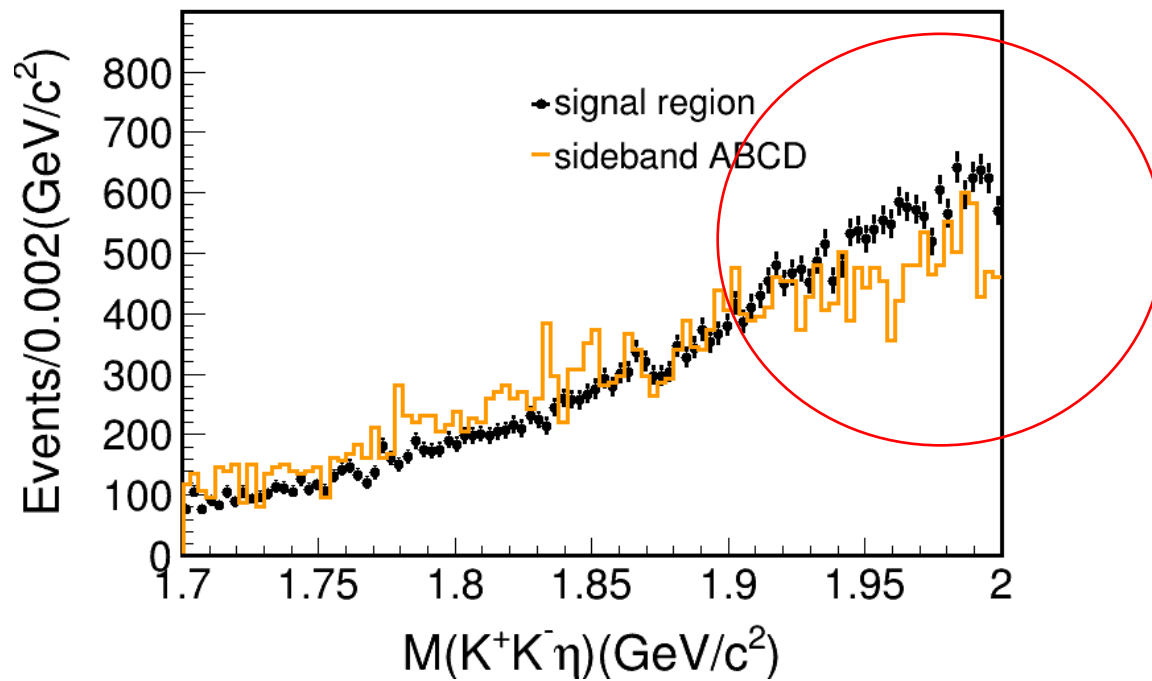
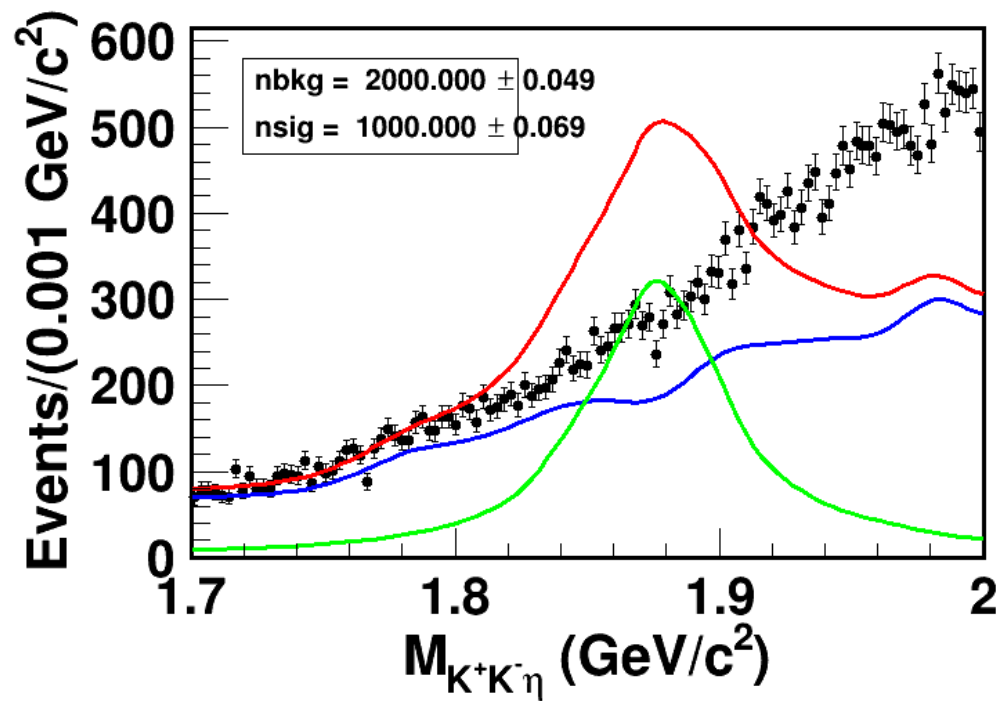
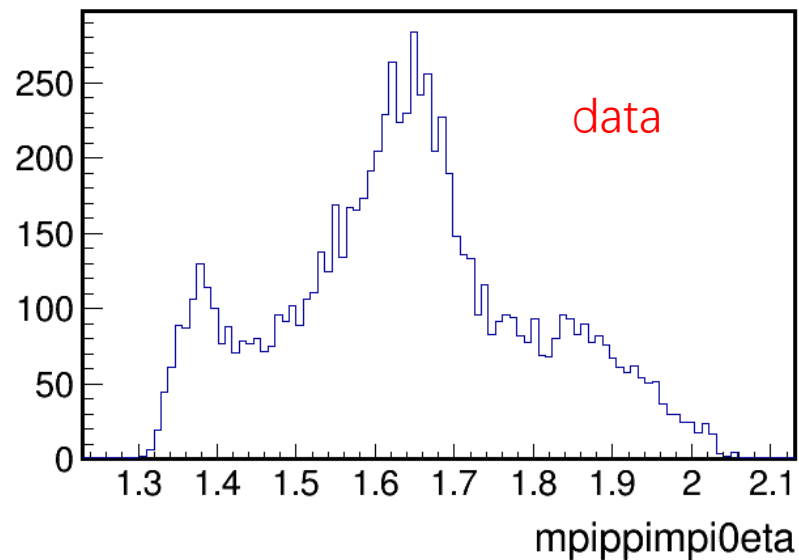
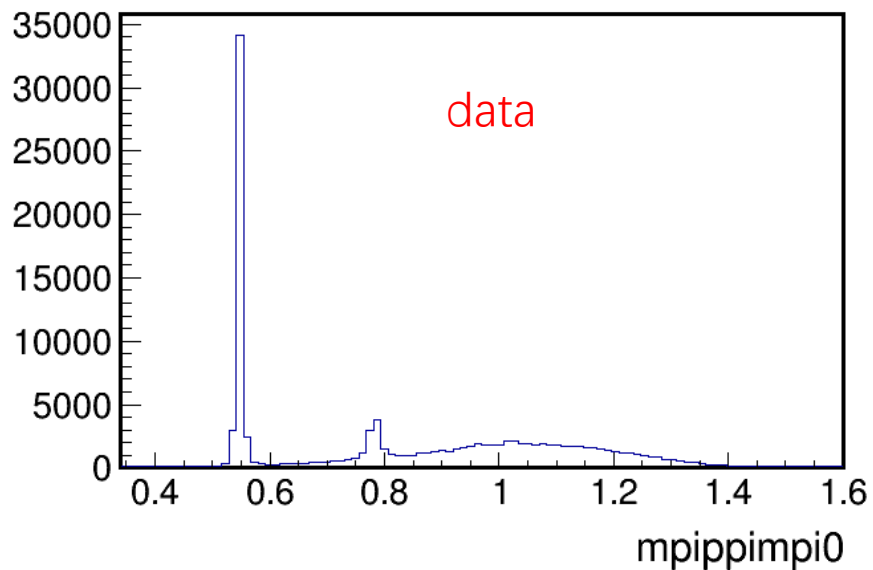


