

PID cuts for $Q_2 = 1.6, W = 3.08$

F_π test vs changing $-t_{\min}$

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Run lists: $Q2 = 1.6$, $W = 3.08$, Target = LH2

(2022)Low Epsilon

SHMS Center ($\theta = 5.50$)

- ◆ 16403 - 16405
- ◆ 16408 - 16417

Dummy Runs ($\theta = 5.50$)

- ◆ 16418 - 16420

Acceptance cuts

```
H.hod.goodstarttime == 1 &&
```

```
H.gtr.dp > -8 && H.gtr.dp < 8 &&
```

```
H.gtr.th > -0.08 && H.gtr.th < 0.08 &&
```

```
H.gtr.ph > -0.045 && H.gtr.ph < 0.045 &&
```

```
P.hod.goodstarttime == 1 &&
```

```
P.gtr.dp > -10 && P.gtr.dp < 20 &&
```

```
P.gtr.th > -0.06 && P.gtr.th < 0.06 &&
```

```
P.gtr.ph > -0.04 && P.gtr.ph < 0.04
```

Cointime cuts

```
CTime.ePiCoinTime_ROC1 > -2 && CTime.ePiCoinTime_ROC1 < 2
```

- Have Not applied the cointime prompt peak shift yet.

PID cuts

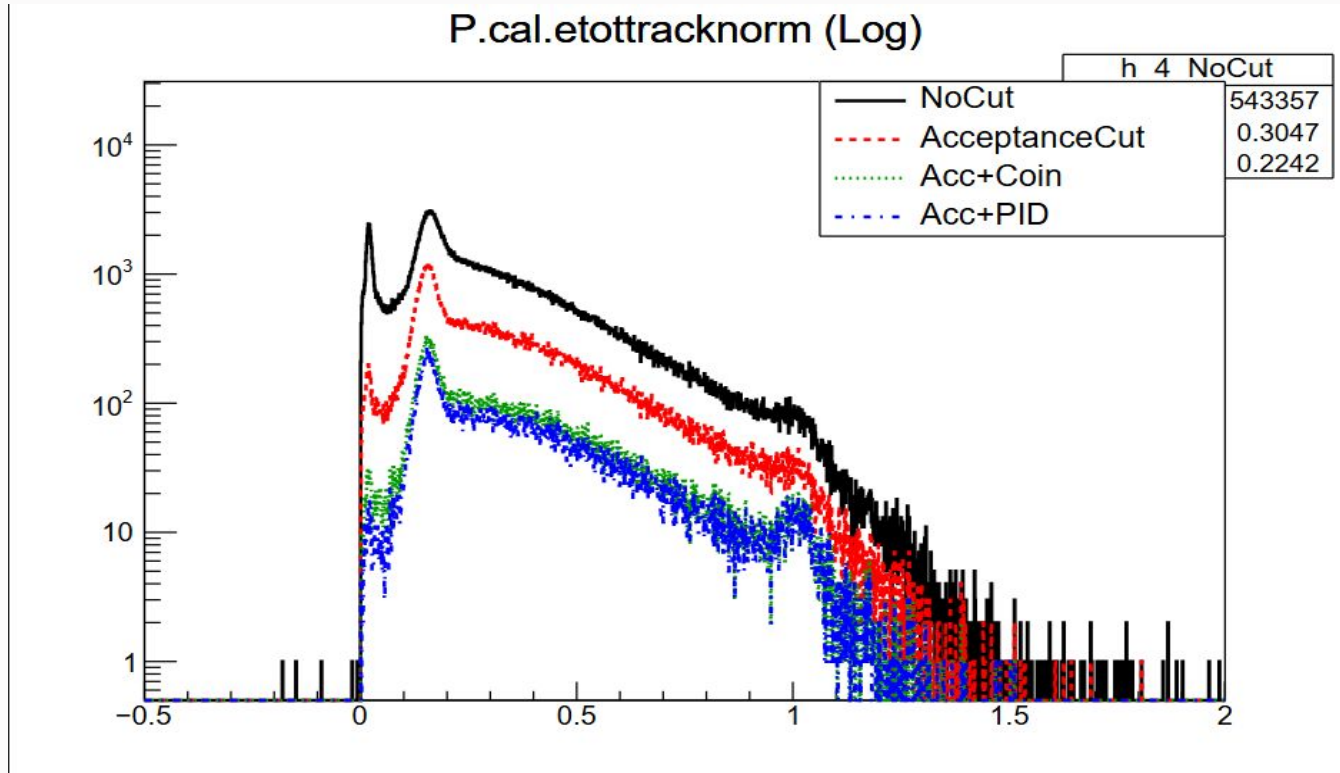
```
H.cer.npeSum > 1.5 &&
```

```
H.cal.etottracknorm > 0.7 &&
```

