

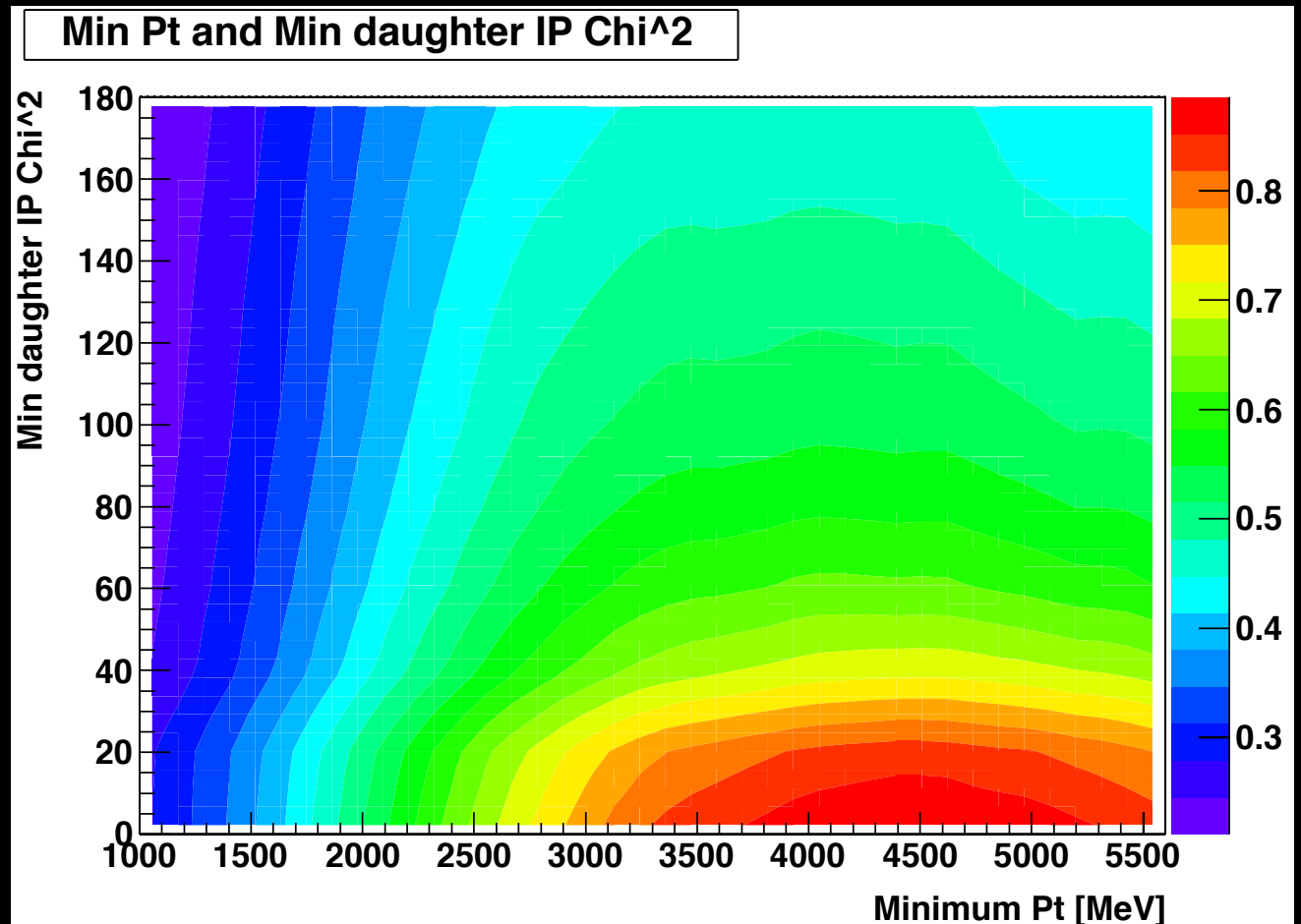
Lambda_c+ Hybrid Selection

First look at 25k Xicc+ MC

18/11/11

Min daughter IP χ^2 wrt PV

- Last week looked at IP.
Look at IP χ^2 instead.
- Doesn't seem useful either.