组会报告

2022年6月7日

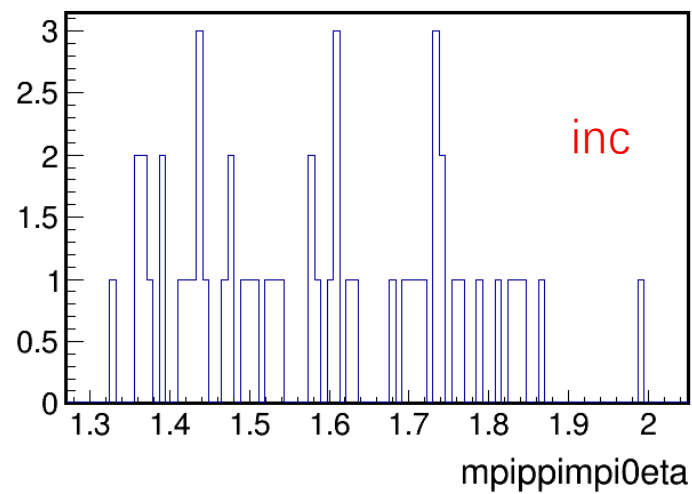
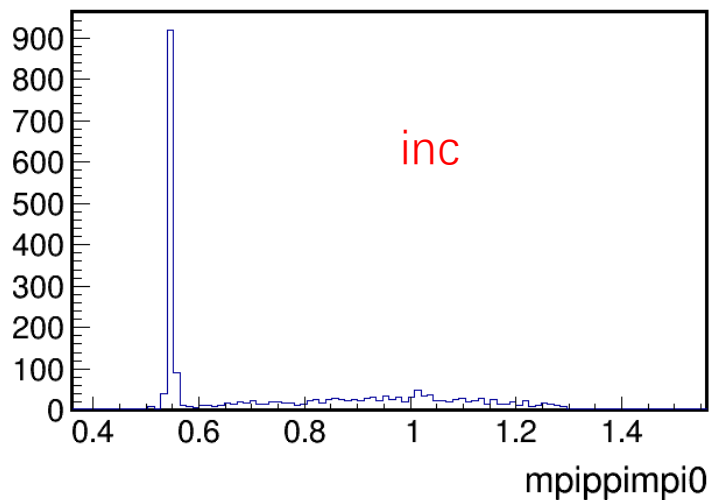


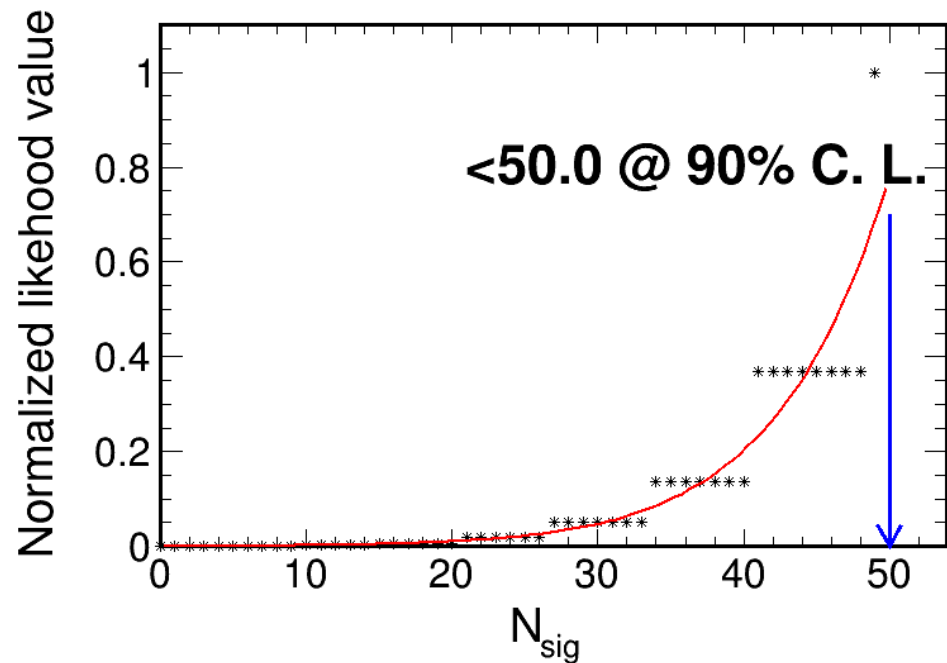
Signal : MC
Bkg: sideband background



`h4->Draw("mpippimpi0","chi5c<80&&abs(mkpkm-1.019)<0.02&&abs(meta-0.548)<0.02")`

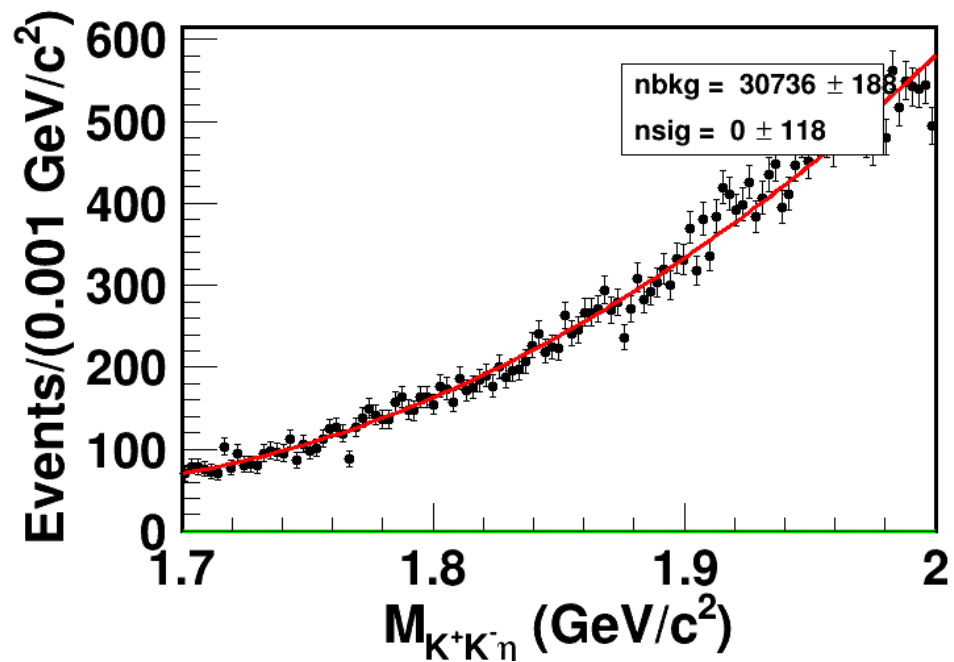
`h4->Draw("mpippimpi0eta","chi5c<80&&abs(mkpkm-1.019)<0.02&&abs(meta-0.548)<0.02&&abs(mpippimpi0-0.782)<0.02")`

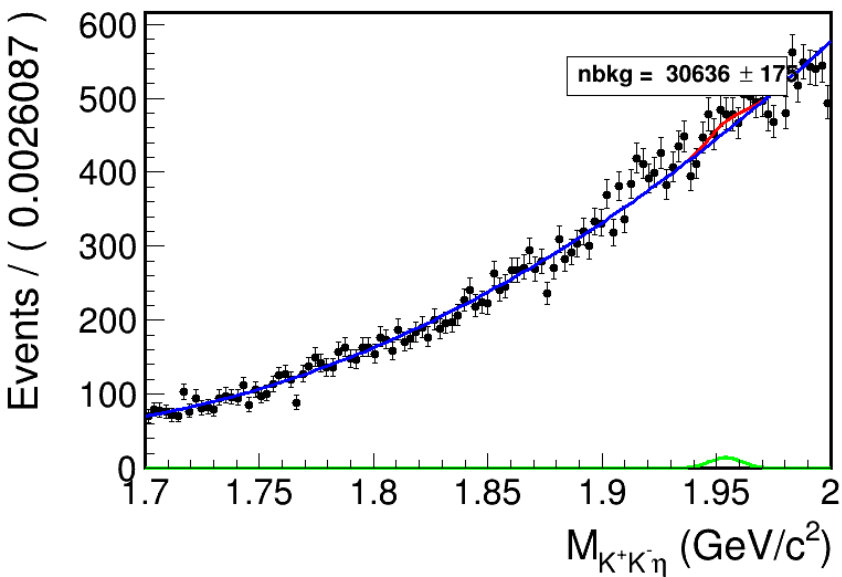




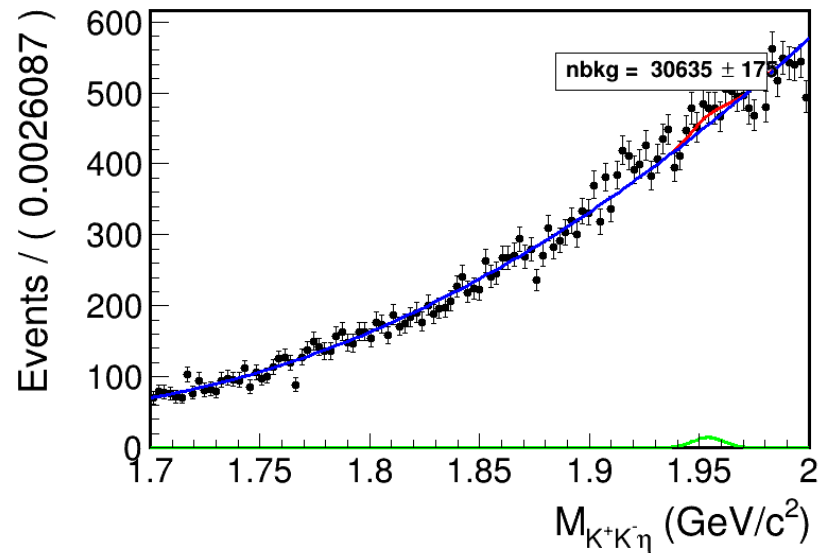
Sig : BW (mean sigma 放开) 卷积高斯
 Bkg : 2阶切比雪夫多项式

