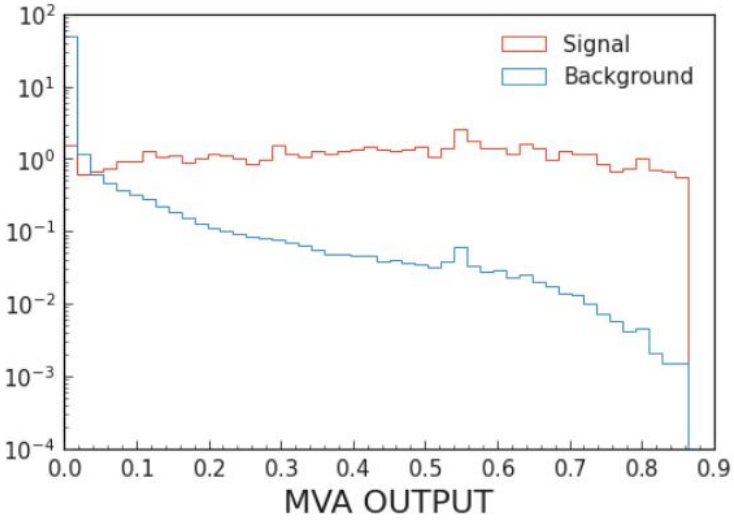
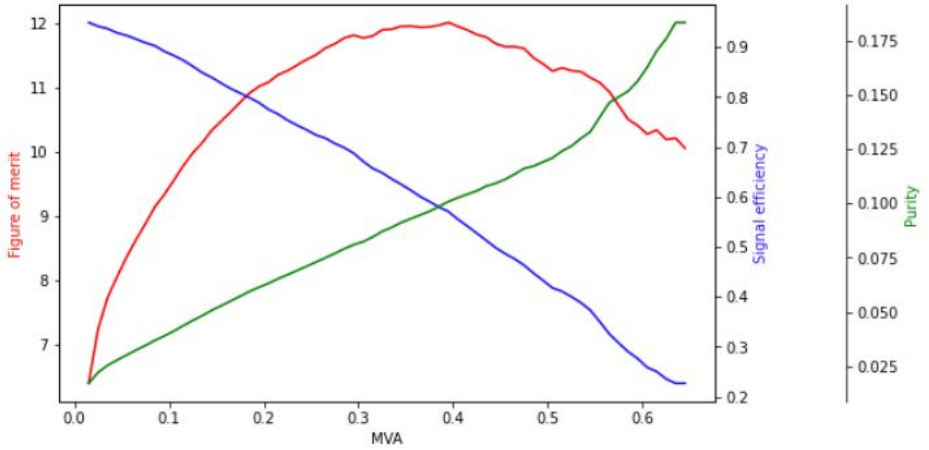
Update

