

$B^+ \rightarrow \rho^+ \rho^0$ **status**

Riccardo Manfredi

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The status

I reweighed also with Eldar's procedure (2Dx2D based on momenta) and see no big change wrt reweighing on angles, will use the same approach.

Checked the fake- ρ approach from the $\rho^+\rho^-$ analysis: $\rho\rho$ sidebands are dominated by fake- ρ , plan to try to separate these components.

In $D\rho$, the proportions fake:real ρ is $\sim 4:1$.

Reprocessed data with photon corrections: chaos.

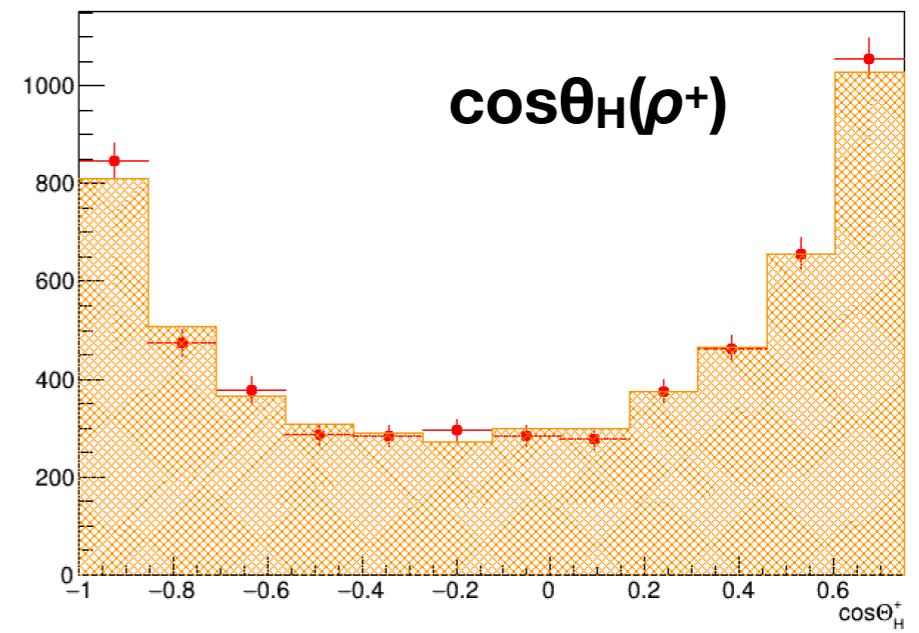
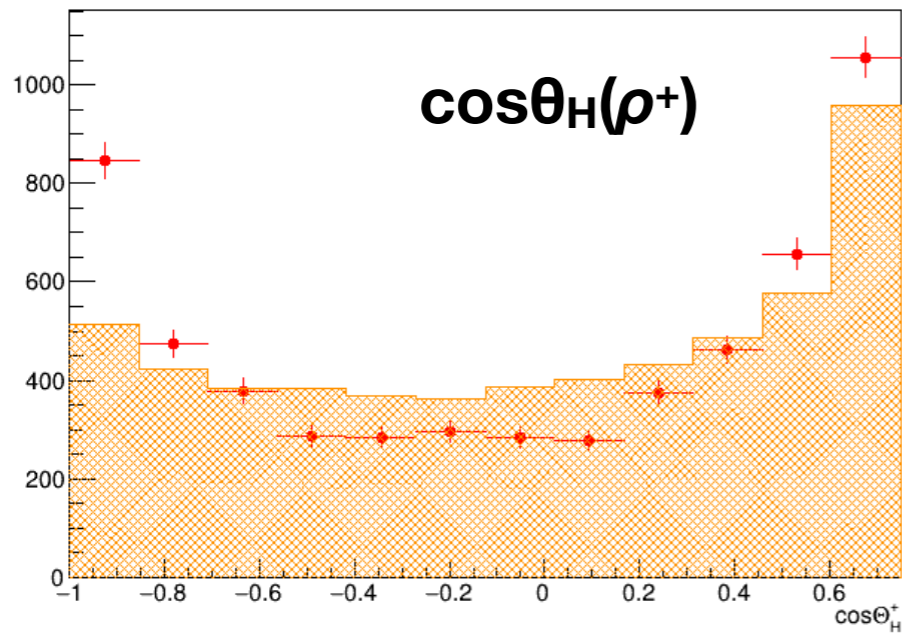
In $\rho\rho$ the ΔE peak has the same shape, but less events.

In $D\rho$, data are exactly the same.

