



Yields

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Kaon LT Meeting
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Data setting

Run	Type	P_SHMS	Theta_SHMS	P_HMS	Theta_HMS	Target	Ebeam	Current
6638	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	16
6642	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	16
6643	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	16
6704	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	18
6705	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	18
6706	Prod	+2.583	6.79	-0.968	21.14	LH2	3.835	18
6854	Prod	2.583	6.795	0.968	-21.135	LH2	3.835	23.836
6855	Prod	2.583	6.795	0.968	-21.135	LH2	3.835	24.643
6856	Prod	2.583	6.795	0.968	-21.135	LH2	3.835	31.673

+ Dummy

Factors

Data

```
data_product = (data_charge
*
data_hms_tracking_efficiency
*
data_shms_tracking_efficiency
*
hms_Cer_detector_efficiency
*
hms_Cal_detector_efficiency
*
RFtime_efficiency
*
data_hms_hodo_3_of_4_efficiency
*
data_shms_hodo_3_of_4_efficiency
*
data_edtm_livetime_Corr
*
data_Boiling_factor
*
kaon_absorption)
```

Dummy

```
dummy_product = (dummy_charge
*
dummy_hms_tracking_efficiency
*
dummy_shms_tracking_efficiency
*
hms_Cer_detector_efficiency
*
hms_Cal_detector_efficiency
*
RFtime_efficiency
*
dummy_hms_hodo_3_of_4_efficiency
*
dummy_shms_hodo_3_of_4_efficiency
*
dummy_edtm_livetime_Corr
*
kaon_absorption)
```

Factors

```
normfac_data = 1.0/(total_data_effective_charge)
```

```
normfac_dummy = 1.0/(total_dummy_effective_charge)
```

```
normfac_simc = (simc_normfactor)/(simc_nevents)
```

Factors

Run_Number	6638.0	6642.0	...	6702.0	6703.0
charge	32.655	53.253	...	4.836	119.379
charge_error	0.0	0.0	...	0.0	0.0
HMS_Tracking_Eff	0.9996	0.9995	...	1.0	0.9996
HMS_Tracking_Eff_error	0.0002	0.0001	...	0.0	0.0001
SHMS_Tracking_Eff	0.9928	0.9943	...	0.9962	0.9946
SHMS_Tracking_Eff_error	0.0009	0.0006	...	0.0022	0.0006
HMS_Cer_Detector_Eff	0.973	0.973	...	0.973	0.973
HMS_Cer_Detector_Eff_error	0.0006	0.0006	...	0.0006	0.0006
HMS_Cal_Detector_Eff	0.9961	0.9961	...	0.9961	0.9961
HMS_Cal_Detector_Eff_error	0.0005	0.0005	...	0.0005	0.0005
RfTime_Eff	0.9828	0.9828	...	0.9828	0.9828
RfTime_Eff_error	0.0073	0.0073	...	0.0073	0.0073
HMS_Hodo_3_4_Eff	0.99949	0.997469	...	0.997336	0.996834
HMS_Hodo_3_4_Eff_error	0.0002	0.0001	...	0.0	0.0001
SHMS_Hodo_3_4_Eff	0.992696	0.992682	...	0.994316	0.994074
SHMS_Hodo_3_4_Eff_error	0.0009	0.0006	...	0.0022	0.0006
EDTM_Live_Time	0.986947	0.986973	...	0.994281	0.990911
EDTM_Live_Time_error	0.0009	0.0007	...	0.0008	0.0006
kaon_absorption	1.0	1.0	...	1.0	1.0
kaon_absorption_err	0.0071	0.0071	...	0.0071	0.0071
Boiling_factor	1	1	...	NA	NA
Boiling_factor_error	0.0	0.0	...	NA	NA
effective_charge	30.227847	49.2652	...	4.524692	111.009399
effective_charge_error	0.315254	0.510713	...	0.048865	1.150053
target_corr	NA	NA	...	4.8579	4.8579
target_corr_error	NA	NA	...	0.244	0.244

Cuts

	Variable	Value	Error
0	data_effective_charge	4.998211E+02	1.77539
1	dummy_effective_charge	1.866129E+03	94.245515
2	N_data_preNorm_lambda	4.330833E+03	82.070261
3	N_data_preNorm_sigma	1.7255E+03	70.11241
4	N_dummy_preNorm_lambda	3.711667E+02	27.196303
5	N_dummy_preNorm_sigma	3.551667E+02	29.128547
6	N_simc_preNorm_lambda	8.824900E+04	297.067332
7	N_simc_preNorm_sigma	9.540700E+04	308.880236
8	normfac_data	2.000716E-03	NA
9	normfac_dummy	5.358688E-04	NA
10	normfac_simc_lambda	4.22822E+01	NA
11	normfac_simc_sigma	3.73968E+01	NA
12	N_data_norm_lambda	7.015956E+00	0.165104
13	N_data_norm_sigma	1.49058E+00	0.141504
14	N_simc_norm_lambda	3.731362E+06	12560.660363
15	N_simc_norm_sigma	3.567917E+06	11551.132398
16	dataSimcRatio_lambda	1.880267E-06	0.0
17	dataSimcRatio_sigma	4.177732E-07	0.0