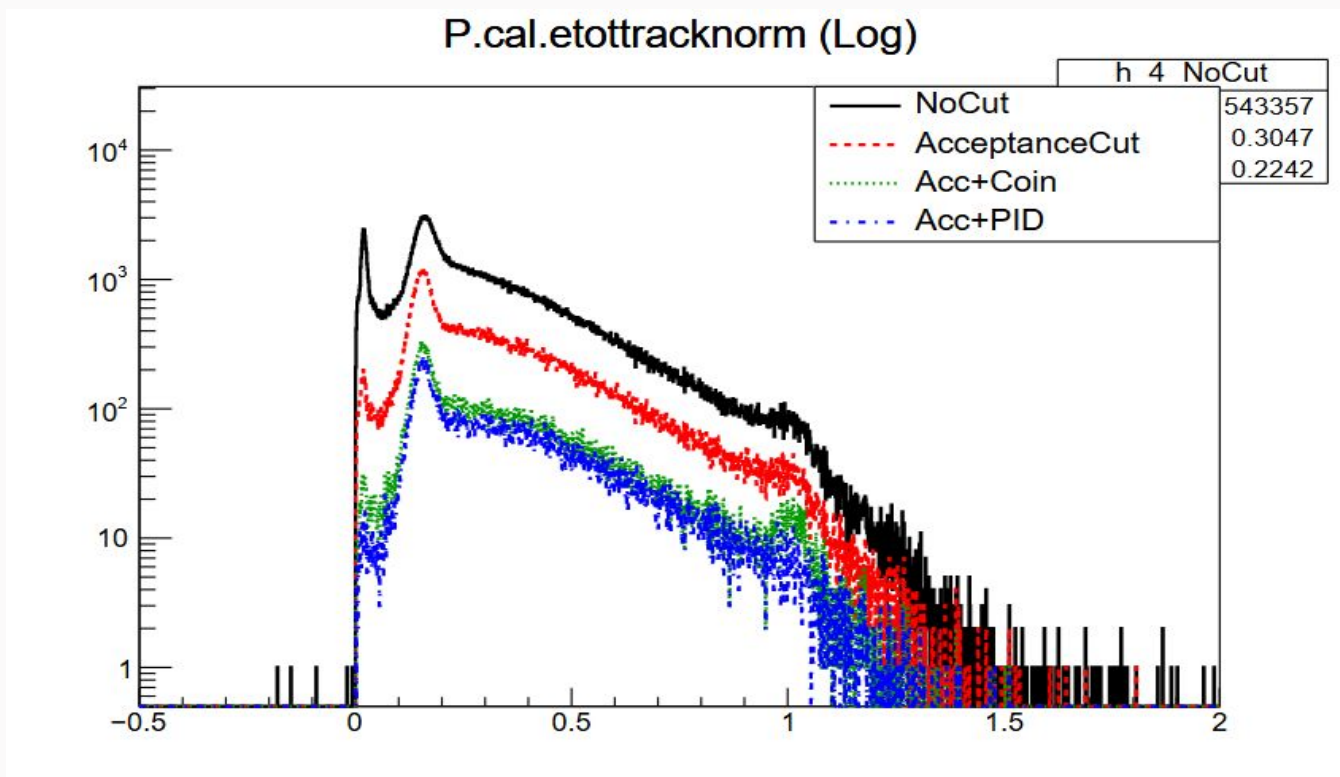
```
P.aero.npeSum > 0.1 &&
```

```
P.hgcer.npeSum > 0.1
```

