



Pion-LT Meeting

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- Working on physics setting: **$Q2 = 3.85$, $W = 2.62$, $t = 0.21$ (2 epsilons)**
- Following studies need to be finalized before the LTSep analysis:
 - **Missing mass offset and cut determination**
 - **Diamond cut determination**
 - **t-resolution check**
 - **t-binning**
 - **phi-binning**
 - **Data and SIMC yields**

■ Cuts for pion physics data

HMS Cuts (Electrons)

$$-8 < H_gtr_dp < 8$$

$$-0.08 < H_gtr_th < 0.08$$

$$-0.045 < H_gtr_ph < 0.045$$

$$H_hod_goodstarttime == 1.0$$

$$HMS_Cal_etotracknorm > 0.7$$

$$H_Cer_npeSum > 1.5$$

SHMS Cuts (Pions)

$$-10 < P_gtr_dp < 20$$

$$-0.06 < P_gtr_th < 0.06$$

$$-0.04 < P_gtr_ph < 0.04$$

$$Ctime_epCoinTime_ROC1 - \text{Prompt Peak}$$

$$P_hod_goodstarttime == 1.0$$

$$P_aero_npeSum > 1.5$$

$$1.2 < P_RF_DIST < 3.4$$

■ Cuts for SIMC

HMS Cuts (Electrons)

$$-8 < hsdelta < 8$$

$$-0.08 < hsexpfp < 0.08$$

$$-0.045 < hsyfp < 0.045$$

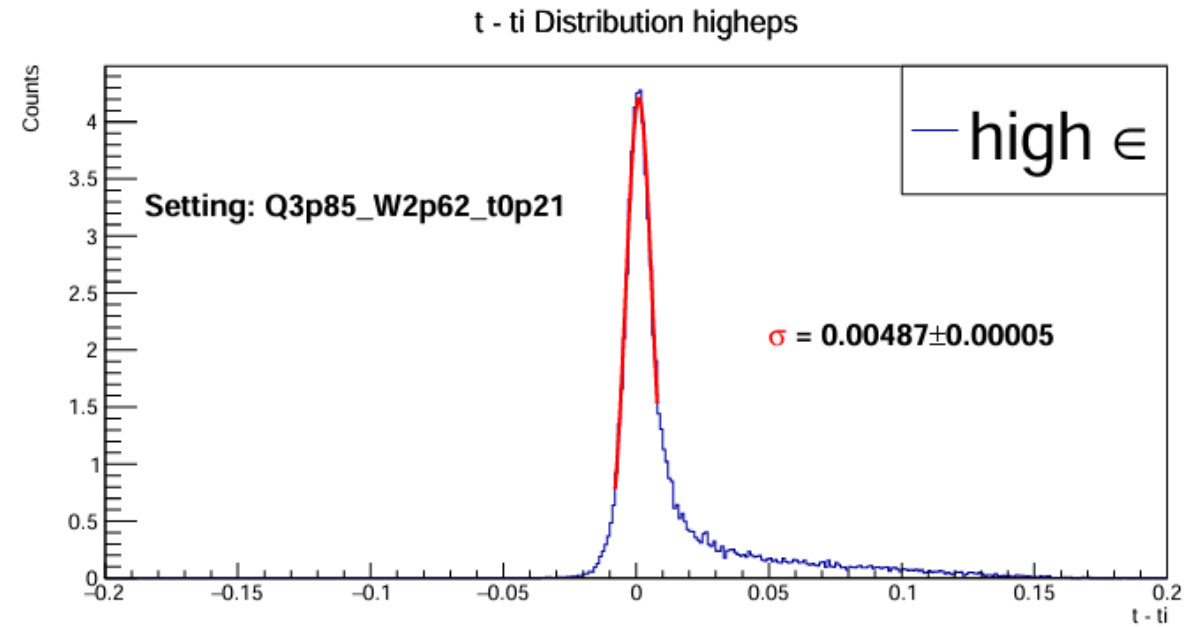
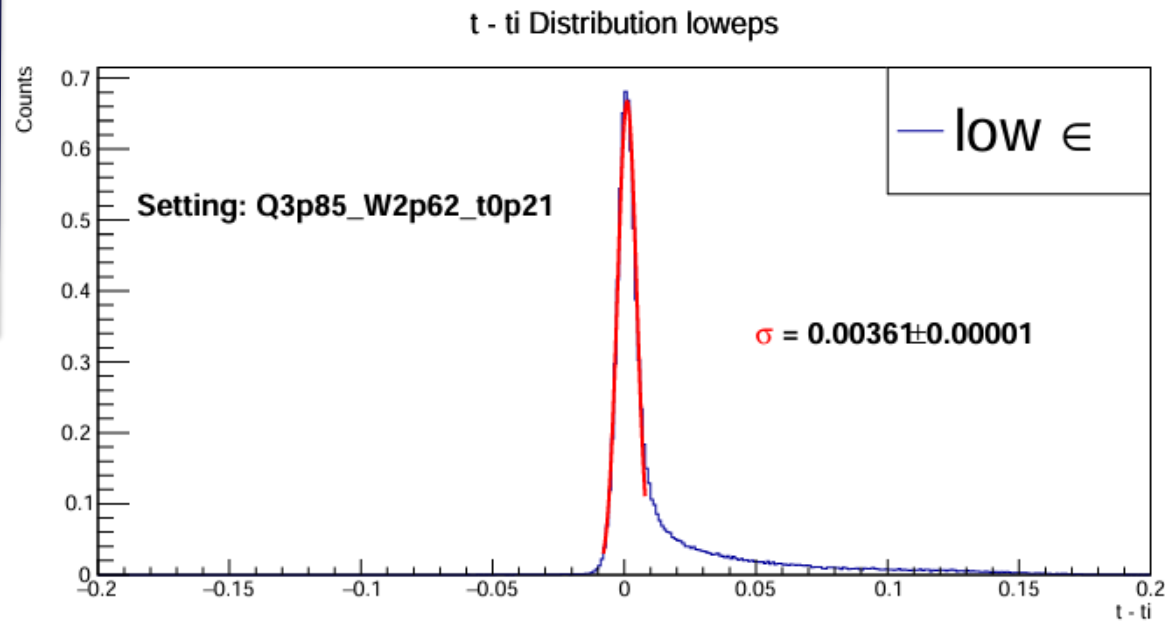
SHMS Cuts (Pions)