UM-BNL

$\Xi_c^+ \rightarrow \Sigma^+ \pi^+ \pi^-$

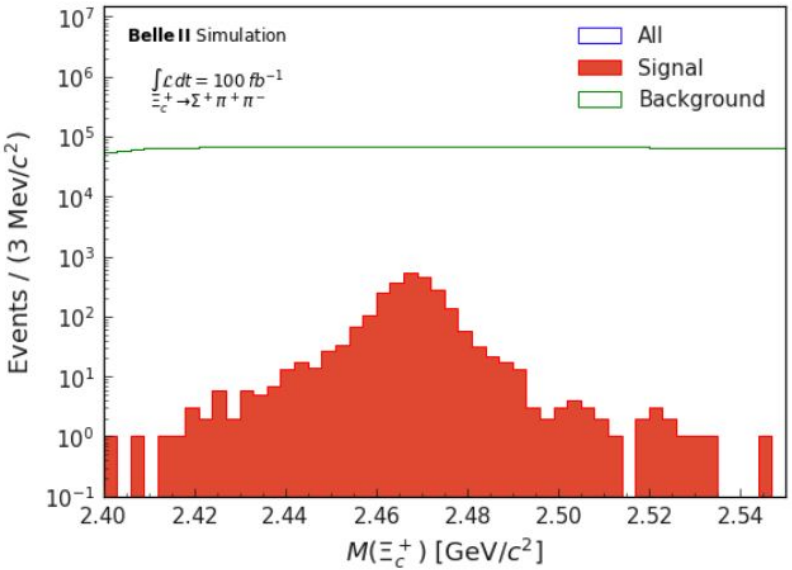
- Moved Analysis to MC14a



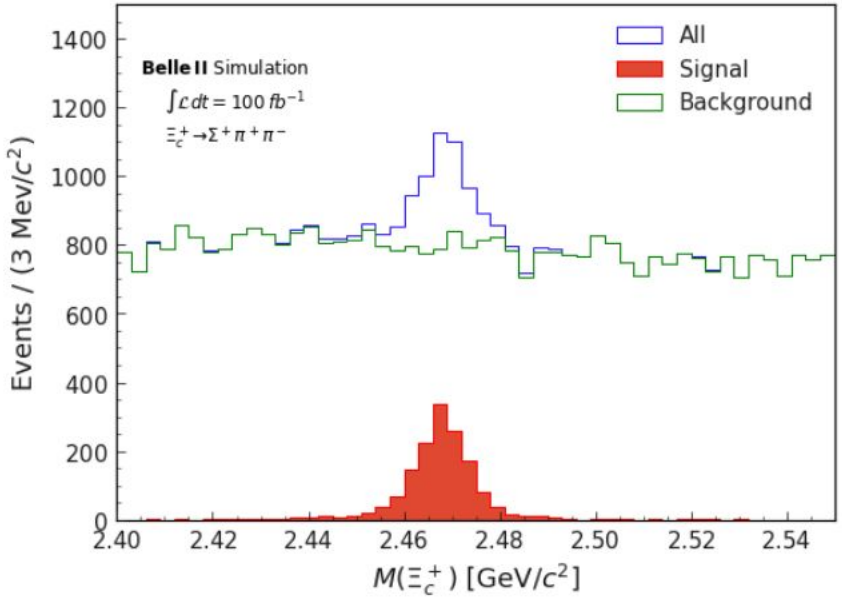


MVA > 0.38

Mass plot Ξ_c^+



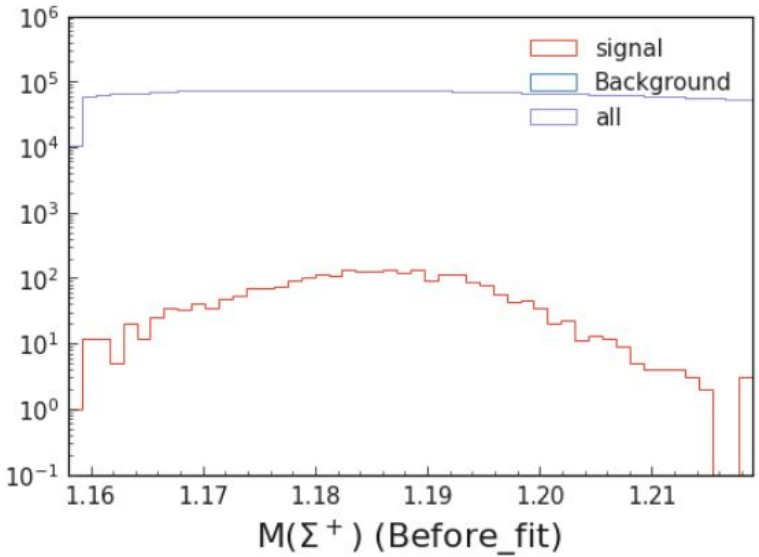
Before MVA



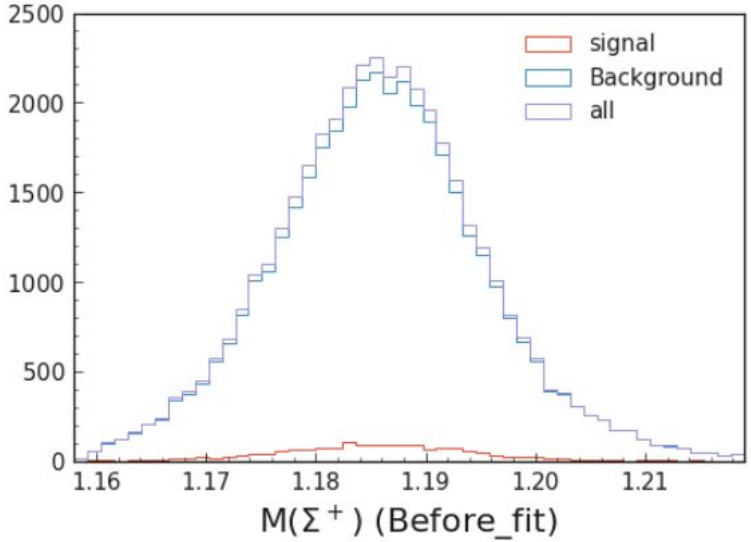