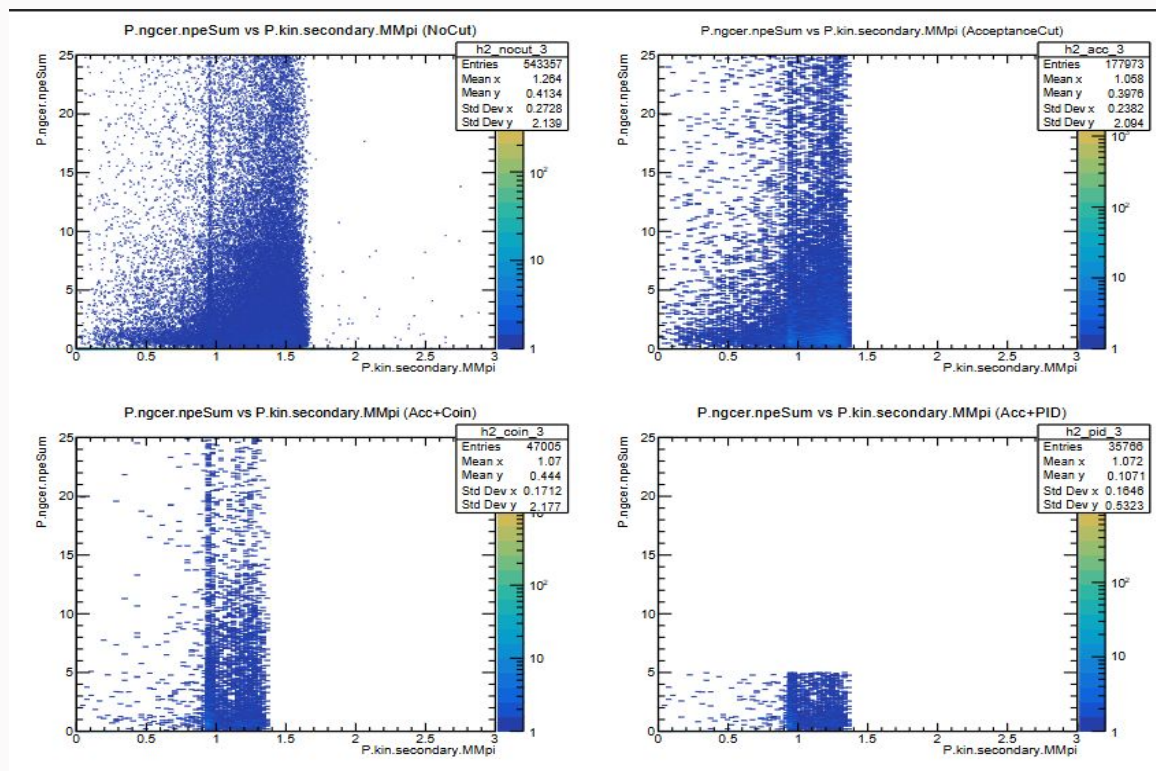
P.cal without any cut on nger



P.cal along with a cut of `P.ngcer.npeSum < 5`

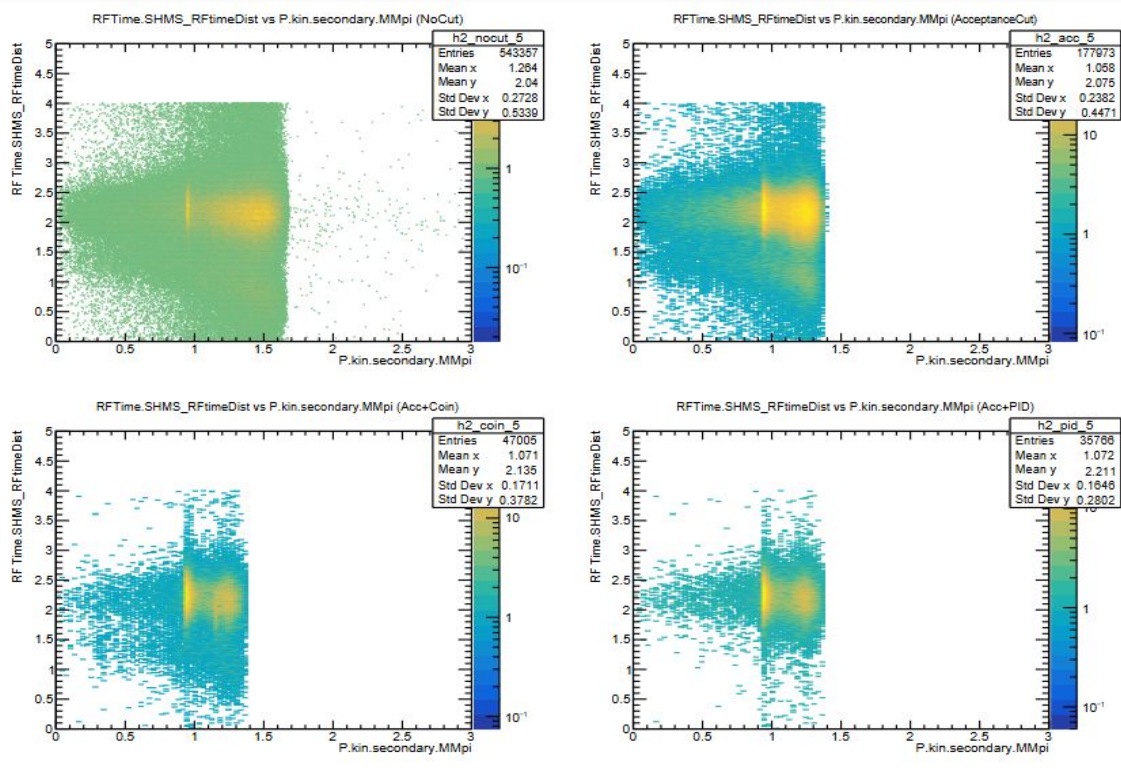