$$-10 < ssdelta < 20$$

$$-0.06 < ssxpf < 0.06$$

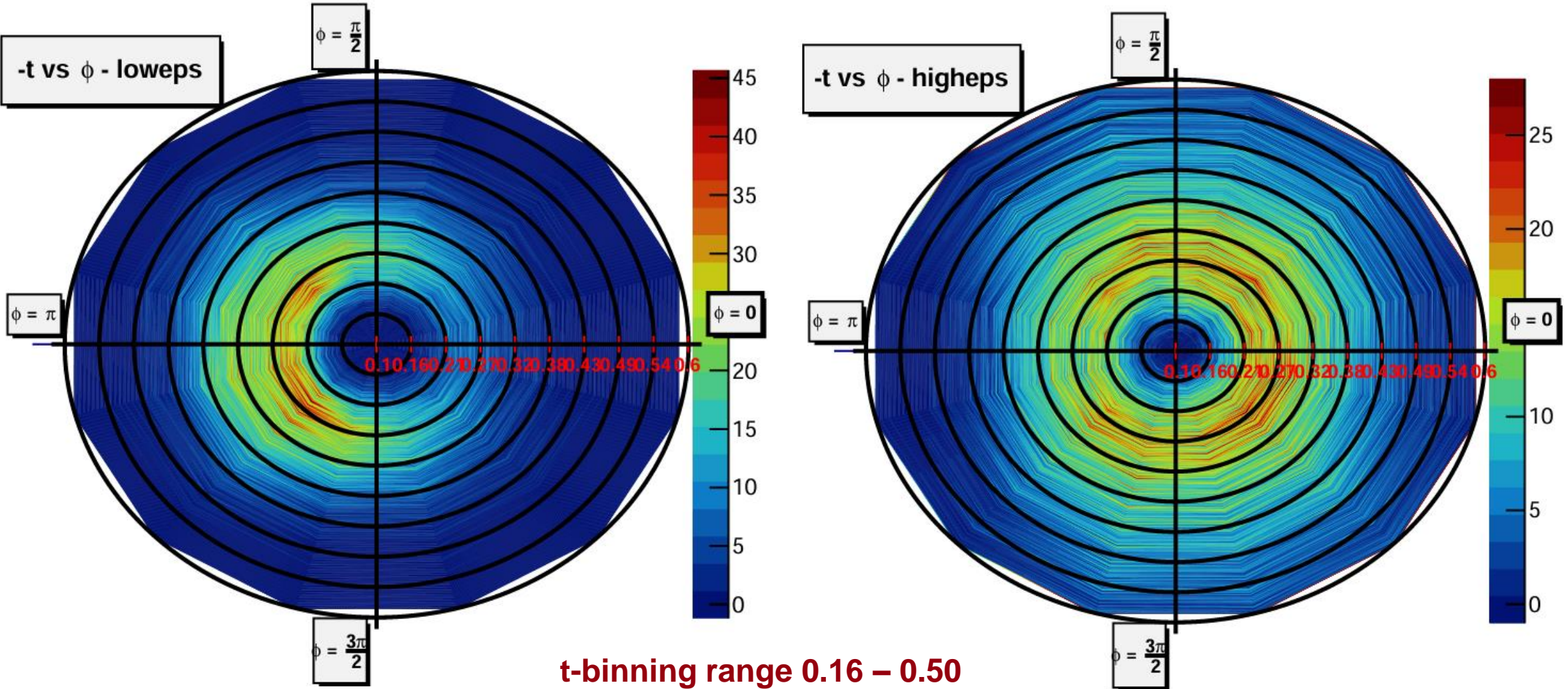
$$-0.04 < ssyfp < 0.04$$