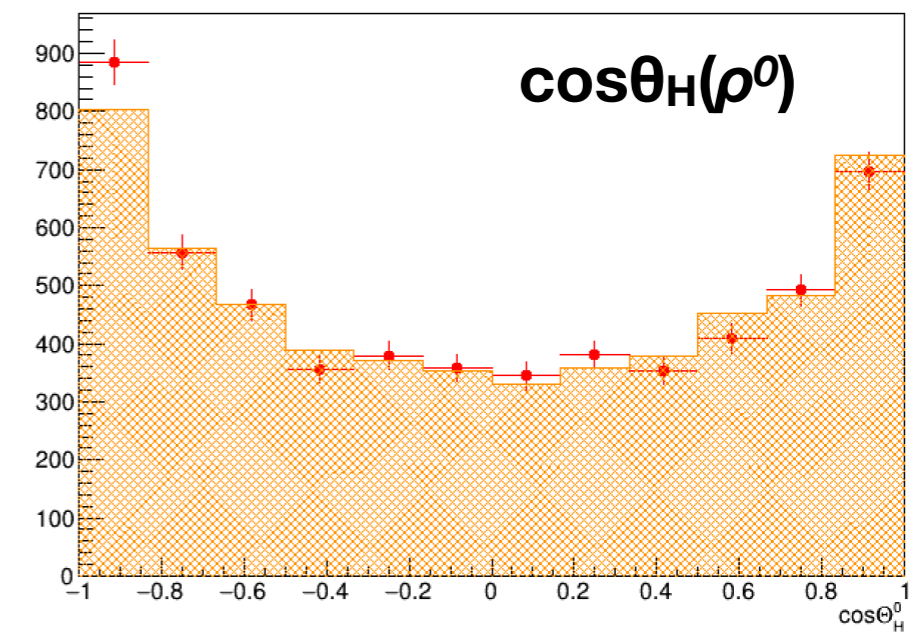
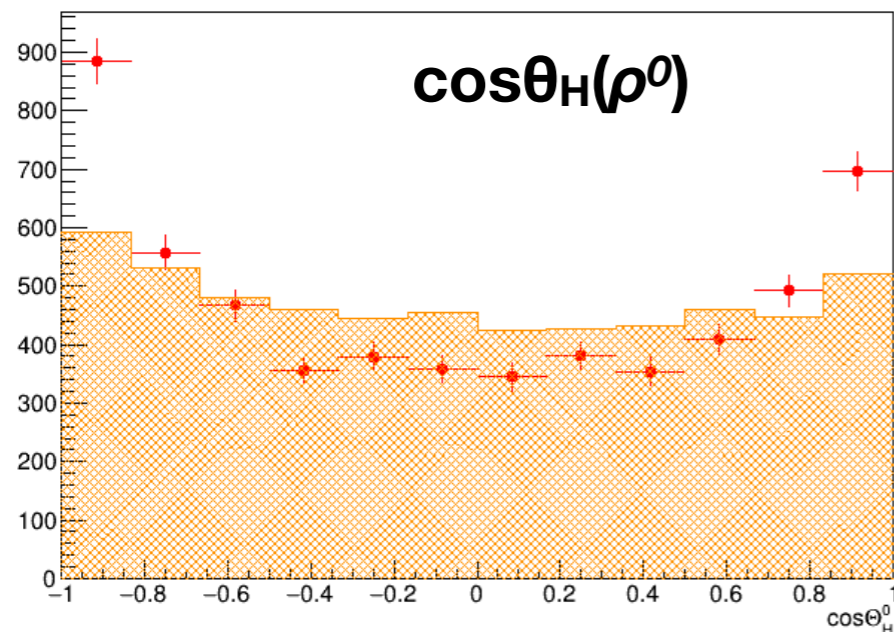
Currently investigating.

Reweighting continuum

2Dx2D weight for each B candidate, based on ρ daughter momenta.