P.ngcer.npeSum < 5 with other Pid cuts



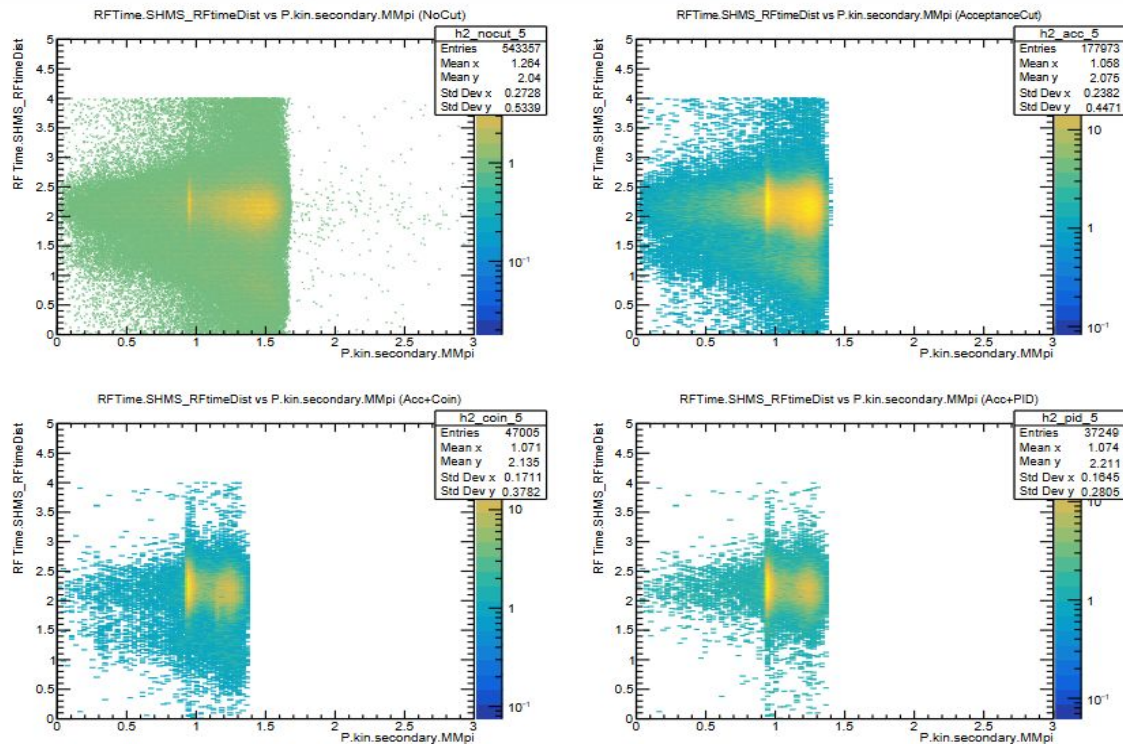
RFTIME vs Missing mass

With NGC cut



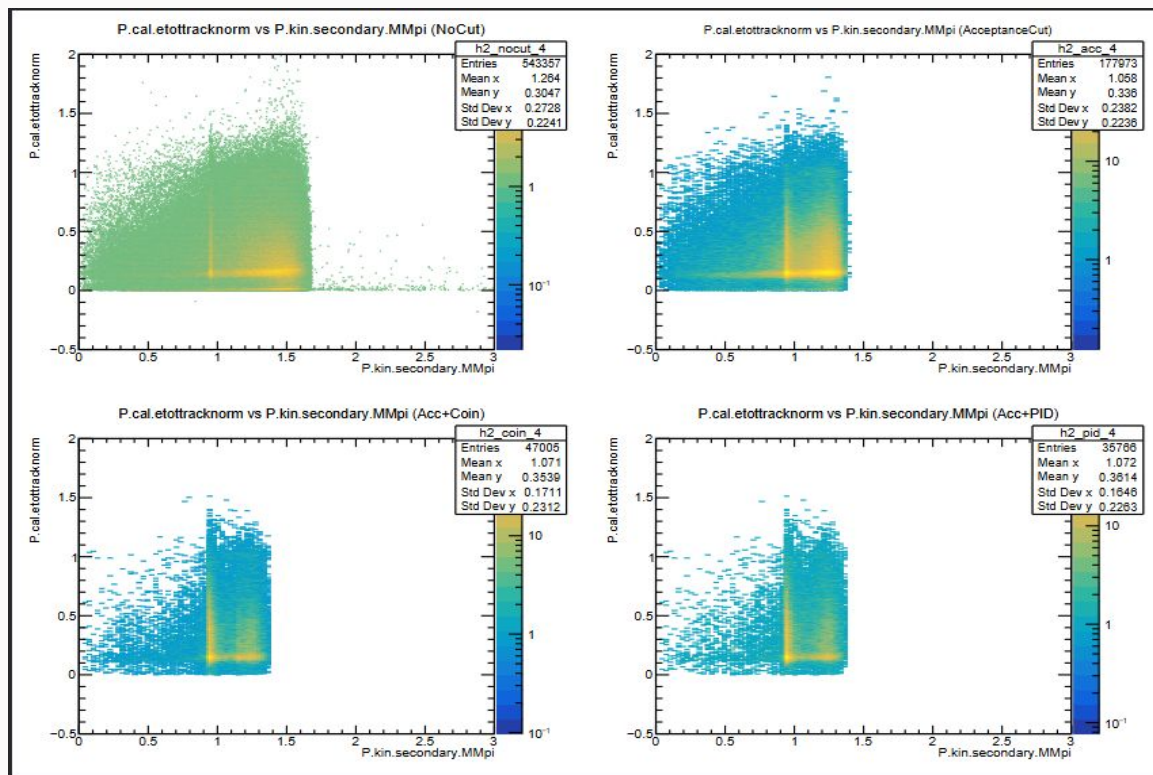
