

Omega Cross-Section

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Mainz, October 2018

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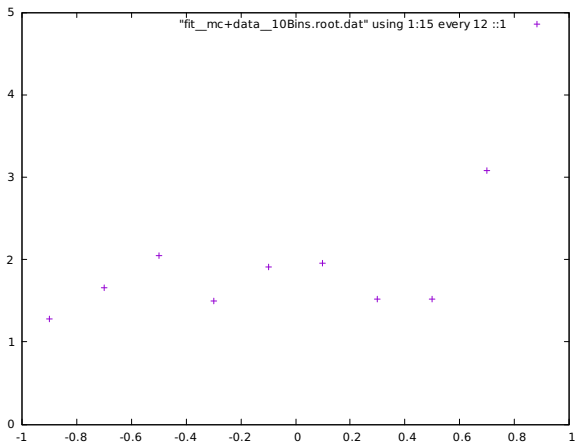


Figure 1: Olis Data; Dip at about $\cos(\theta) = -0.3$

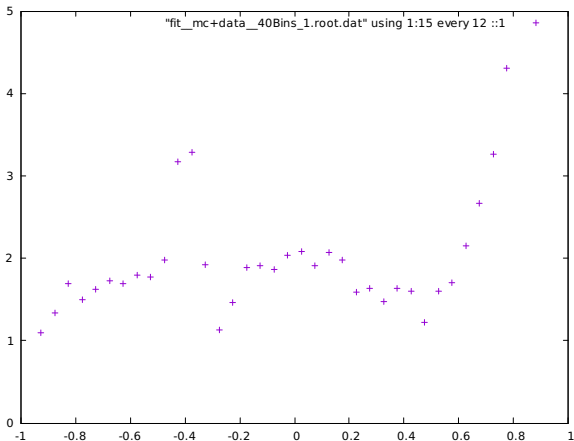


Figure 2: Increased number of points; now there is still a dip at $\cos(\theta) = -0.3$ but also a peak at $\cos(\theta) = -0.5$

Increased the number of points from 10 to 40

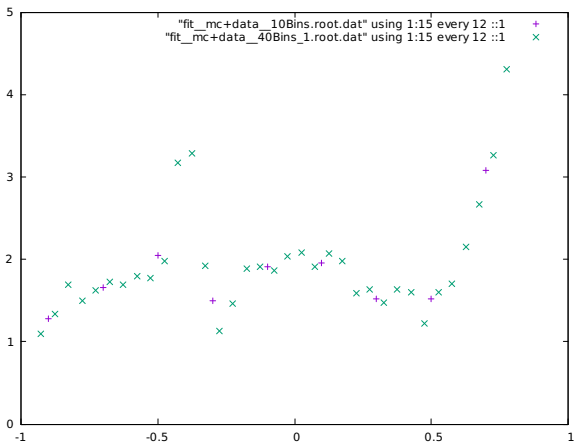


Figure 3: Overlap

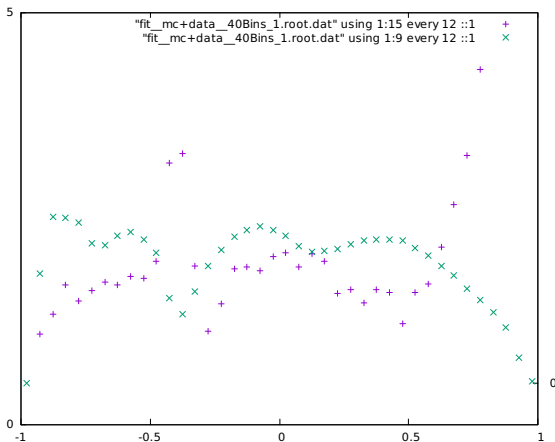


Figure 4: There is a efficiency drop at $\cos(\theta) = -0.3$

$$\omega \rightarrow \gamma \pi^0 \quad (1)$$

$\downarrow_{\gamma\gamma}$

Closer look at:

- ω
- Bachelor Photon
- π^0
- $\gamma\gamma$
- Proton
- $\cos(\theta) = [-0.35, -0.25]$ Dip
- $\cos(\theta) = [-0.45, -0.35]$ Peak

and compare MC with Beamtime Data (both reconstructed)

Used Cuts:

- `w_taggW ("TaggW");`
- `w_mass_Cut("ggg.M()>700");`
- `cut_KCut("KinFitProb > 0.2 && nCandsInput == 4 && copl_angle < 0.05");`