Summary of variables

Useful Variable	Cut type	Loose	Tight
Pt greater than...	Mother	3.5GeV	4.5GeV
End Vertex Chi ² less than...	Mother	5.5	3
DIRA greater than...	Mother	0.999	0.9996
DOCA less than...	Combination	1.25	0.75
PIDp greater than	Daughter	15	30
PIDK greater than	Daughter	5	15
All daughter track Chi ² less than	Daughter	3.5	2
Daughter track Ghost Probability less than...	Daughter	0.5	0.5

Cuts providing no Discrimination

Minimum fdpv and fdpv Chi²

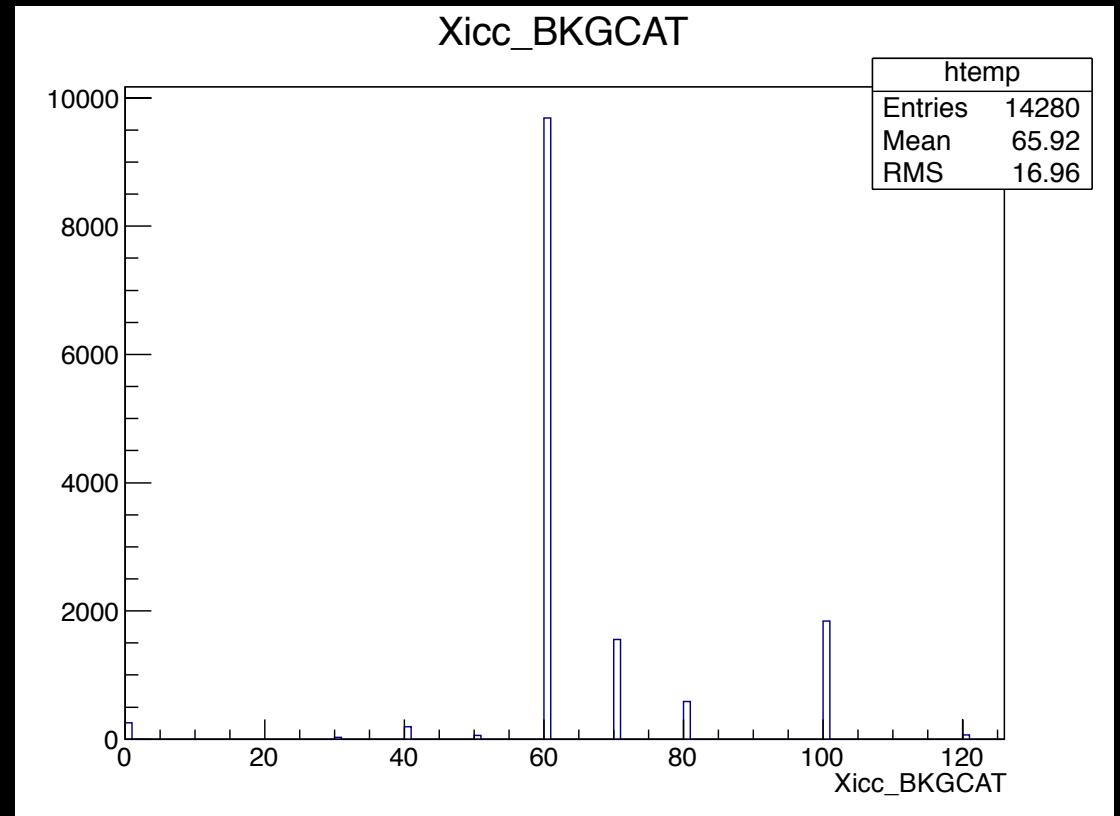
Minimum (greatest daughter IP and IP Chi²)