RFTIME vs Missing mass

Without NGC cut



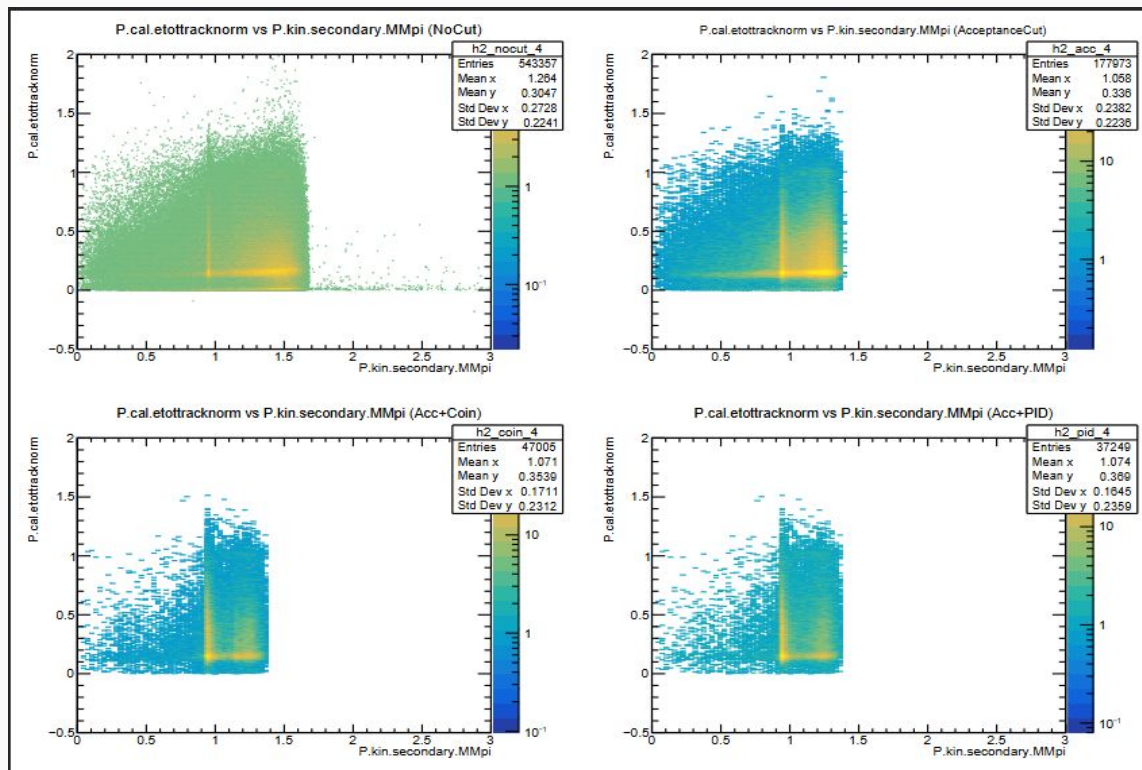
Pcal vs Missing mass

With NGC cut



Pcal vs Missing mass

Without NGC cut