- t-resolution plots for low and high epsilon data



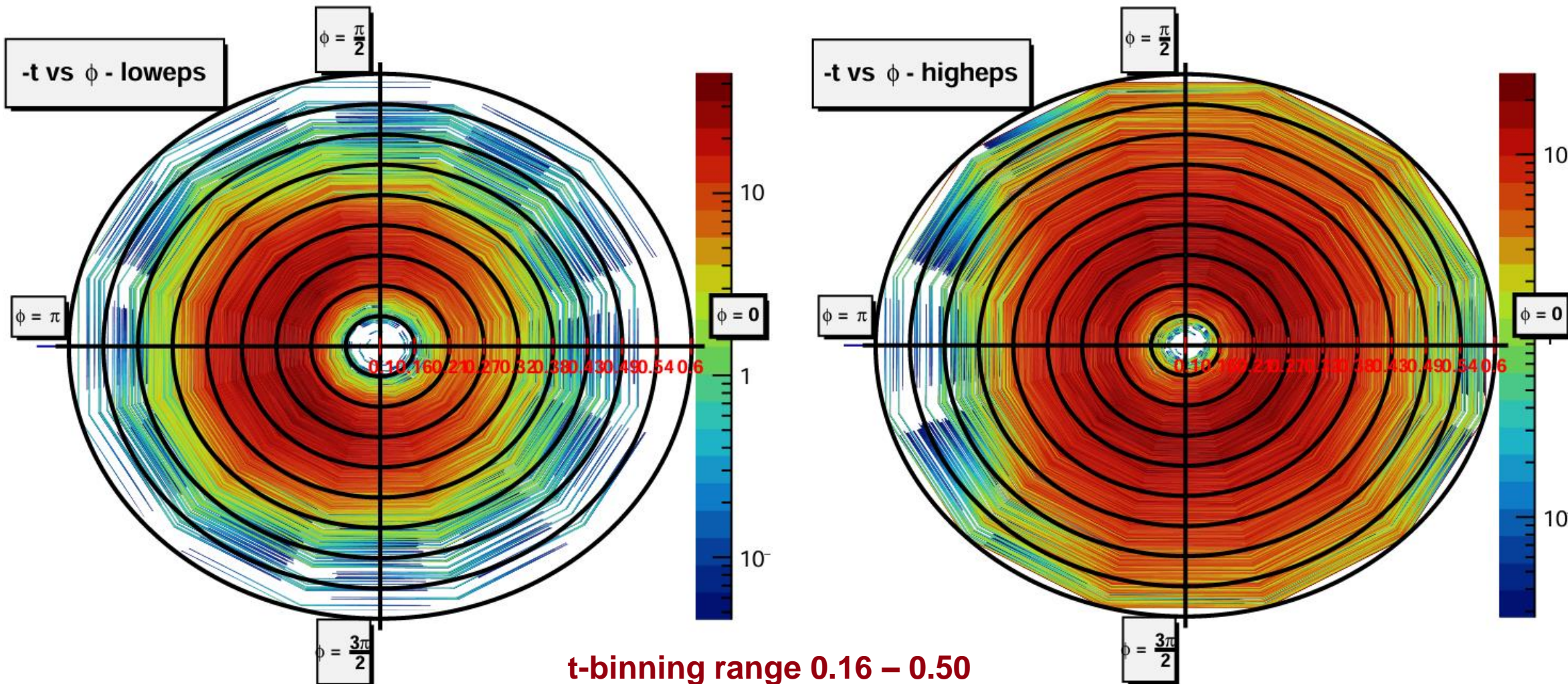
- NGC is not added in SIMC.