Xicc+ MC

- 25k events generated by Feng.
- Lambda_c Selection:
 - Daughter:
 - All tracks $\chi^2/\text{NDoF} < 5$
 - All tracks $P > 2\text{GeV}$
 - Combination:
 - $\pm 110\text{MeV}$ mass window
 - $P_t > 1\text{GeV}$
 - $\text{DOCA} < 0.5\text{mm}$
 - Mother:
 - Vertex $\chi^2 < 20$
 - $\text{fdpv}\chi^2 > 9$
 - $\text{DIRA} > 0.98$
- Xicc+ Selection:
 - Combination:
 - $\text{DOCA} < 0.5\text{mm}$
 - Mother:
 - $\pm 500\text{ MeV}$ Mass Window
 - Vertex $\chi^2 < 20$

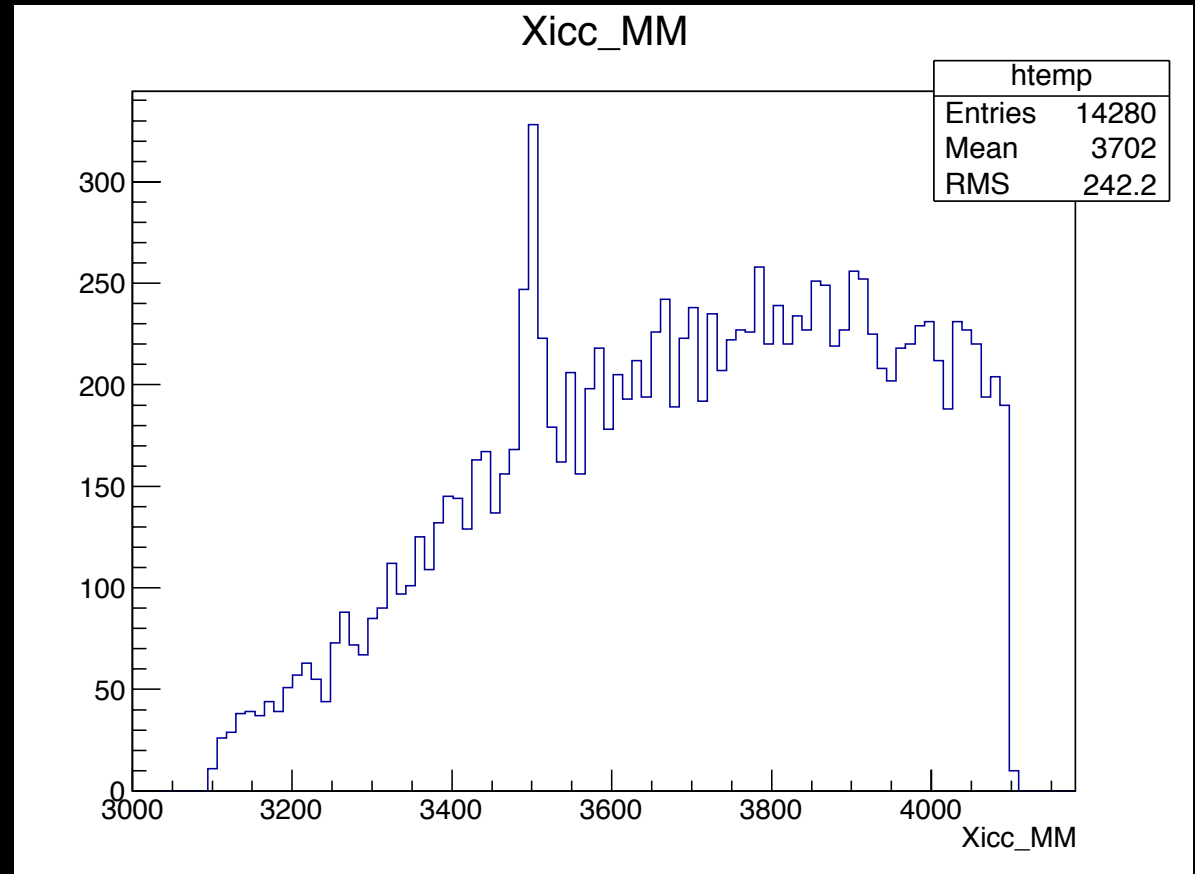
Xicc+ MC

- 25k events generated by Feng.
- Should have around 500 signal events in dataset (BKGCAT = 0).
- Naive 2% efficiency.

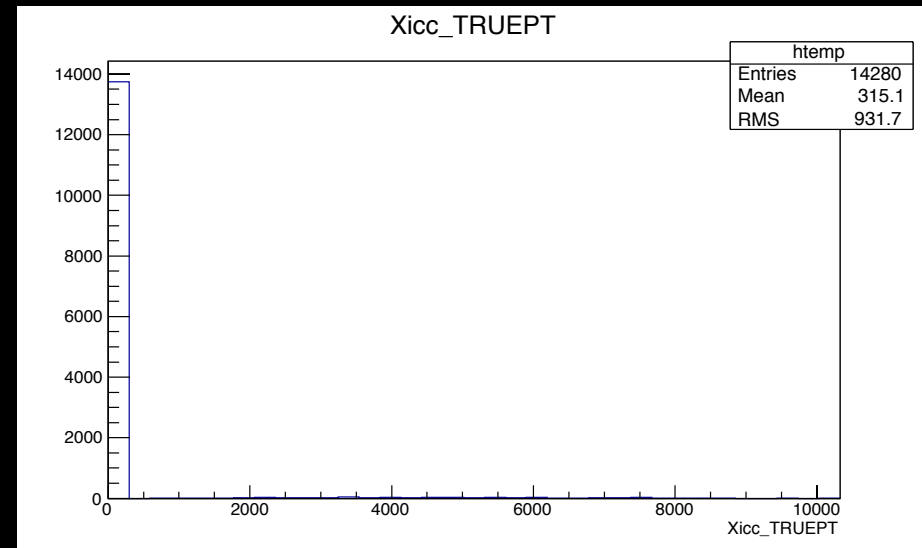
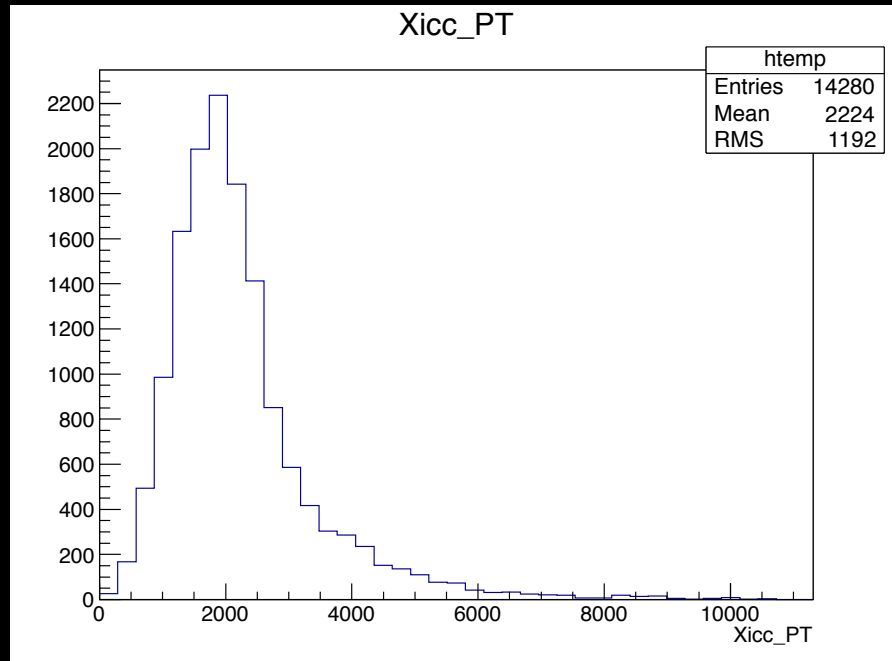