After MVA

Mass plot $\sum^+$: Before Vertex Fit

- $\sum^+$ is mass constraints during vertex Tree Fit

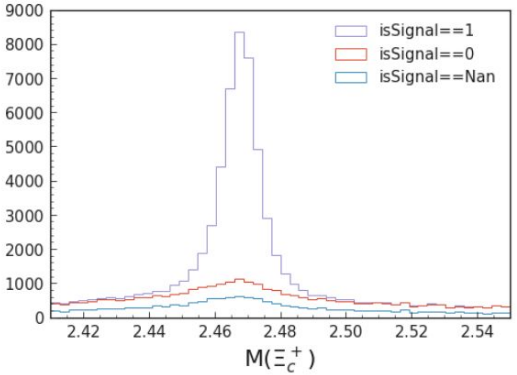


Before MVA

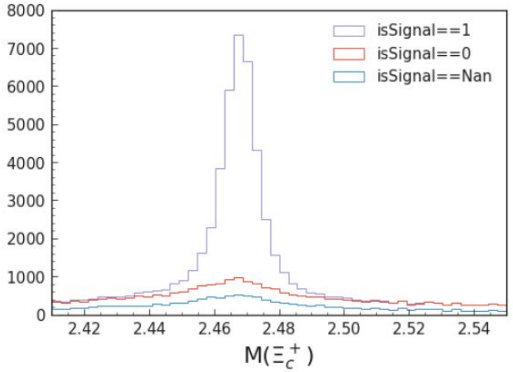


After MVA

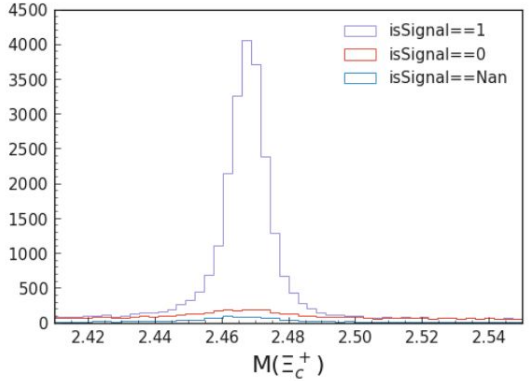
SignalMC $\Xi_c^+ \to \Sigma^+ \pi^+ \pi^-$