- Phi distribution plots for high and low epsilon data



t-binning range 0.16 – 0.50

- Phi distribution plots for high and low epsilon data



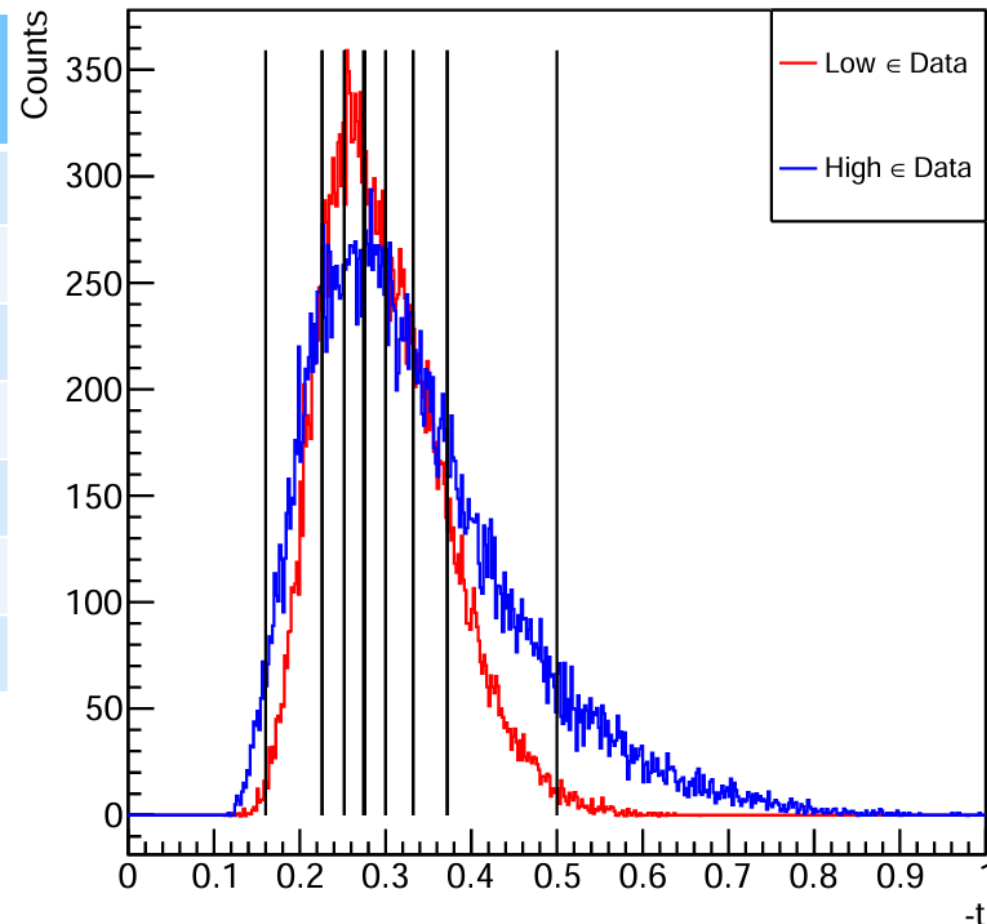
t-binning

- t-binning for “Q2 = 3.85, W = 2.62, t = 0.21 (2 epsilons)”

t_min	t_max	Yield (loweps)	Error (loweps)	Yield (higheps)	Error (higheps)
0.160	0.226	3802.667	63.094	5244.833	72.949
0.226	0.252	3798.000	62.724	3241.333	57.309
0.252	0.276	3890.833	63.751	3100.833	56.235
0.274	0.300	3711.500	62.360	3432.500	59.184
0.300	0.332	3892.000	63.978	3718.667	61.794
0.332	0.372	3689.500	62.760	3867.000	62.970
0.372	0.500	3750.167	64.381	6963.333	84.835

t-binning range 0.16 – 0.50

t_pions_data_dummysub_loweps_cut_all



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In progress:

- Looking into phi-binning.