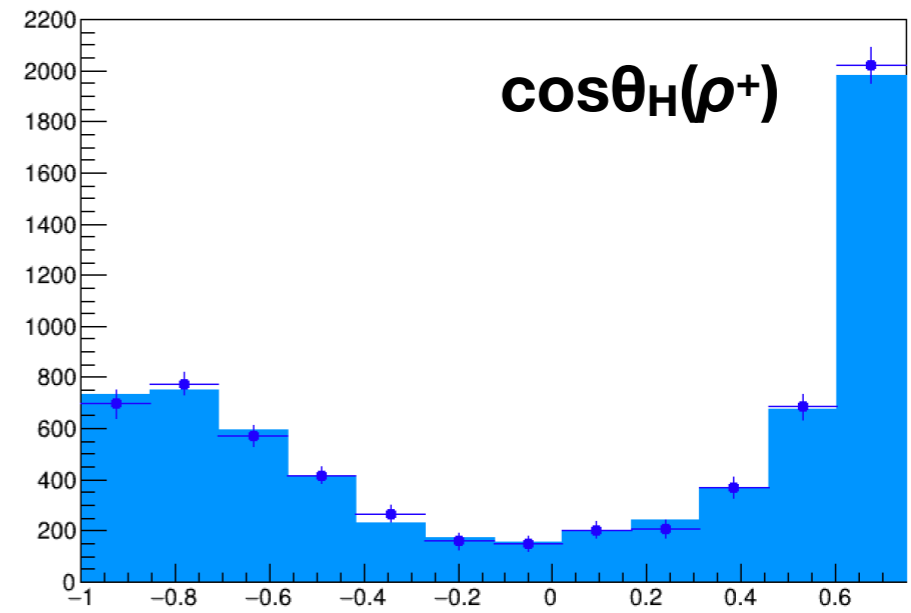
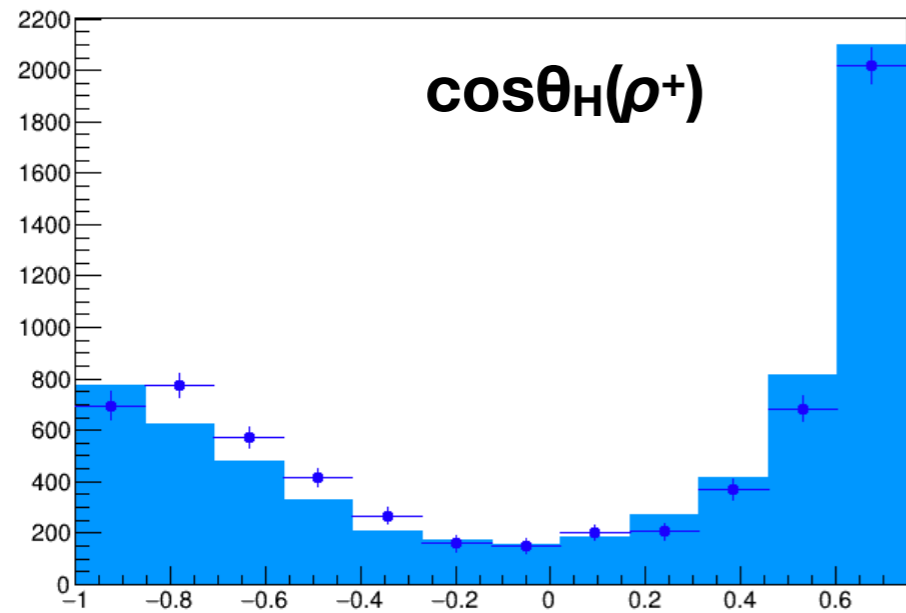
Weights



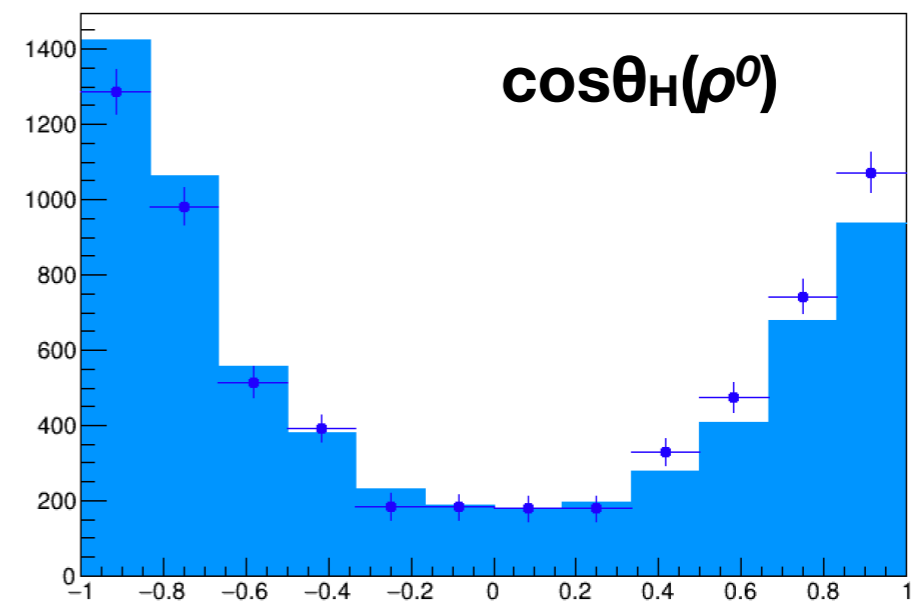
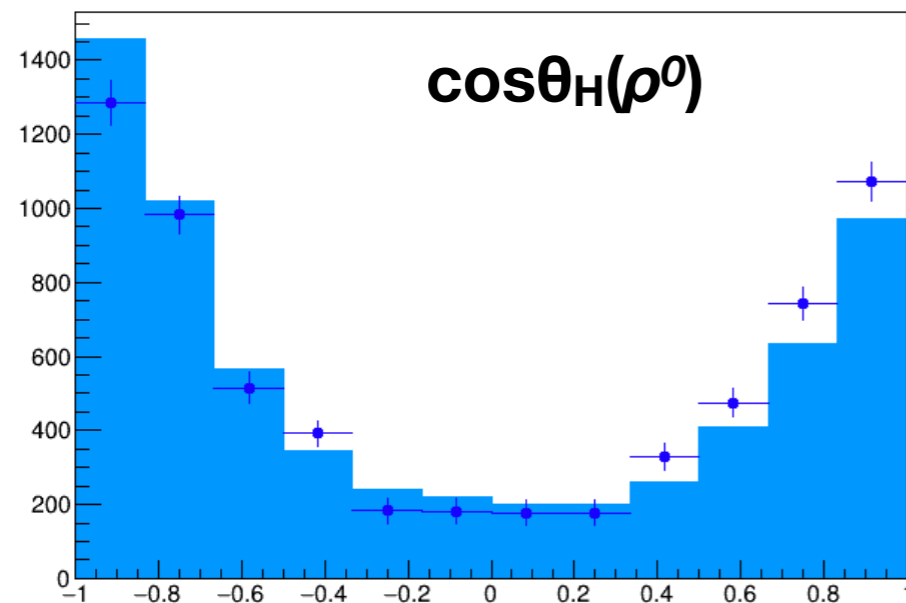
Great improvement in continuum angles.