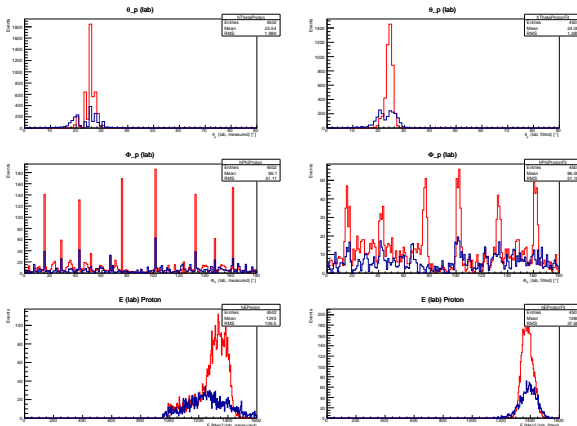


Figure 5: Red: MC; Blue Beamtime Data; Protons for $\cos(\theta_\omega) = [-0.35, -0.25]$; Right Side are fitted data

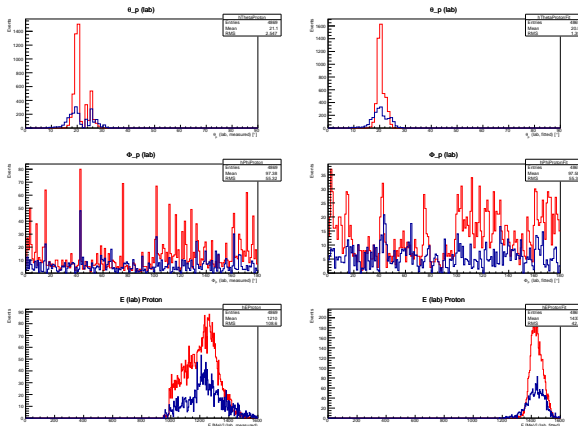


Figure 6: Red: MC; Blue Beamtime Data; Protons for $\cos(\theta_\omega) = [-0.45, -0.35]$; Right Side are fitted data

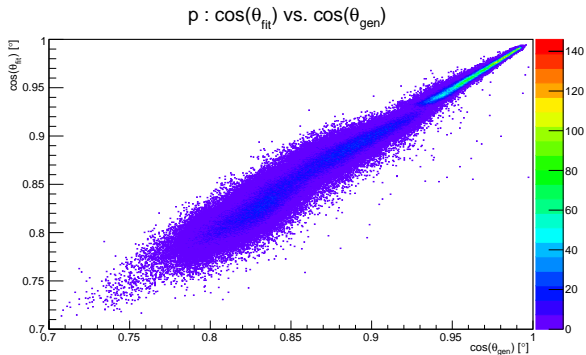


Figure 7: $\cos(\theta_{fit})$ vs. $\cos(\theta_{gen})$ for all protons.

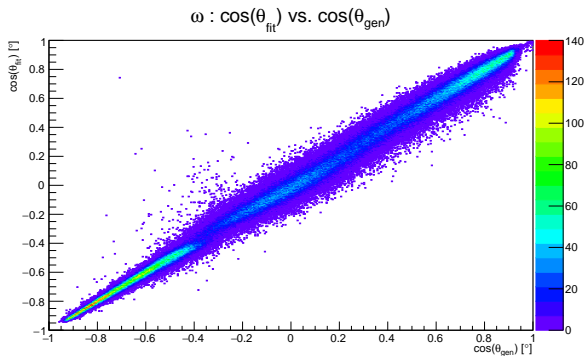


Figure 8: $\cos(\theta_{fit})$ vs. $\cos(\theta_{gen})$ for all ω .

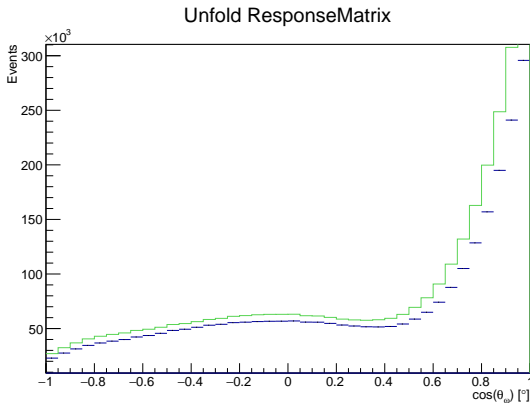


Figure 9: Folded; same cuts