Reconstruction Level

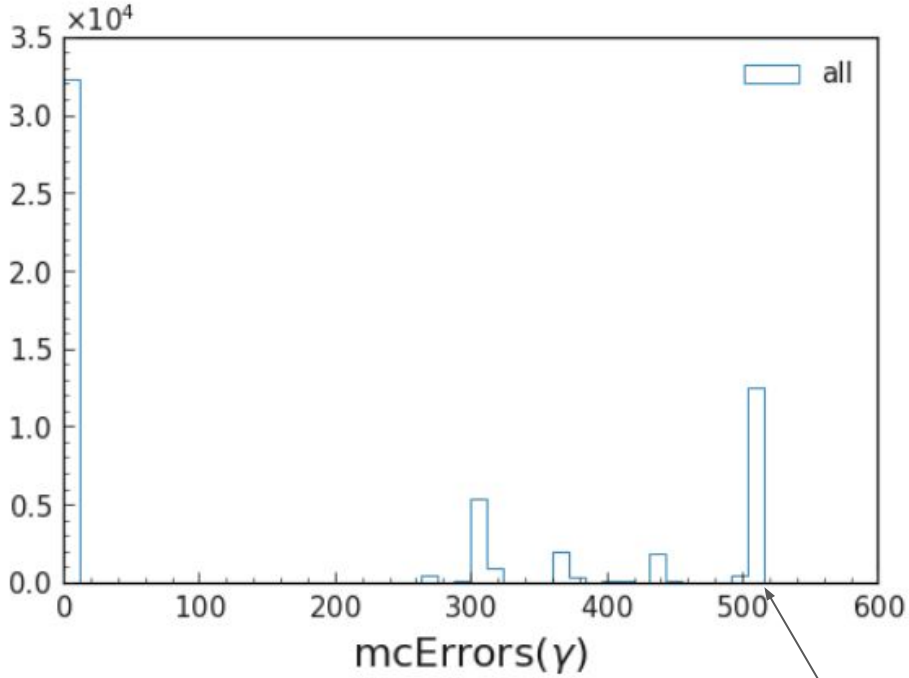


ProtonID > 0.9

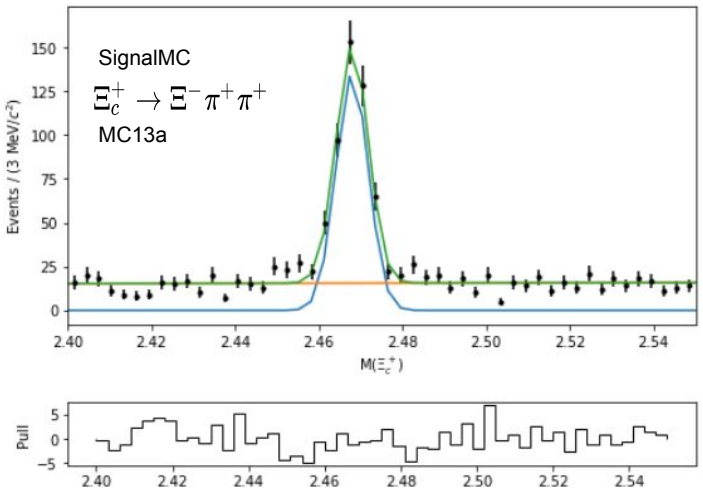


ProtonID > 0.9 + MVA > 0.38

isSignal == Nan : mcErrors == 512 (MC match failed)

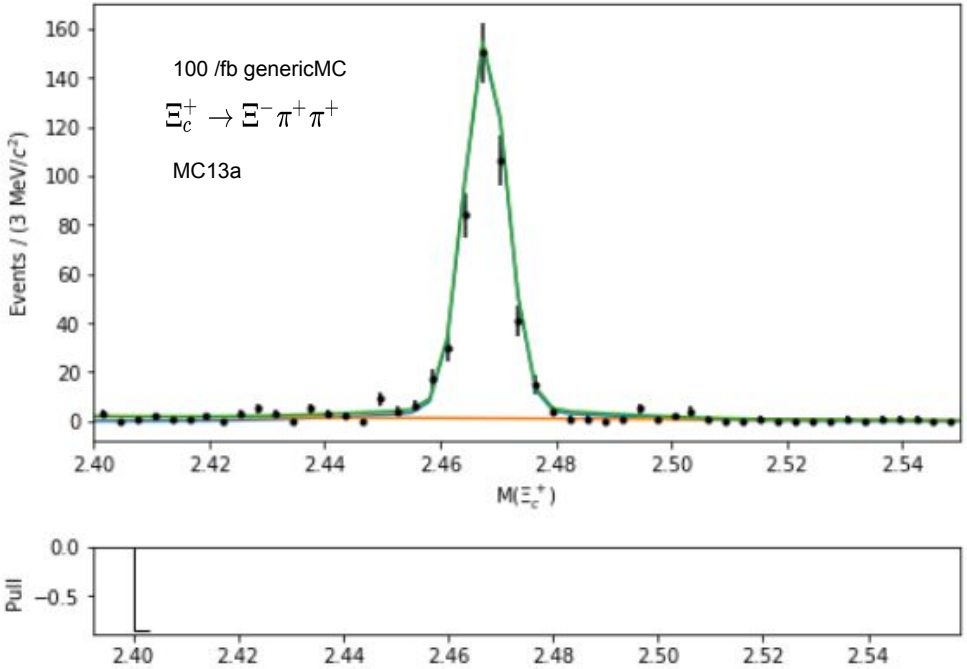

×10^4
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
all
0
100
200
300
400
500
600
mcErrors(γ)
512

