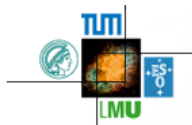


Status Report: Efficiency Correction

Steffen Maurus

May 4, 2016

Excellence Cluster Universe



Introduction

Pre-Analysis Cuts:

- ▶ TriggerPT3
- ▶ Start Detector
- ▶ Vertex Reconstructed
- ▶ BadHit ($\text{TOF} < 0$, $\text{TOF} > 80$)

Expected:

- ▶ $\text{kIsUsed} == 1$ and $\text{isOffVertex} == 0$
- ▶ matching PID
- ▶ $\text{metacluster} \geq 2$
- ▶ matching missing mass reference particle (Cut 1)
- ▶ matching Φ in meta (candidate) (Cut 2)

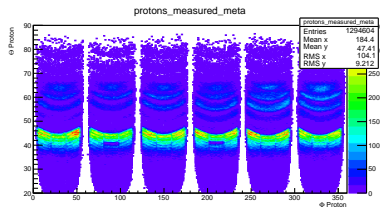
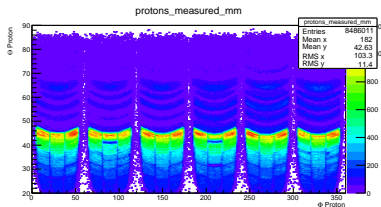
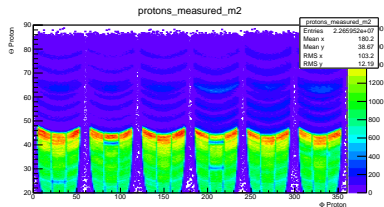
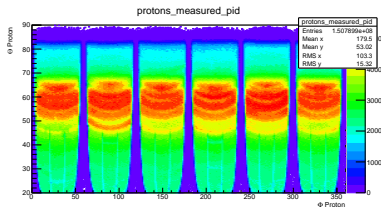
Measured:

- ▶ best candidate \rightarrow best matching Φ
- ▶ matching $\Delta\Phi$ (Cut 3)
- ▶ no $\text{kIsUsed}!$, ...

If not stated otherwise, PE Gen2 690 MeV/c is used

Reminder: Protons Measured

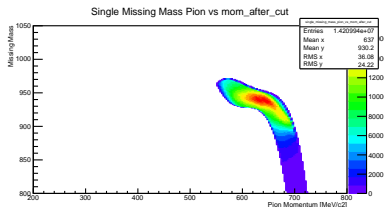
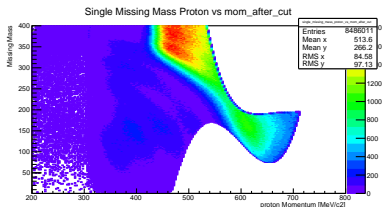
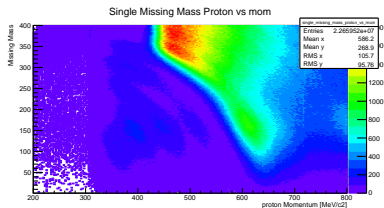
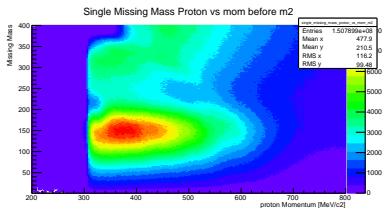
Different Cut Stages: After: PID, Meta, Missing Mass



High Statistic area of protons disappears

Missing Mass Different Cut Stages

Different Cut Stages: Before Meta, Missing Mass and after Missing Mass cut



Combination of: different functions (slices) and σ fit fails. Different pre-cuts, fit-ranges and not sufficient

→ perform MM cut before M2, ensure coverage of Cut in higher momentum region and then cut on meta