若把signal model 换成Signal MC,然后拟合出来的

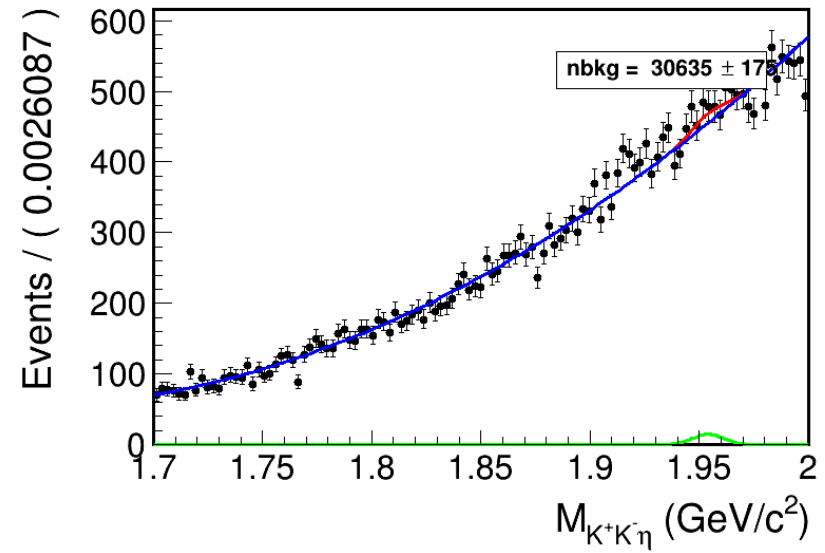




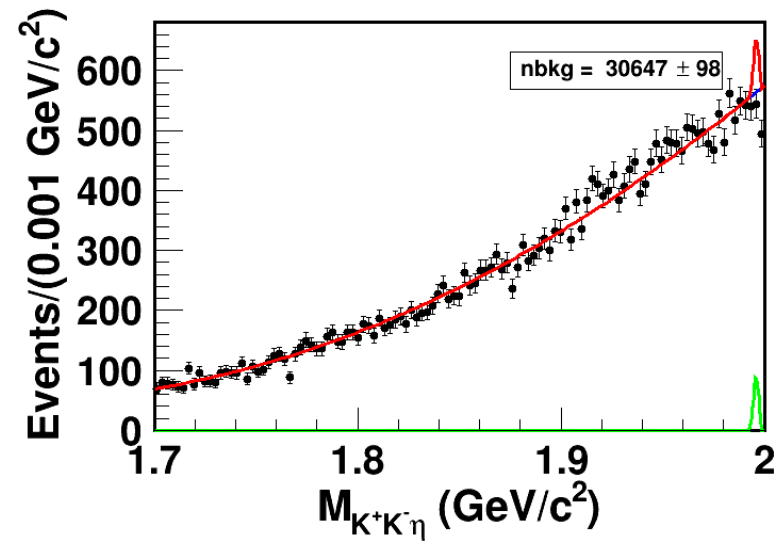
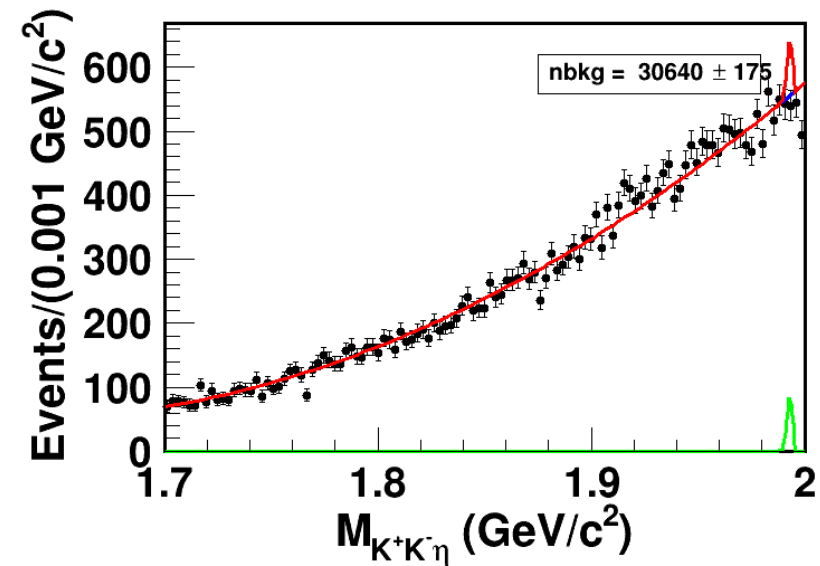
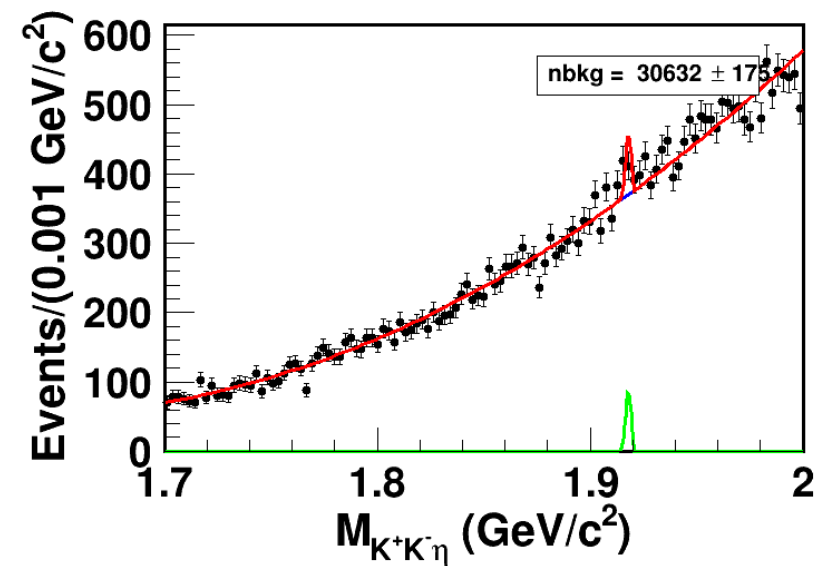
Nsig=98