Cuts

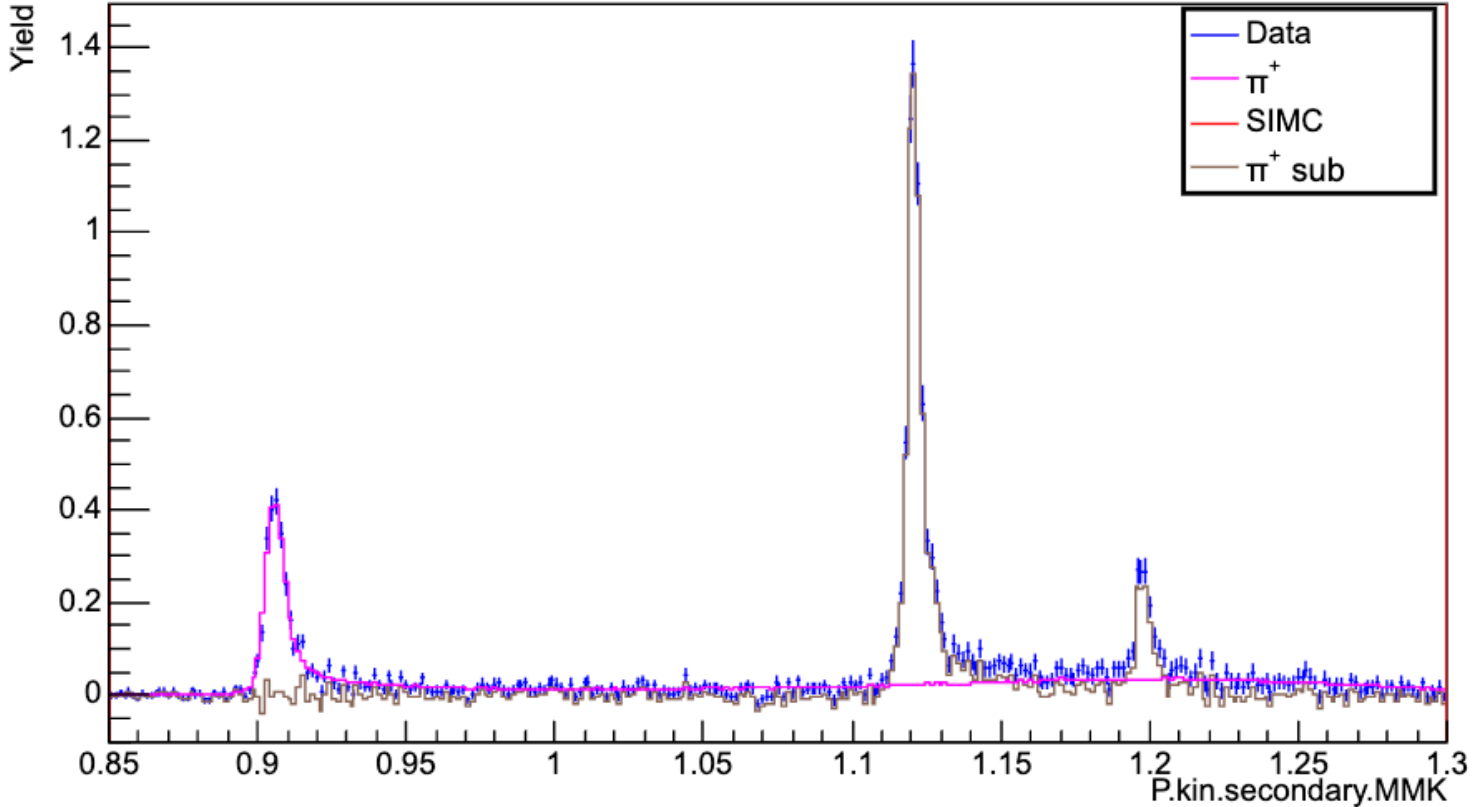
SIMC

```
((hsdelta>=-8.0) && (hsdelta<=8.0) && (hsxpfp>=-0.08) && (hsxpfp<=0.08) && (hsypfp>=-0.045) && (hsypfp<=0.045) && (ssdelta>=-10.0) && (ssdelta<=20.0) && (ssxpfp>=-0.06) && (ssxpfp<=0.06) && (ssypfp>=-0.04) && (ssypfp<=0.04))
```

Data

```
((H.gtr.dp>=-8.0) && (H.gtr.dp<=8.0) && (H.gtr.th>=-0.08) && (H.gtr.th<=0.08) && (H.gtr.ph>=-0.045) && (H.gtr.ph<=0.045) && (P.gtr.dp>=-10.0) && (P.gtr.dp<=20.0) && (P.gtr.th>=-0.06) && (P.gtr.th<=0.06) && (P.gtr.ph>=-0.04) && (P.gtr.ph<=0.04)) && ((H.cal.etottracknorm > 0.5) && (H.cer.npeSum > 2.0) && ((RFTIME.SHMS_RFtimeDist+(3.05*P.gtr.th) > 0.95) | (RFTIME.SHMS_RFtimeDist+(3.05*P.gtr.th) < 0.15))) + (CTIME.eKCoinTime_ROC1 > -0.5) && (CTIME.eKCoinTime_ROC1 < 1.5)
```

Missing Mass



Missing Mass (SIMC arbitrary scaling)

