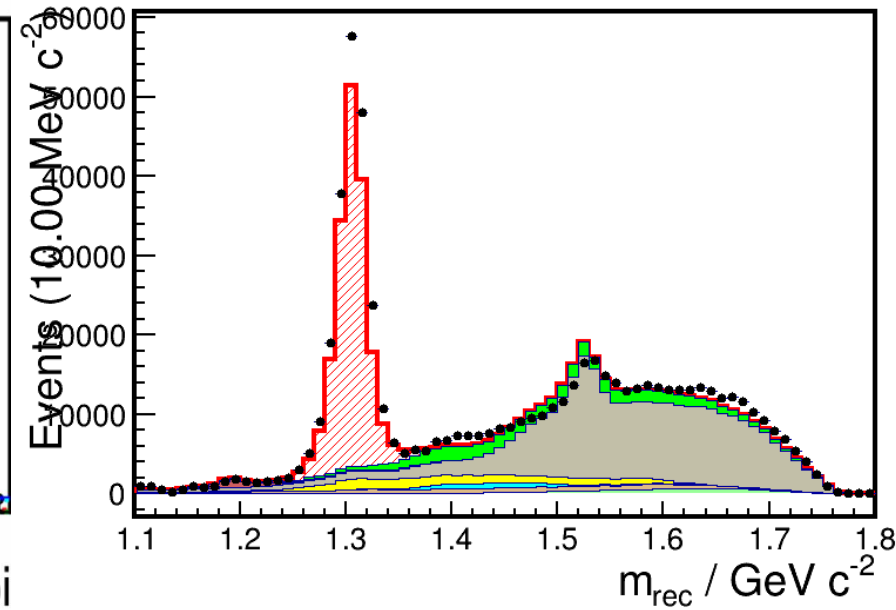
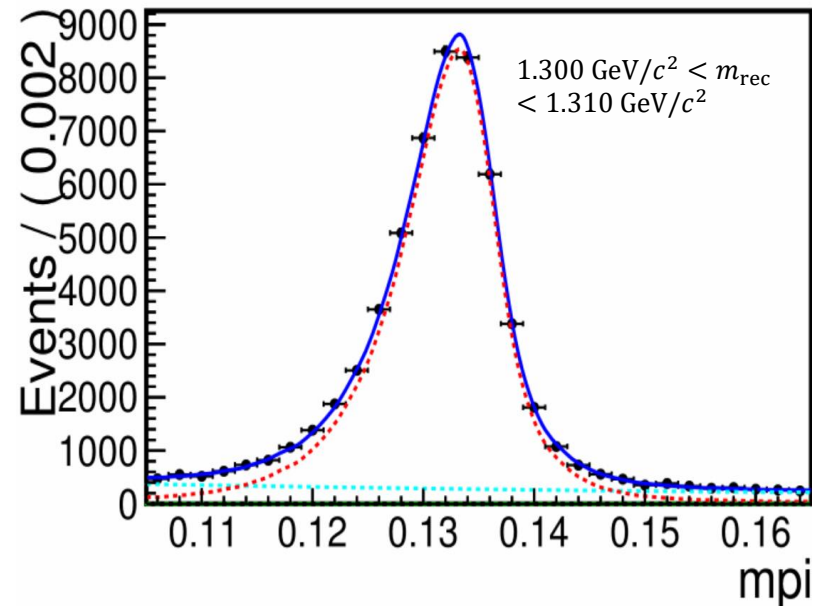
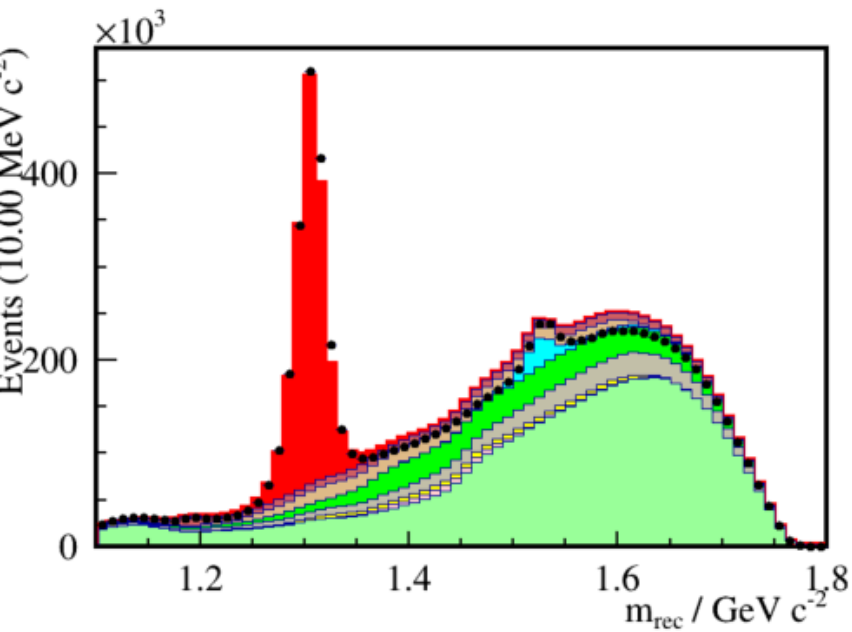