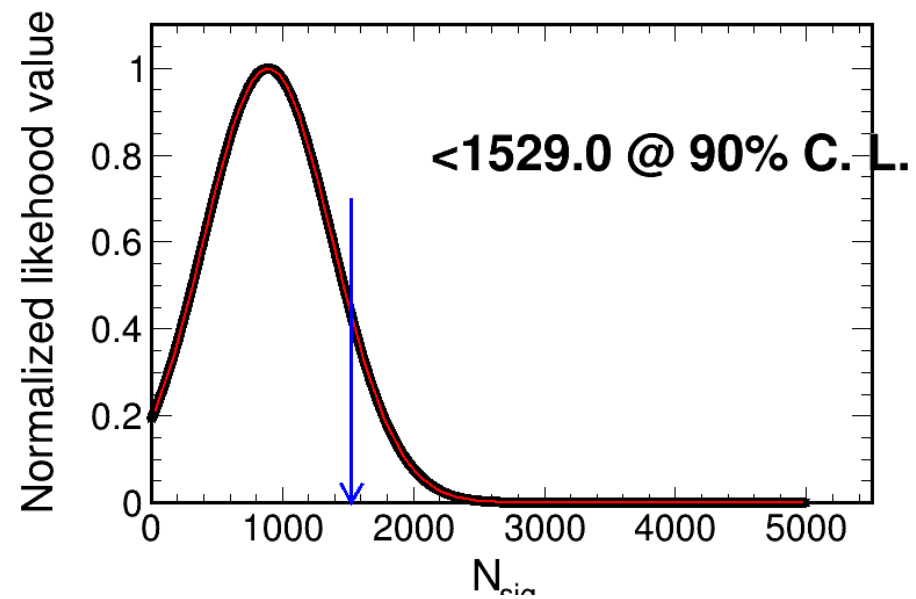
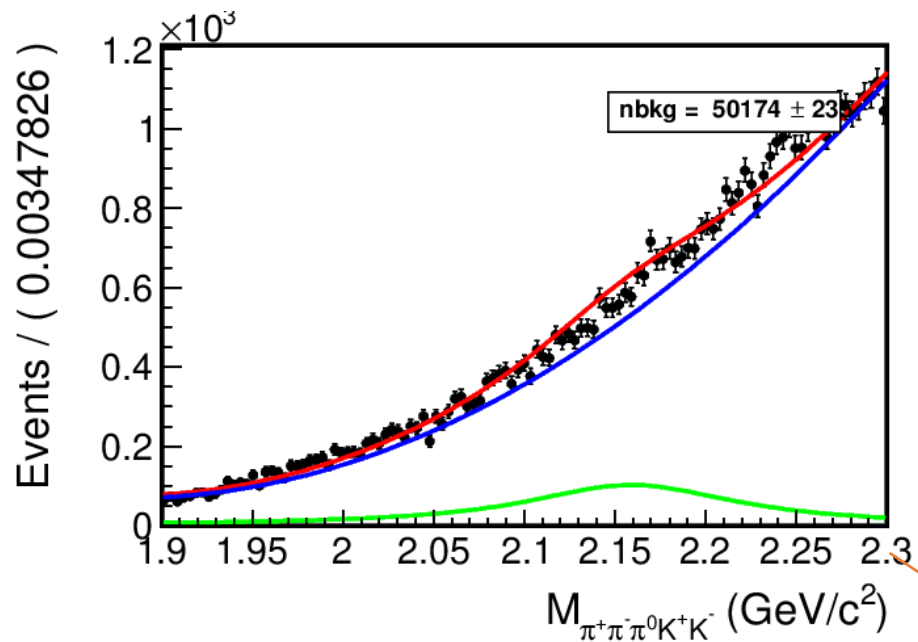
Nsig=99



Nsig=100

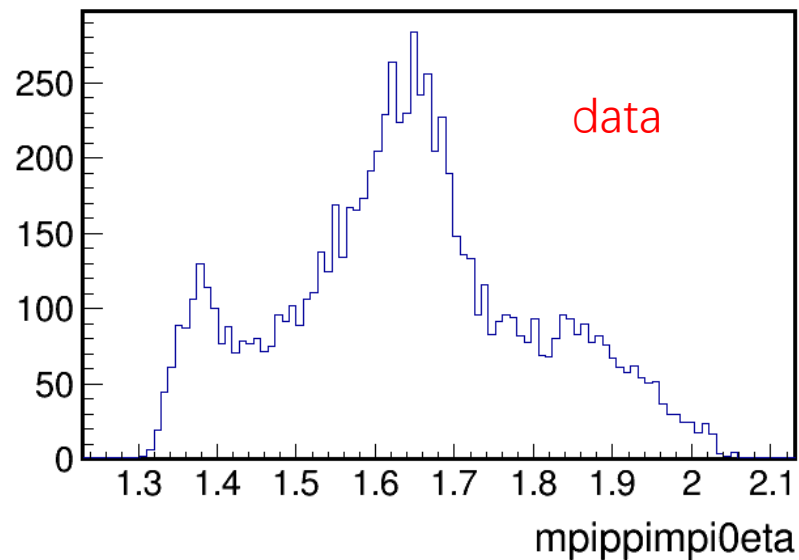
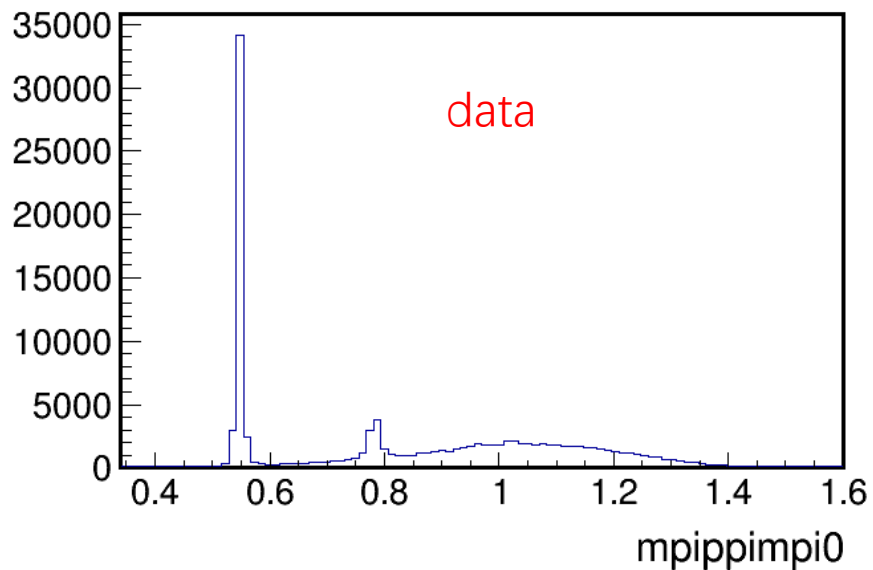


$\omega K^+ K^-$



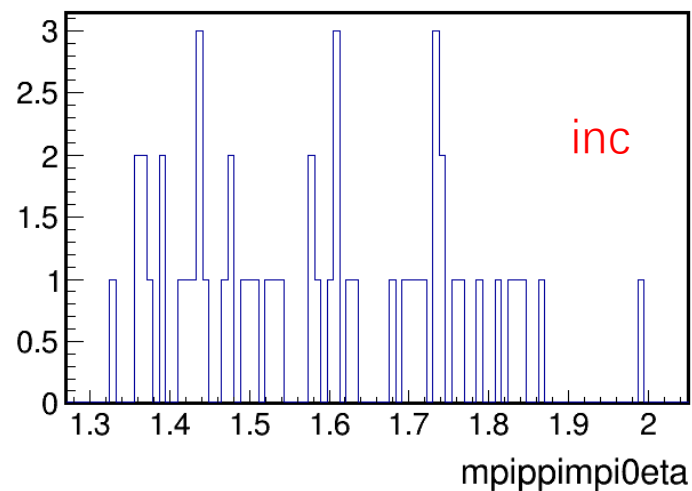
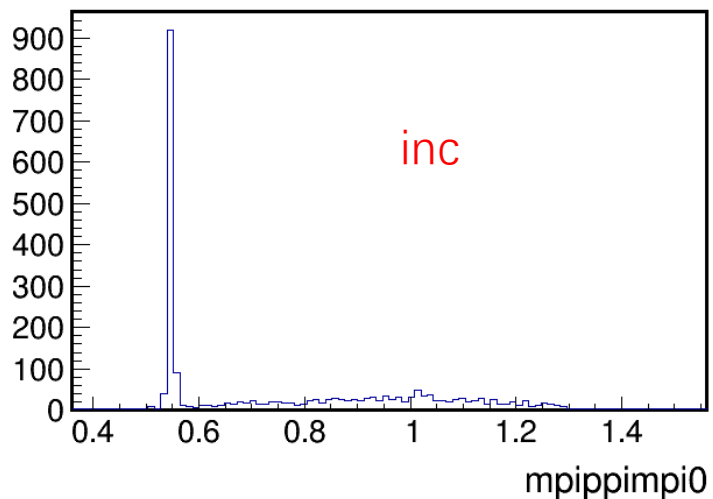
Sig: BW (mean fixed to 2.159 and sigma fixed to 0.137) 卷积 Gauss
Bkg: 2 order Chebychev