FiT Double gaussian + 1st order Chebychev



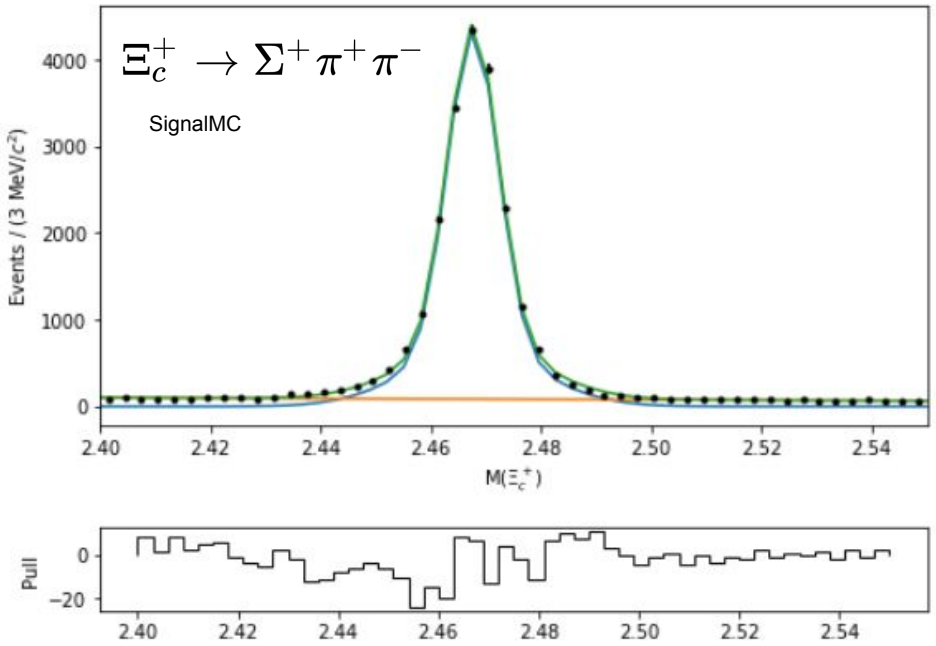
name	value	minuit_hesse
sig_yield	433.2	+/- 25
bkg_yield	777.8	+/- 31
fg1	0.9999	+/- 0.014
mu1	2.468	+/- 0.00023
s1	0.003831	+/- 0.00022
s2	0.9718	+/- 0.23
a	0.01373	+/- 0.064

signal: 395
bkg: 816



name	value	minuit_hesse
sig_yield	470	+/- 24
bkg_yield	47.8	+/- 13
fg1	0.1221	+/- 0.035
mu1	2.468	+/- 0.0002
s1	0.02013	+/- 0.0044
s2	0.003663	+/- 0.0002
a	-0.7554	+/- 0.2

signal: 456
bkg: 62



name	value	minuit_hesse
sig_yield	20540	+/- 1.6e+02
bkg_yield	4137	+/- 98
fg1	0.6914	+/- 0.018
mu1	2.468	+/- 4.6e-05
s1	0.004599	+/- 8.3e-05
s2	0.0121	+/- 0.00045
a	-0.2068	+/- 0.028

signal: 21563
bkg: 5738

For generic 100/fb : The fit is failing. Work on progress.

Ongoing:

- Moving $\Xi_c^+ \to \Xi^- \pi^+ \pi^+$ to MC14a.
- $\Xi_c^+ \to \Sigma^+ K^- \pi^+$: Downloading Output
- $\Xi_c^+ \to \Sigma^+ K^+ K^-$: Just startng