Xicc+ Mass

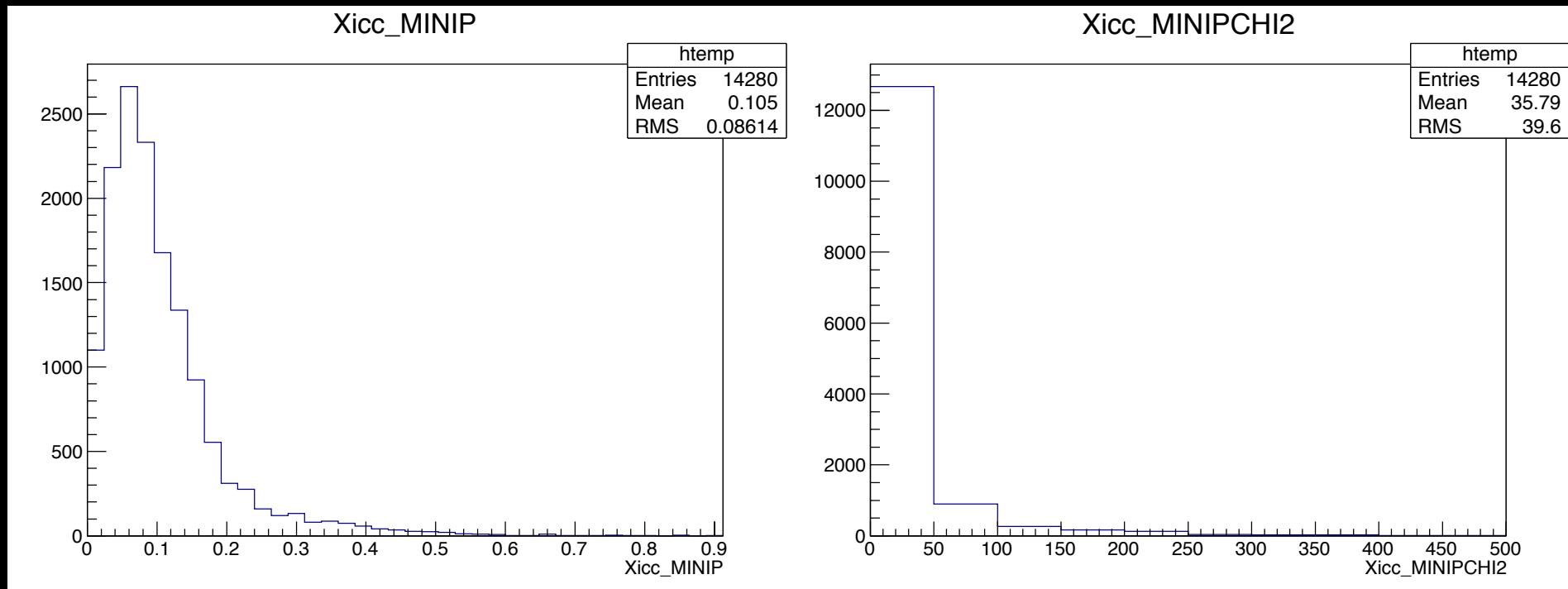
- Can observe peak around 3.5GeV (I used wrong mass hypothesis in selection hence assymmetric window).