取到2.3

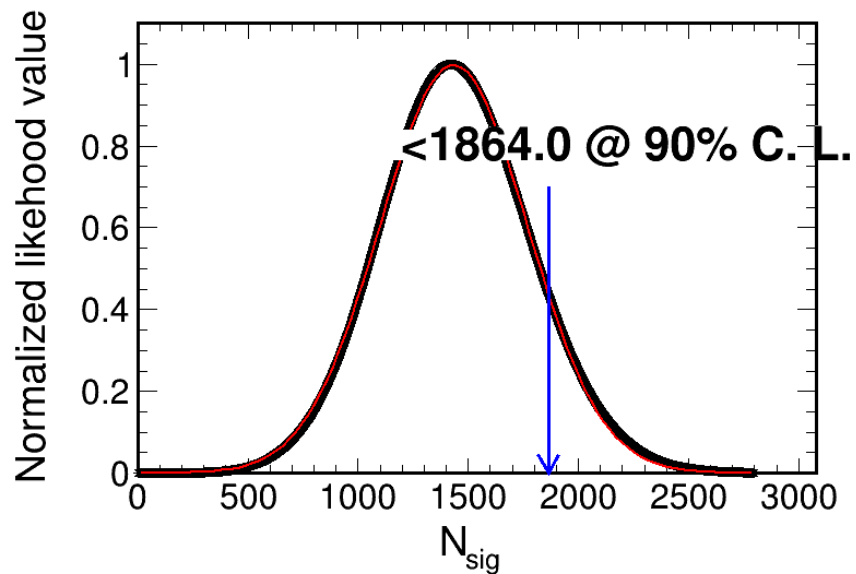
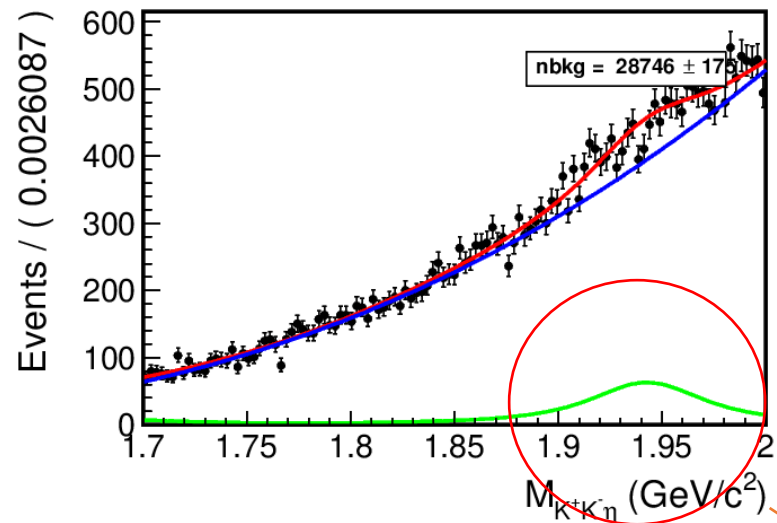


`h4->Draw("mpippimpi0","chi5c<80&&abs(mkpkm-1.019)<0.02&&abs(meta-0.548)<0.02")`

`h4->Draw("mpippimpi0eta","chi5c<80&&abs(mkpkm-1.019)<0.02&&abs(meta-0.548)<0.02&&abs(mpippimpi0-0.782)<0.02")`



$K^+K^-\eta$



Sig: BW (mean fixed to 1.87 and sigma fixed to 0.057) 卷积 Gauss
Bkg: 2 order Chebychev

取到2.1

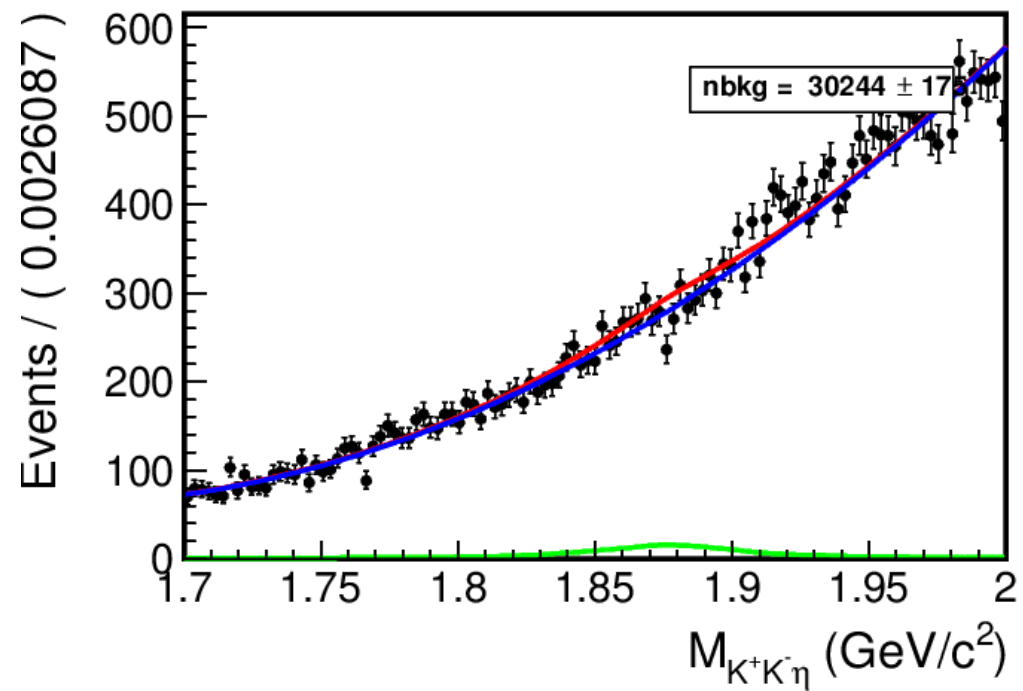
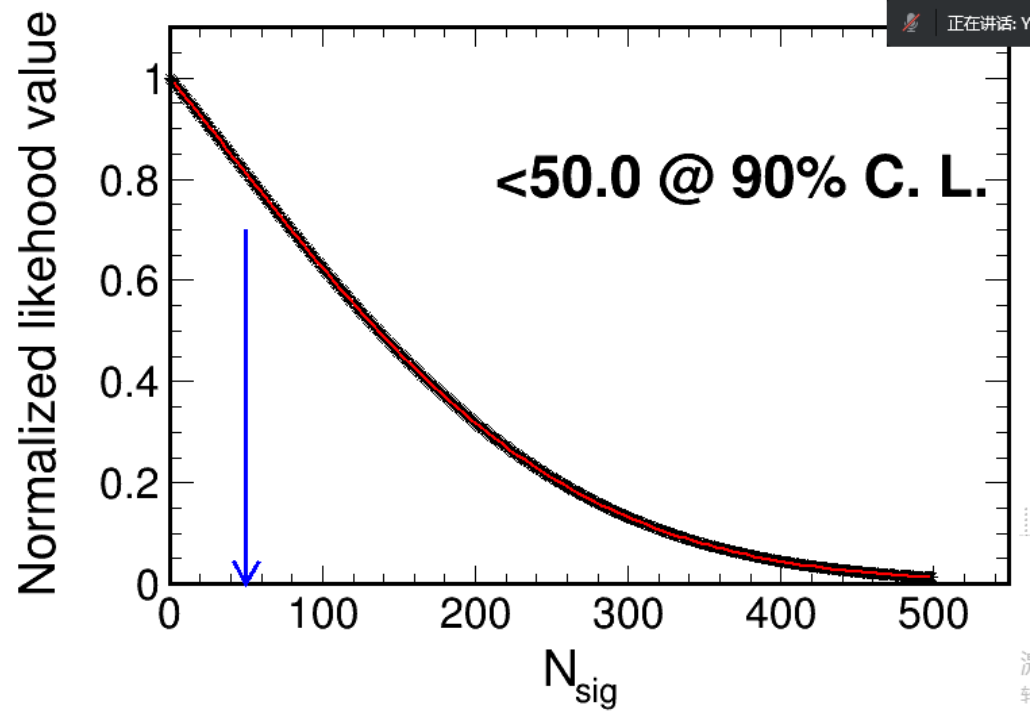
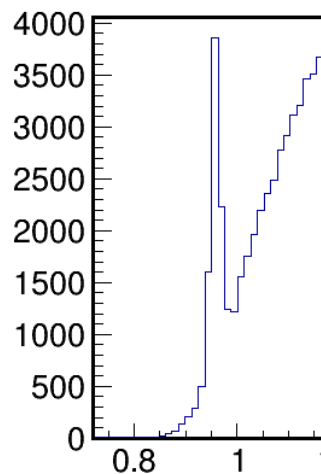


Table 1: Decay trees and their respective initial-final states.