Reweighting BBbar

2Dx2D weight for each B candidate, based on ρ daughter momenta.



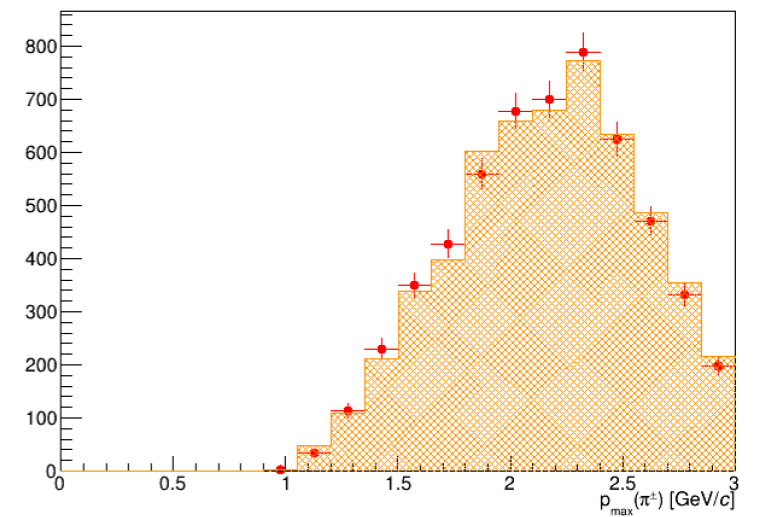
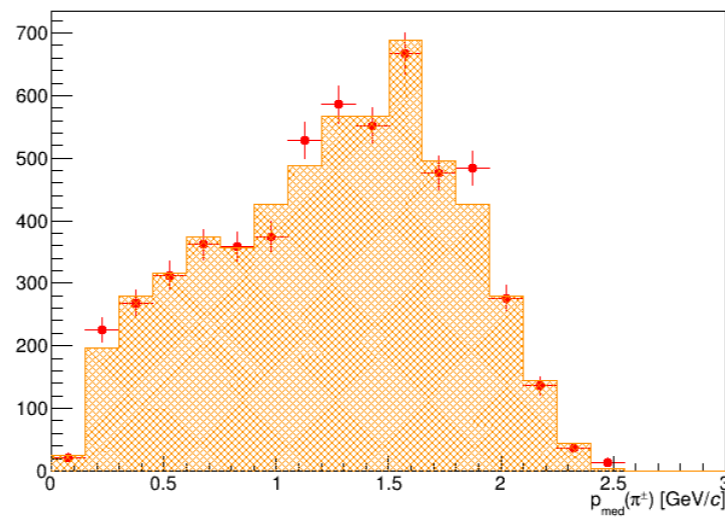
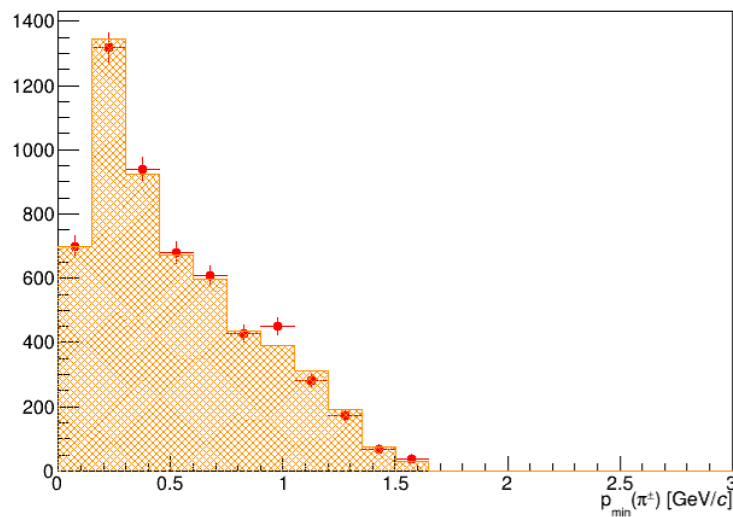