Updated PID cuts

```
H.cer.npeSum > 1.5 &&
```

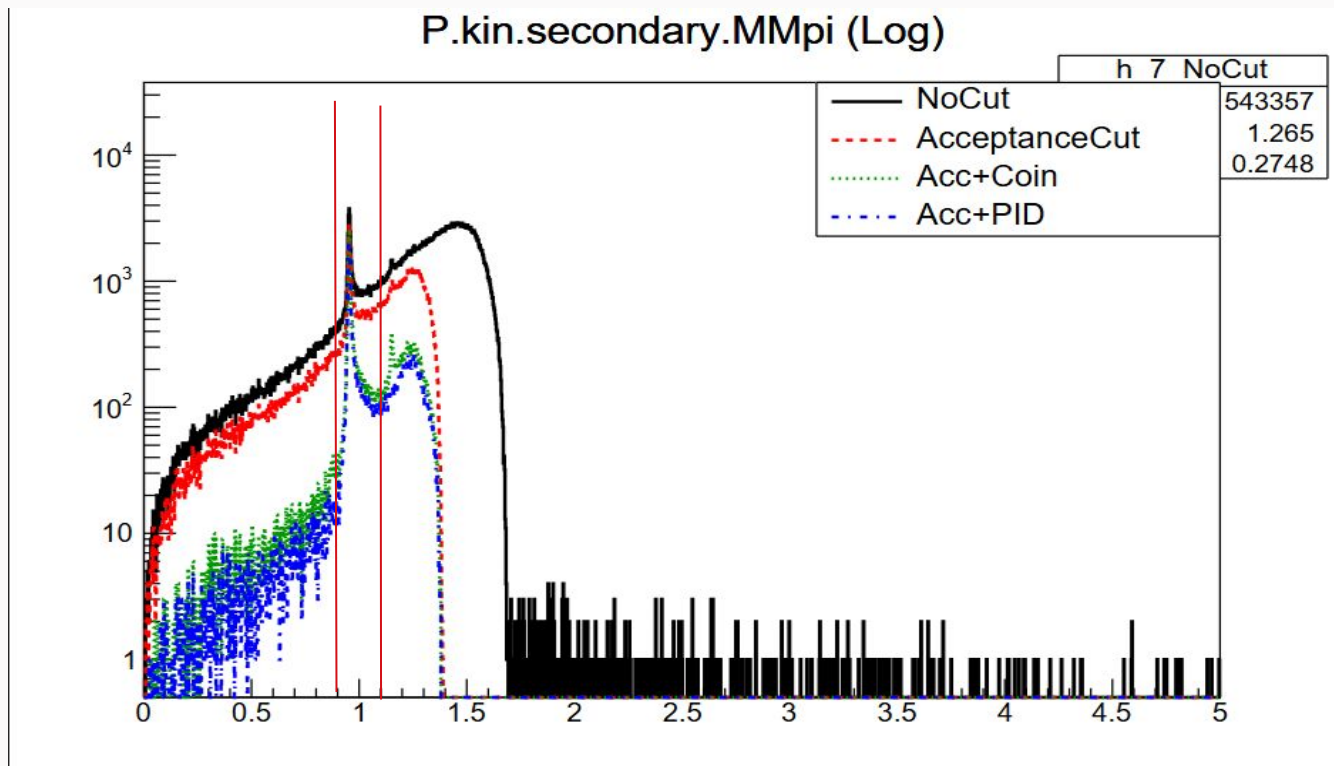
```
H.cal.etottracknorm > 0.7 &&
```

```
P.aero.npeSum > 0.1 &&
```