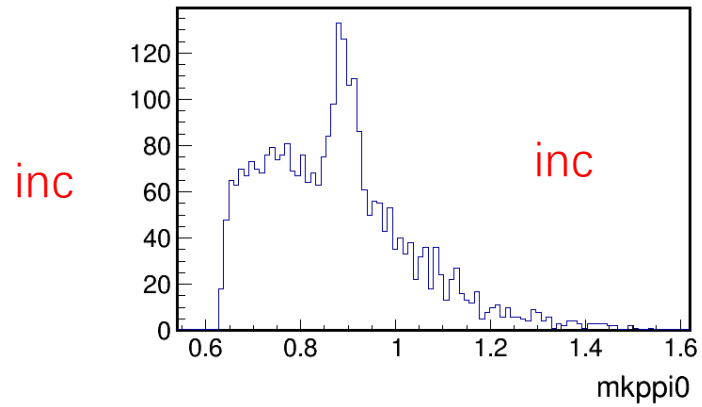
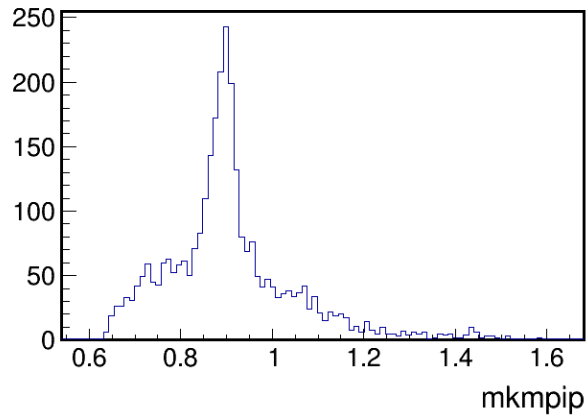
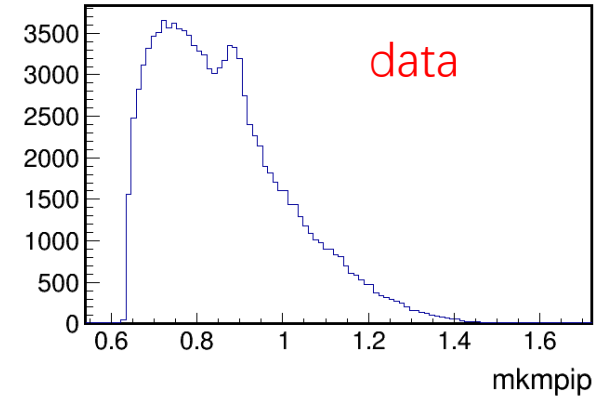
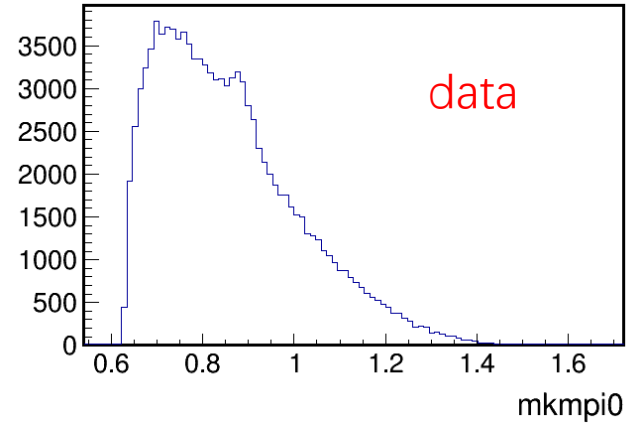
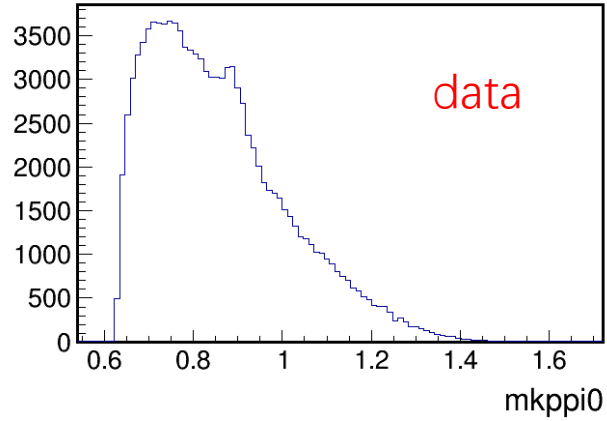
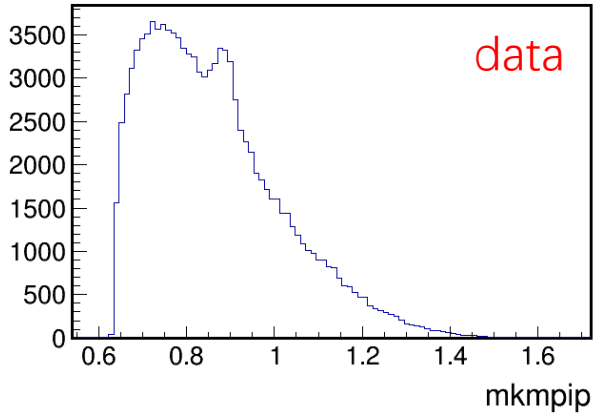
rowNo	decay tree (decay initial-final states)	iDecyTr	iDecyIFSts	nEtr	nCEtr
1	$J/\psi \rightarrow K^+ K^{*-} \eta', K^{*-} \rightarrow \pi^0 K^-, \eta' \rightarrow \pi^+ \pi^- \eta, \eta \rightarrow \gamma \gamma$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	8	0	691	691
2	$J/\psi \rightarrow K^- K^{*+} \eta', K^{*+} \rightarrow \pi^0 K^+, \eta' \rightarrow \pi^+ \pi^- \eta, \eta \rightarrow \gamma \gamma$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	0	0	676	1367
3	$J/\psi \rightarrow \pi^- \eta \bar{K}^* K^{*+}, \eta \rightarrow \gamma \gamma, \bar{K}^* \rightarrow \pi^+ K^-, K^{*+} \rightarrow \pi^0 K^+$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	18	0	361	1728
4	$J/\psi \rightarrow \pi^+ \eta K^* K^{*-}, \eta \rightarrow \gamma \gamma, K^* \rightarrow \pi^- K^+, K^{*-} \rightarrow \pi^0 K^-$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	9	0	316	2044
5	$J/\psi \rightarrow \rho^- \bar{K}^* K^{*+}, \rho^- \rightarrow \pi^0 \pi^-, \bar{K}^* \rightarrow \pi^+ K^-, K^{*+} \rightarrow \pi^0 K^+$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^-$)	16	3	99	2143
6	$J/\psi \rightarrow \pi^0 \eta K^* \bar{K}^*, \eta \rightarrow \gamma \gamma, K^* \rightarrow \pi^- K^+, \bar{K}^* \rightarrow \pi^+ K^-$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	66	0	97	2240
7	$J/\psi \rightarrow \rho^+ K^* K^{*-}, \rho^+ \rightarrow \pi^0 \pi^+, K^* \rightarrow \pi^- K^+, K^{*-} \rightarrow \pi^0 K^-$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^-$)	44	3	94	2334
8	$J/\psi \rightarrow \omega K^{*+} K^{*-}, \omega \rightarrow \pi^0 \pi^+ \pi^-, K^{*+} \rightarrow \pi^0 K^+, K^{*-} \rightarrow \pi^0 K^-$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^0 \pi^+ \pi^- K^+ K^-$)	11	2	83	2417
9	$J/\psi \rightarrow K^* \bar{K}^* b_1^0, K^* \rightarrow \pi^- K^+, \bar{K}^* \rightarrow \pi^+ K^-, b_1^0 \rightarrow \pi^0 \omega, \omega \rightarrow \pi^0 \gamma$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^- \gamma$)	1	1	79	2496
10	$J/\psi \rightarrow \pi^0 \pi^- \bar{K}^* K^{*+}, \bar{K}^* \rightarrow \pi^+ K^-, K^{*+} \rightarrow \pi^0 K^+$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^-$)	28	3	79	2575
11	$J/\psi \rightarrow \bar{K}^* K^{*+} b_1^-, \bar{K}^* \rightarrow \pi^+ K^-, K^{*+} \rightarrow \pi^0 K^+, b_1^- \rightarrow \pi^- \omega, \omega \rightarrow \pi^0 \gamma$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^- \gamma$)	53	1	75	2650
12	$J/\psi \rightarrow K^* K^{*-} b_1^+, K^* \rightarrow \pi^- K^+, K^{*-} \rightarrow \pi^0 K^-, b_1^+ \rightarrow \pi^+ \omega, \omega \rightarrow \pi^0 \gamma$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^- \gamma$)	3	1	72	2722
13	$J/\psi \rightarrow \pi^0 \pi^+ K^* K^{*-}, K^* \rightarrow \pi^- K^+, K^{*-} \rightarrow \pi^0 K^-$ ($J/\psi \rightarrow \pi^0 \pi^0 \pi^+ \pi^- K^+ K^-$)	36	3	61	2783
14	$J/\psi \rightarrow \eta \omega f_2(1270), \eta \rightarrow \gamma \gamma, \omega \rightarrow \pi^0 \pi^+ \pi^-, f_2(1270) \rightarrow \bar{K}^+ K^-$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	20	0	46	2829
15	$J/\psi \rightarrow \eta' h_1(1380), \eta' \rightarrow \pi^+ \pi^- \eta, h_1(1380) \rightarrow K^+ K^{*-}, \eta \rightarrow \gamma \gamma, K^{*-} \rightarrow \pi^0 K^-$ ($J/\psi \rightarrow \pi^0 \pi^+ \pi^- K^+ K^- \gamma \gamma$)	6	0	41	2870
16	$J/\psi \rightarrow \eta' h_1(1380), \eta' \rightarrow \pi^+ \pi^- \eta, h_1(1380) \rightarrow K^- K^{*+}, \eta \rightarrow \gamma \gamma, K^{*+} \rightarrow \pi^0 K^+$	63	0	40	2910