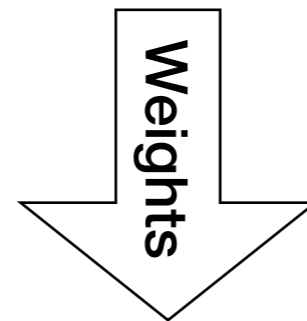
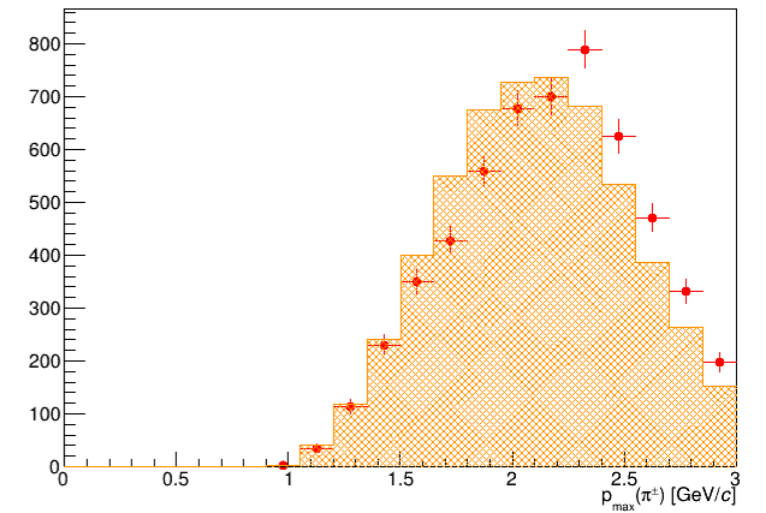
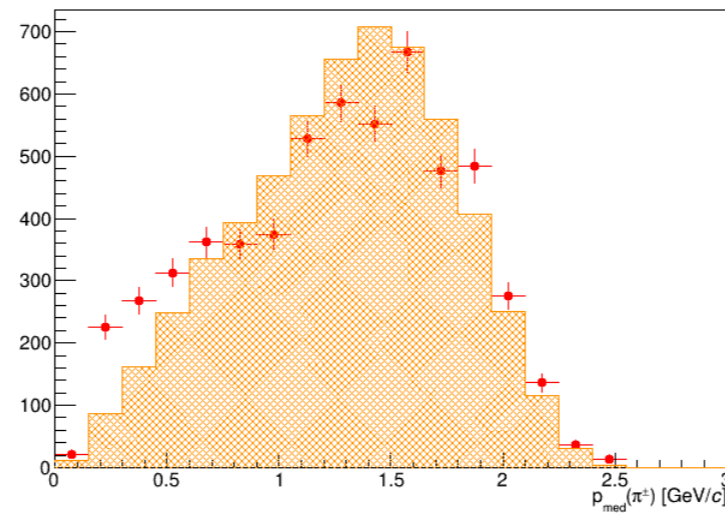
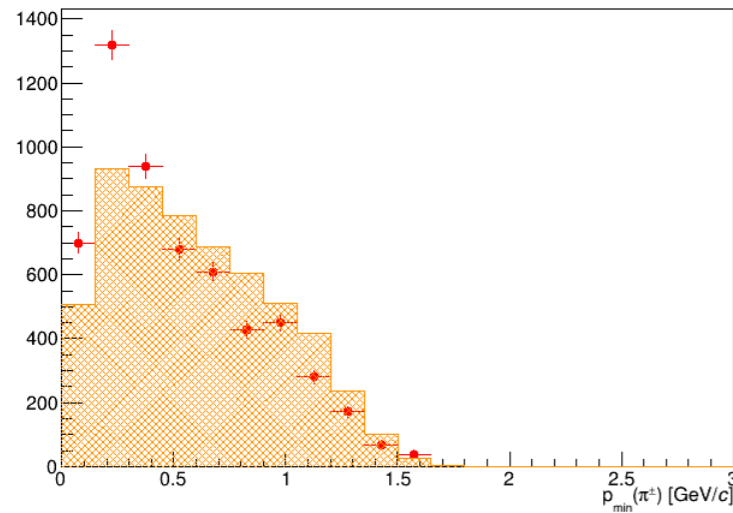
Weights