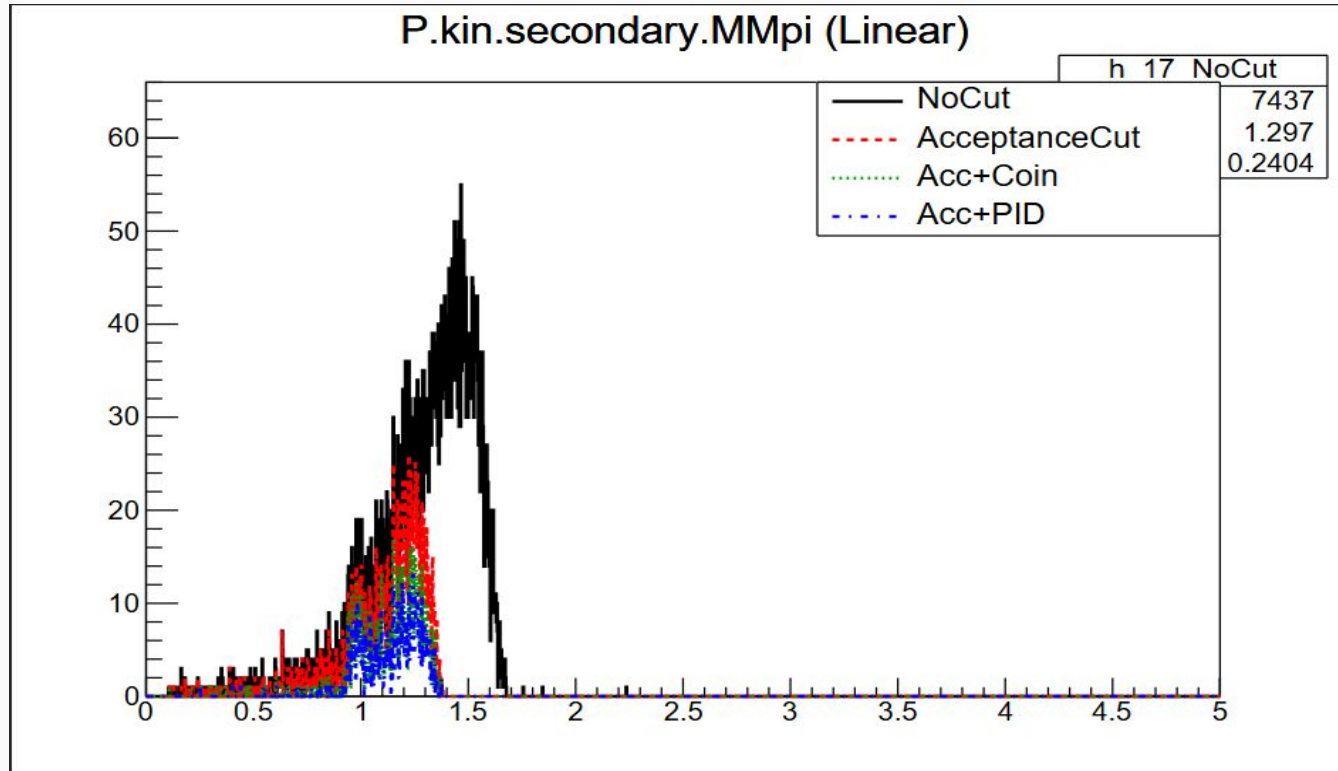
```
P.hgcer.npeSum > 0.1 &&
```

```
P.ngcer.npeSum < 5 ??
```

Missing mass with updated pid cuts



Dummy runs - Same Acc+CT+PID



Next steps:

1. Background subtraction
2. Effective charge normalization.