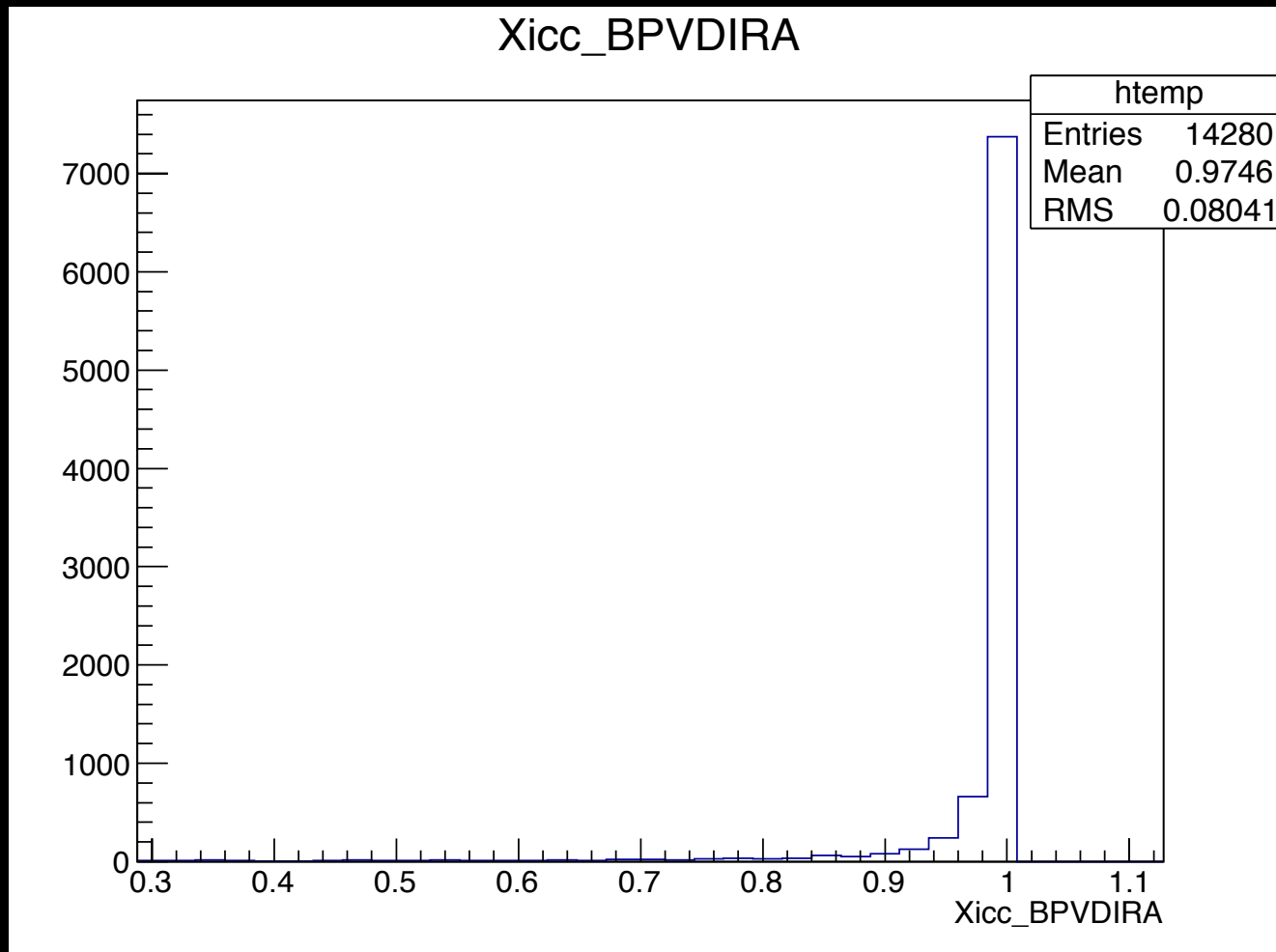
Xicc+ Pt



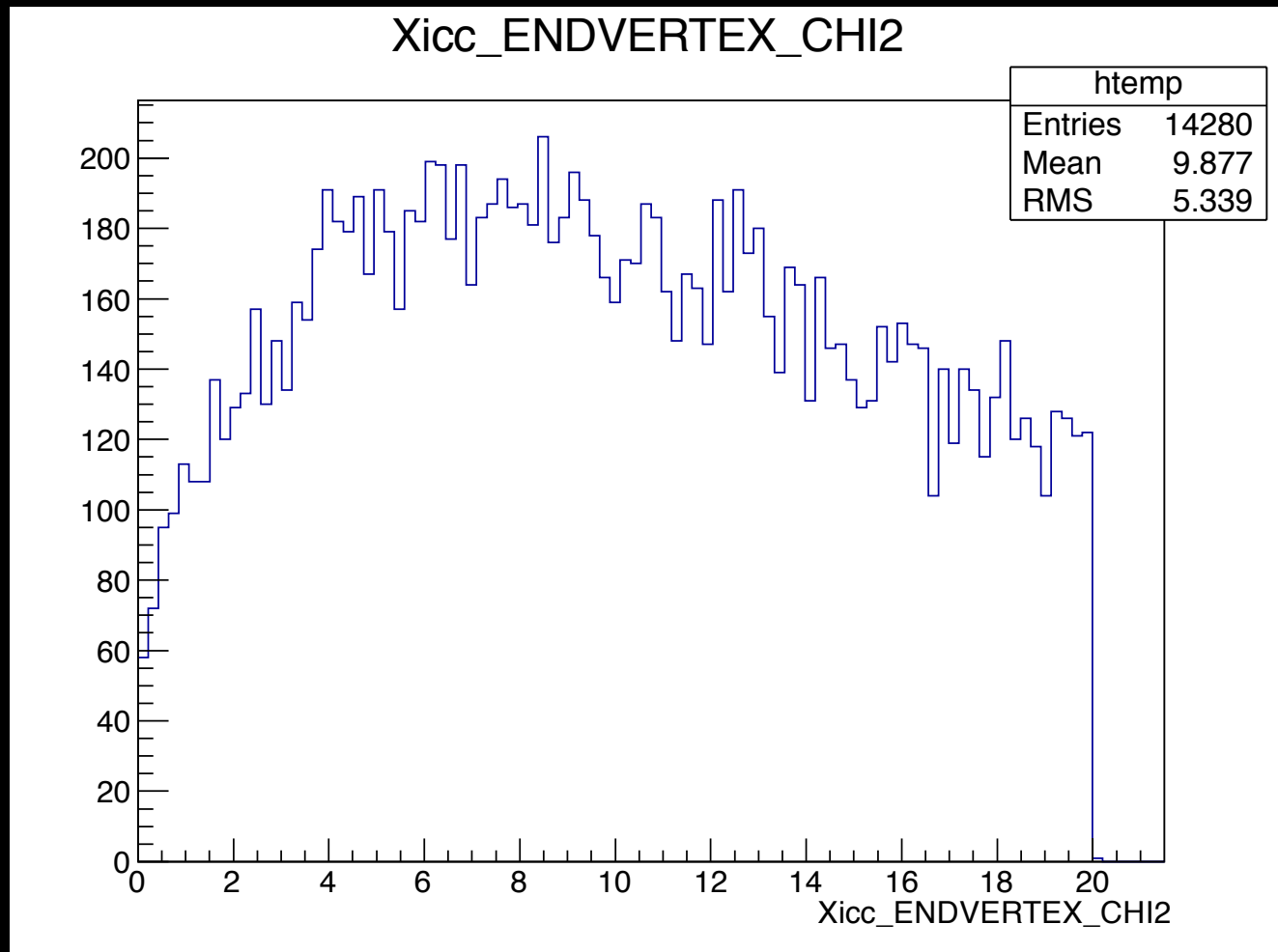
Xicc+ IP and χ^2



Xicc+ DIRA



Xicc Vertex χ^2



Xicc fd own pv