通过对fabs(mpippimeta-0.958)>0.02 的cut去掉前2个bkg channel

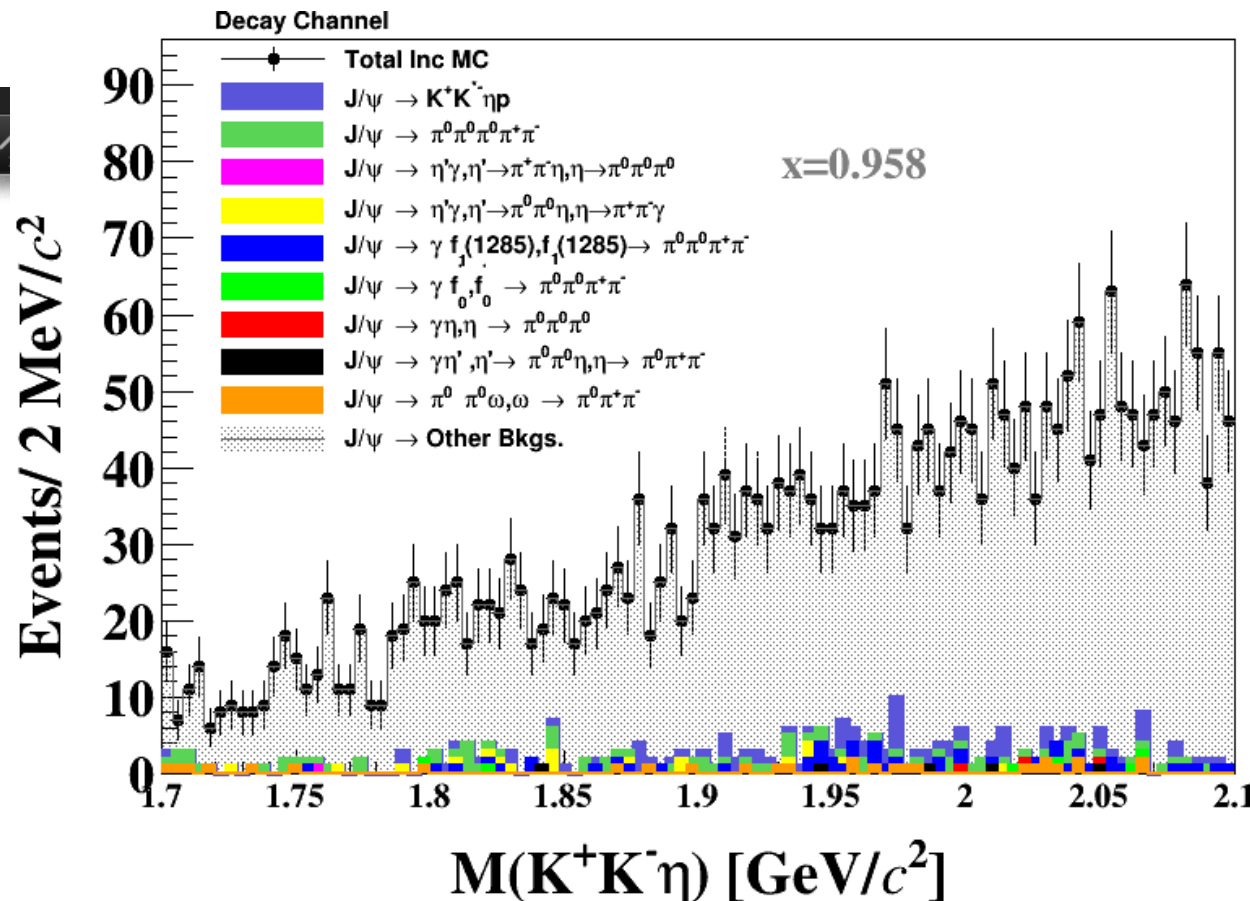
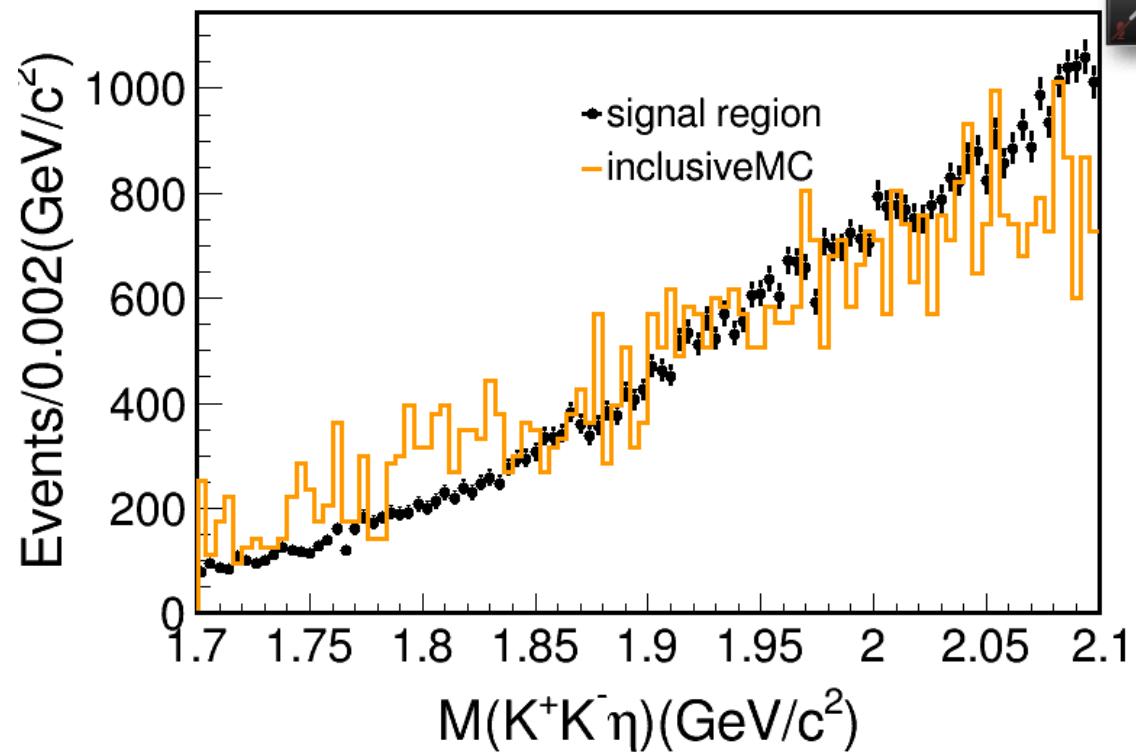


fabs(mpippimeta-0.958)>0.02

After cut : $fabs(mpippimeta-0.958)>0.02$



After cut : $fabs(m_{\pi\pi} - 0.958) > 0.02$



[/besfs5/groups/jpsi/jpsigroup/user/liu/omegakketa/ana/kk_etauplimit/bkgAna/topo/inc_decaychannel.cpp](https://besfs5.groups.jpsi.jp/group/user/liu/omegakketa/ana/kk_etauplimit/bkgAna/topo/inc_decaychannel.cpp)

