

$B \rightarrow K^* \mu\mu$ update

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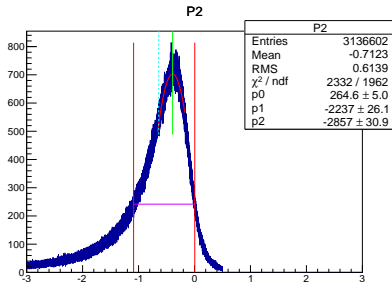


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Fast reminder

- ▶ We all had no idea how to propagate the bloody error.
- ▶ I managed to caught Glen Cowan at CERN and he solved my problem ;)

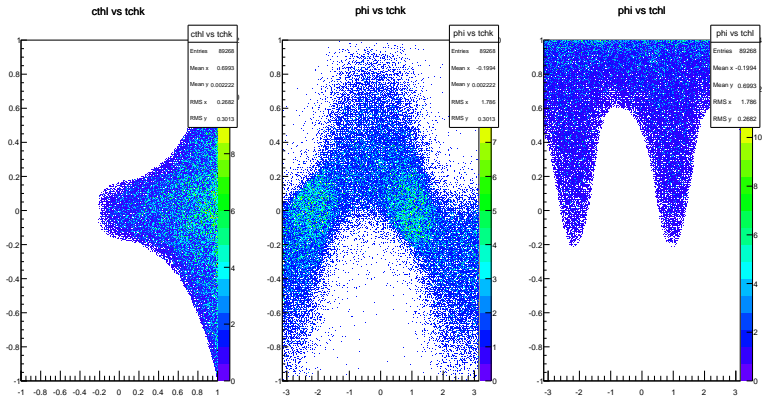


- ▶ The central value should be chosen as the one from central values.
- ▶ Why?
 - ▶ It maximal the LL
- ▶ Why did we get two different answers?
 - ▶ Errors are not Gaussian.
 - ▶ What I did is essentially a test if the errors are Gaussian.
- ▶ So how to get the errors?
 - ▶ Run FC.

One step forward...

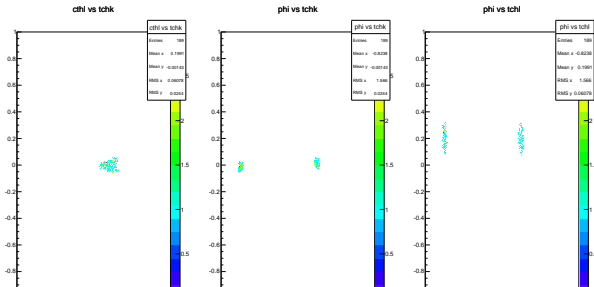
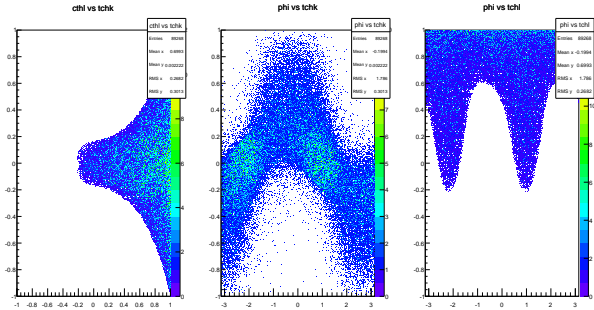
- ▶ Unfortunately Glen also said that for the FC pdf should be positive.
- ▶ Errors are asymmetric \rightarrow distributions do not follow a χ^2 statistics.
- ▶ We do not ensure that our pdf. is physical in the fit.

This looks scary



- ▶ A bit high, 10% of PHSP has a negative pdf.
- ▶ MoM are batter → LOL

Weighted fit



- ▶ Why this happend?
 - ▶ Roofit checks that in each evaluation point the full pdf is positive.
 - ▶ In this bin we have 11 points in which signal pdf only is negative.
 - ▶ Parameters change a lot:

	F_L	S_6
Weighted fit	0.8113	-0.065
Christoph fit	0.877	-0.0885

- ▶ So Christoph fits ensures that the full pdf is positive.
- ▶ Roofit check that the single components are also positive.

- ▶ Add "ghost events" to the dataset.
- ▶ Aka events that have extremely small weight (can't bias the fit).