Nice improvement in $\cos\theta_H(\rho^+)$, less in the other angle.

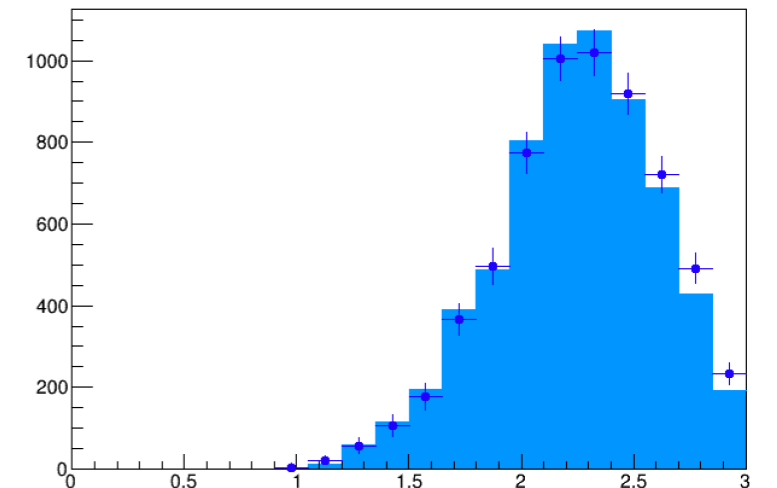
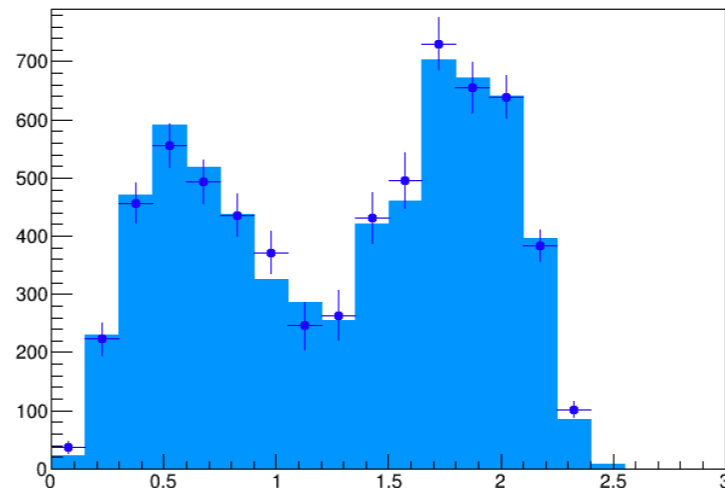
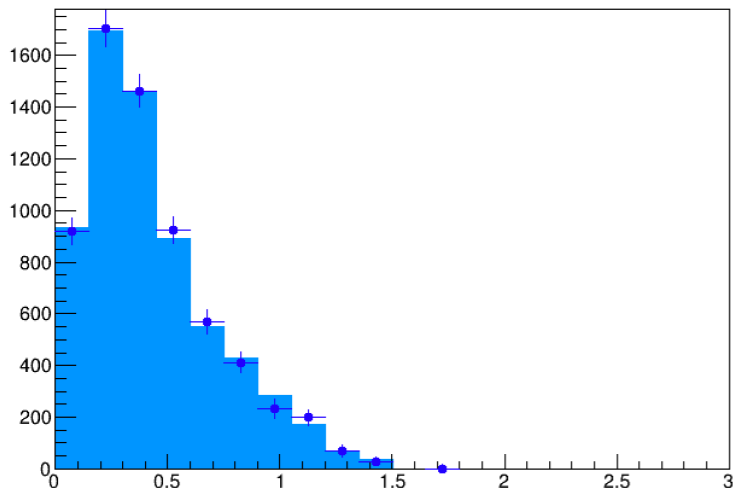
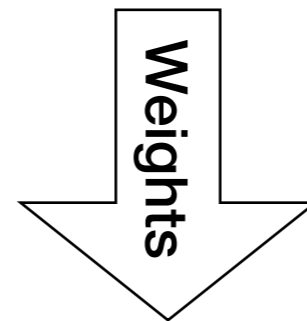
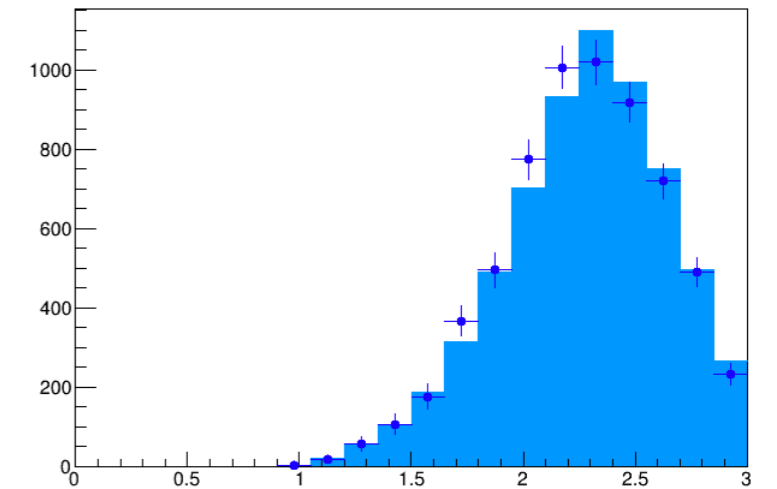
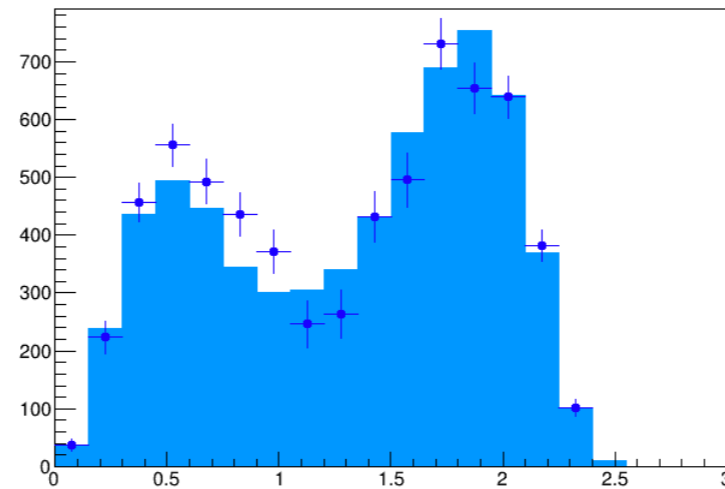
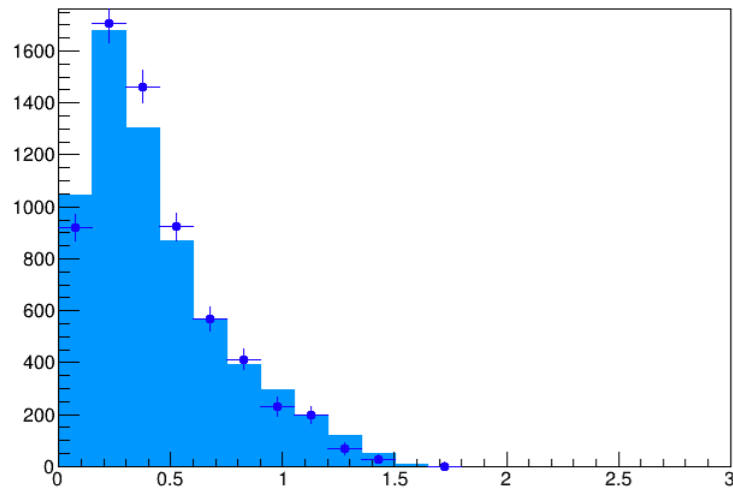
Reweighting checks