Data与PHSP (noX(1870)) 对比图

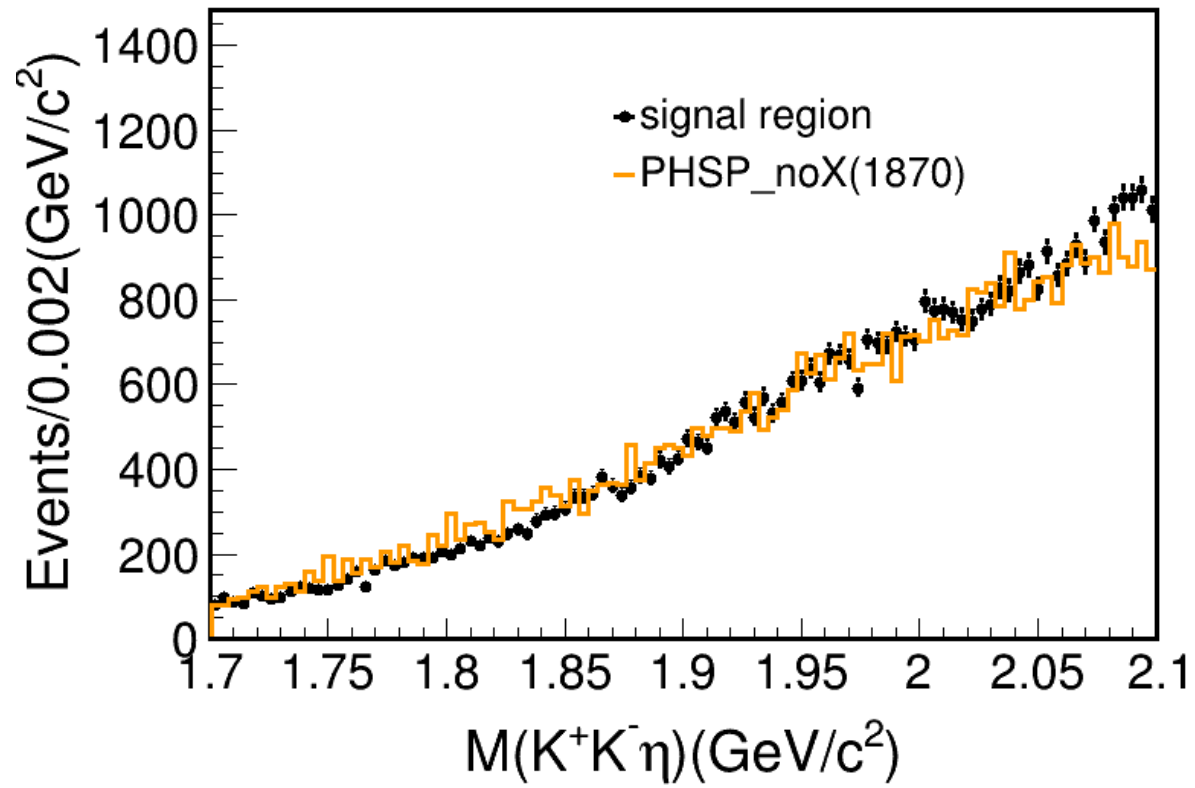


Table 1: Decay trees and their respective initial-final states.

rowNo	decay tree (decay initial-final states)	iDcyTr	iDcyIFSts	nEtr	nCEtr
1	$J/\psi \rightarrow K^+K^{*-}\eta', K^{*-} \rightarrow \pi^0K^-, \eta' \rightarrow \pi^+\pi^-\eta, \eta \rightarrow \gamma\gamma$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	2	1	99	99
2	$J/\psi \rightarrow K^-K^{*+}\eta', K^{*+} \rightarrow \pi^0K^+, \eta' \rightarrow \pi^+\pi^-\eta, \eta \rightarrow \gamma\gamma$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	12	1	87	186
3	$J/\psi \rightarrow \eta' h_1(1380), \eta' \rightarrow \pi^+\pi^-\eta, h_1(1380) \rightarrow K^-K^{*+}, \eta \rightarrow \gamma\gamma, K^{*+} \rightarrow \pi^0K^+$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	7	1	58	244
4	$J/\psi \rightarrow \pi^-\eta\bar{K}^*K^{*+}, \eta \rightarrow \gamma\gamma, \bar{K}^* \rightarrow \pi^+K^-, K^{*+} \rightarrow \pi^0K^+$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	36	1	51	295
5	$J/\psi \rightarrow \eta' h_1(1380), \eta' \rightarrow \pi^+\pi^-\eta, h_1(1380) \rightarrow K^+K^{*-}, \eta \rightarrow \gamma\gamma, K^{*-} \rightarrow \pi^0K^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	9	1	50	345
6	$J/\psi \rightarrow \eta K^-K_1^+, \eta \rightarrow \gamma\gamma, K_1^+ \rightarrow \omega K^+, \omega \rightarrow \pi^0\pi^+\pi^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	22	1	32	377
7	$J/\psi \rightarrow \pi^+\eta K^*K^{*-}, \eta \rightarrow \gamma\gamma, K^* \rightarrow \pi^-K^+, K^{*-} \rightarrow \pi^0K^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	10	1	31	408
8	$J/\psi \rightarrow \eta K^+K_1^-, \eta \rightarrow \gamma\gamma, K_1^- \rightarrow \omega K^-, \omega \rightarrow \pi^0\pi^+\pi^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	33	1	29	437
9	$J/\psi \rightarrow \bar{K}^*K^{*+}b_1^-, \bar{K}^* \rightarrow \pi^+K^-, K^{*+} \rightarrow \pi^0K^+, b_1^- \rightarrow \pi^-\omega, \omega \rightarrow \pi^0\gamma$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	16	0	22	459
10	$J/\psi \rightarrow \eta K^+K_2^{*-}, \eta \rightarrow \gamma\gamma, K_2^{*-} \rightarrow \omega K^-, \omega \rightarrow \pi^0\pi^+\pi^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	3	1	20	479
11	$J/\psi \rightarrow \eta K^-K_2^{*+}, \eta \rightarrow \gamma\gamma, K_2^{*+} \rightarrow \omega K^+, \omega \rightarrow \pi^0\pi^+\pi^-$ ($J/\psi \rightarrow \pi^0\pi^+\pi^-K^+K^-\gamma\gamma$)	26	1	17	496
12	$J/\psi \rightarrow \rho^+K^*K^{*-}, \rho^+ \rightarrow \pi^0\pi^+, K^* \rightarrow \pi^-K^+, K^{*-} \rightarrow \pi^0K^-$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	29	4	17	513
13	$J/\psi \rightarrow \pi^0\pi^-\bar{K}^*K^{*+}, \bar{K}^* \rightarrow \pi^+K^-, K^{*+} \rightarrow \pi^0K^+$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	27	4	15	528
14	$J/\psi \rightarrow K^*K^{*-}b_1^+, K^* \rightarrow \pi^-K^+, K^{*-} \rightarrow \pi^0K^-, b_1^+ \rightarrow \pi^+\omega, \omega \rightarrow \pi^0\gamma$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	14	0	14	542
15	$J/\psi \rightarrow \omega K^{*+}K^{*-}, \omega \rightarrow \pi^0\pi^+\pi^-, K^{*+} \rightarrow \pi^0K^+, K^{*-} \rightarrow \pi^0K^-$ ($J/\psi \rightarrow \pi^0\pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	34	2	11	553
16	$J/\psi \rightarrow \pi^0\pi^+K^*K^{*-}, K^* \rightarrow \pi^-K^+, K^{*-} \rightarrow \pi^0K^-$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	17	4	10	563
17	$J/\psi \rightarrow K^{*+}K_1^-\gamma, K^{*+} \rightarrow \pi^0K^+, K_1^- \rightarrow \omega K^-, \omega \rightarrow \pi^0\pi^+\pi^-$ ($J/\psi \rightarrow \pi^0\pi^0\pi^+\pi^-K^+K^-\gamma$)	20	0	10	573