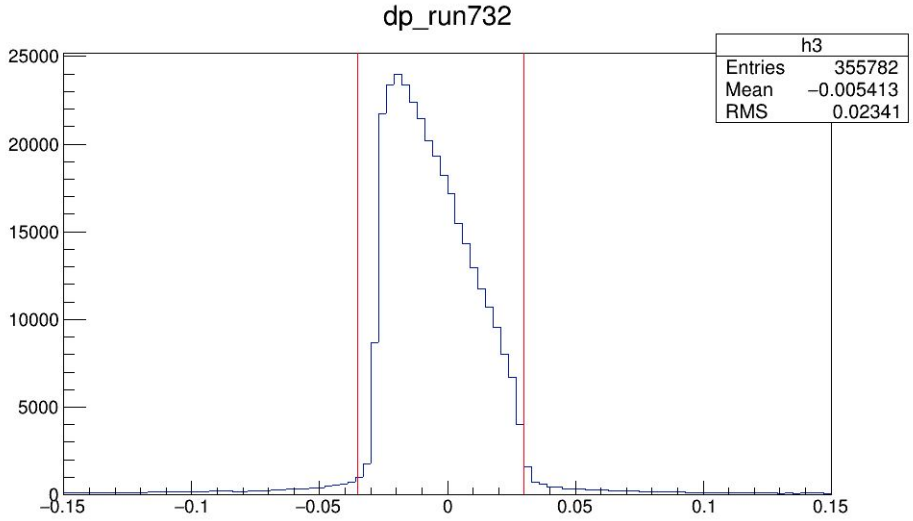
One-track events only

Carbon acceptance cuts as a starting point:

- θ: [-0.045, 0.05]
- φ: [-0.027, 0.022]
- dp: [-0.035, 0.03]


theta_run732
h1
Entries 355782
Mean 0.002953
RMS 0.0367


phi_run732
h2
Entries 355782
Mean −0.005413
RMS 0.02341


dp_run732
h3
Entries 355782
Mean −0.005413
RMS 0.02341

# Calorimeter efficiency

After acceptance cuts, choose a good sample of Cherenkov events (L.cer.asum_c>800) and see how many are also recorded by the calorimeter.

Efficiency = $n_{calo}/n_{sample}$

At E/p=0.7, the results are:

| Run # | 728 | 732 | 737 | 741 | 746 | 749 | 754 | 757 | 762 |
|---|---|---|---|---|---|---|---|---|---|
| Efficiency | .9947 | .9951 | .9953 | .9954 | .9955 | .9945 | .9950 | .9944 | .9943 |

# Cherenkov Efficiency

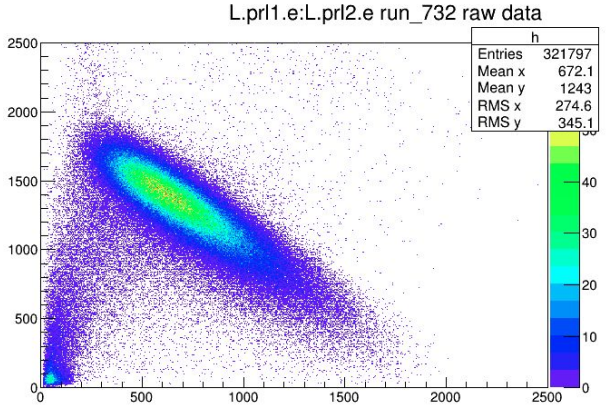
After acceptance cuts, select a good sample of events in the calorimeter (example on next slide), and see how many are recorded by the Cherenkov detector.

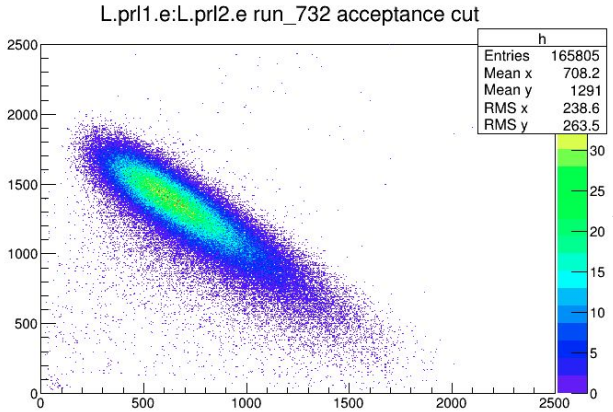
Efficiency = $n_{cher}/n_{sample}$

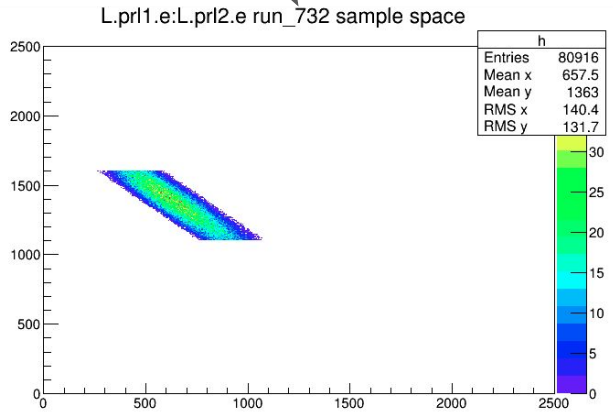
$n_{cher}$ = events with L.cer.asum_c > 500

| Run # | 728 | 732 | 737 | 741 | 746 | 749 | 754 | 757 | 762 |
|---|---|---|---|---|---|---|---|---|---|
| Efficiency | .9989 | .9987 | .9985 | .9983 | .9984 | .9983 | .9983 | .9983 | .9980 |

# Selecting calorimeter sample




Diagonal cuts: 0.95<E/p<1.05
Horizontal cuts: Made by eye to give ~70k-90k events in the sample space.