Single Tag Analysis

ST Yield Extraction

Self-background & most other background induced by the high π^0 mis-identification prob.

Idea: “bin-by-bin” fit to extract the number of real π^0 & fit the π^0 -matched m_{rec} distribution



Pi0 efficiency correction

Take $\Xi^0 \rightarrow \Lambda \pi^0$ as example

ST selection:

DT Ξ^0 selection:

- Exactly one p, \bar{p}, π^+, π^- and one Λ
- 2C fit under the hypothesis $\bar{\Lambda}\pi^0(\gamma\gamma)\Lambda + \pi^0(\text{missing})$
- Extract the signal number with $m_{\Lambda\pi^0}$
- $1.28 \text{ GeV} < m_{\Lambda\pi^0} < 1.34 \text{ GeV}$

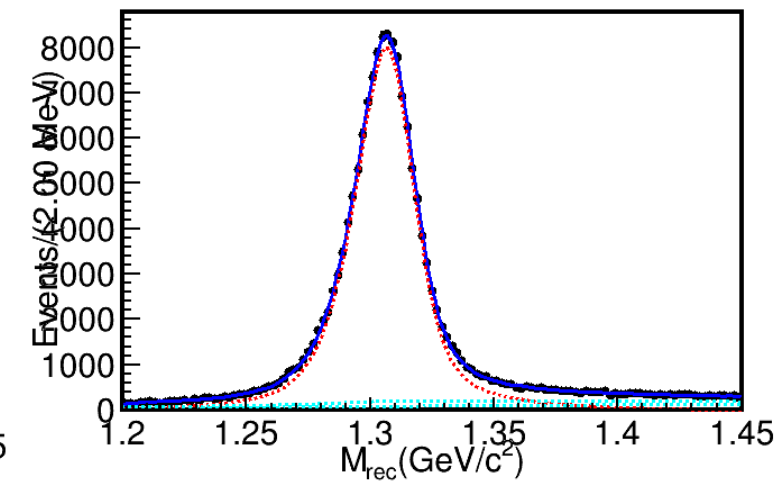
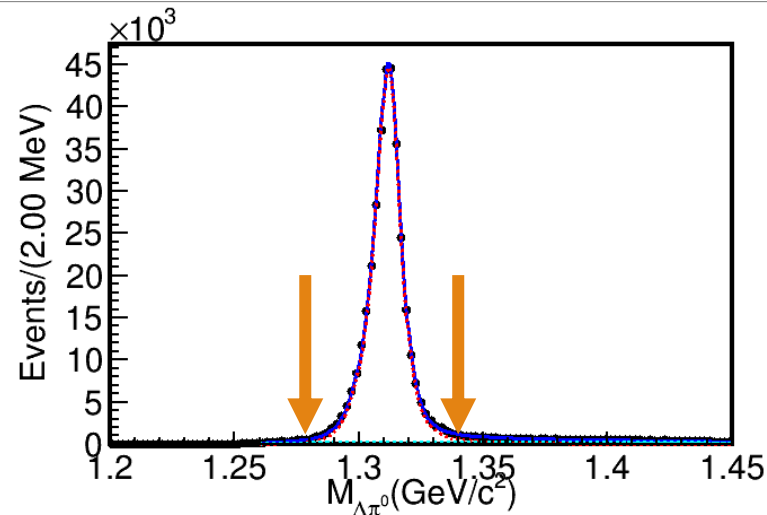
DT π^0 selection:

- Consistent with ST selection procedure
- Extract signal with m_{rec}

Todo:

- Check angular distribution
- Bin-by-bin correction

	Ξ^0		$\bar{\Xi}^0$	
	SigMC	Data	SigMC	Data
N_{tot}	3853897	340500.14	3543034	310825.74
N_{π^0}	1618932.0	142038.41	1609793.0	140496.66
Efficiency	42.01%	41.71%	45.44%	44.25%
Divergence	-0.71%		-2.62%	



Λ efficiency correction

Use $\Xi^- \rightarrow \Lambda \pi^-$ control sample