Track momenta - continuum



Reweighting checks

Track momenta - $B\bar{B}$

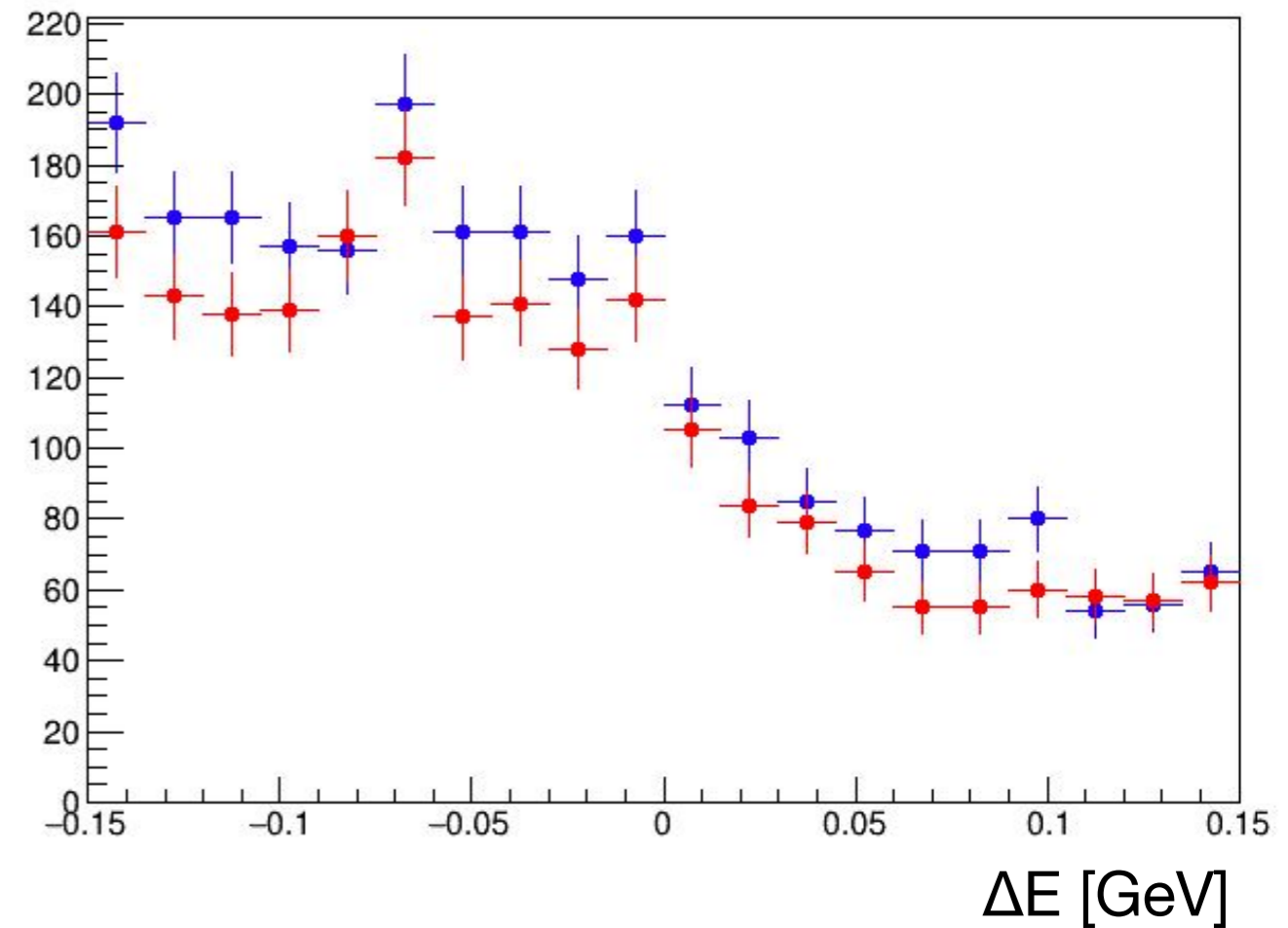
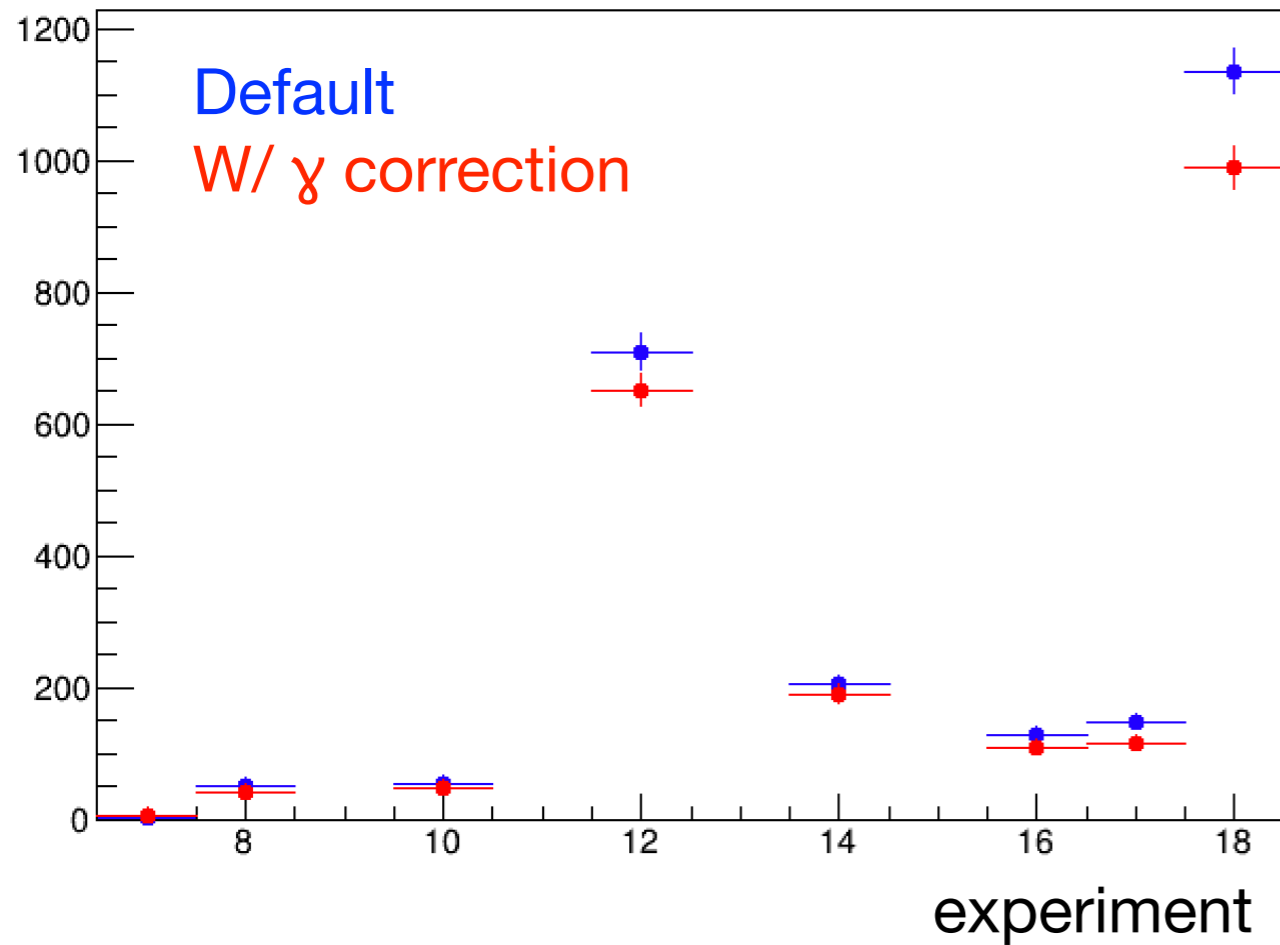


Fake- ρ numbers

$\rho\rho$ sideband	Real ρ^+	Fake ρ^+
Real ρ^0	1 % 1.5 %	5 % 10 %
Fake ρ^0	10 % 8.5 %	84 % 80 %
D ρ full isSignal \neq 1	Real ρ^+	Fake ρ^+
	20%	80%

Worth trying to disentangle?

Photon-corrected data



Summary – action items

Kind of confused on how to proceed to dig deeper the mismodelling issues.

Will need to get in touch again with Benigno about work on the fitter.

Other pending secondary issues (BDT training, test tighter $E(\pi^0)$ cut, ...).

backup