

# Current Status

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# $\Lambda(1405)$ pole parameter のエラーの Fit 範囲による比較

$$M_{bestfit} = 1418.3 \text{ MeV}$$

$$\Gamma_{bestfit} = 27.8 \text{ MeV}$$

	Mass				Width			
	Fit		Syst.		Fit		Syst.	
$1\sigma$	-2.0	+7.2	-1.2	+1.1	-5.3	+9.4	-2.0	+2.0
$1.5\sigma$	-2.4	+7.5	-1.2	+0.9	-8.6	+9.5	-2.2	+1.9
$2\sigma$	-2.7	+7.7	-1.3	+1.0	-11.8	+9.9	-2.2	+2.1
$2.5\sigma$	-3.2	+7.9	-1.3	+1.1	-16.7	+10.5	-2.1	+2.0
$3\sigma$	-3.4	+7.9	-1.3	+1.1	-17.5	+10.6	-2.1	+2.0
No cut	-3.4	+8.0	-1.3	+1.1	-18.0	+10.5	-2.1	+2.1
Mean/RMS	-10.1	+13.7	-1.2	+1.4	-14.2	+11.0	-1.5	+1.9

[Unit: MeV]

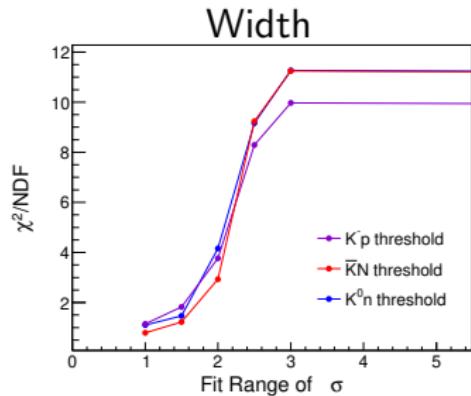
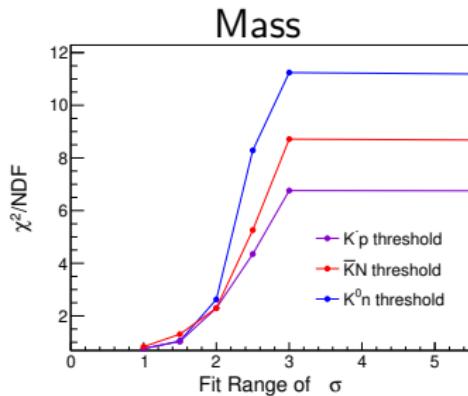
## Noumi's fitting

$$\text{Pole} = 1417.7^{+6.0}_{-7.4}(\text{fit})^{+1.1}_{-1.0}(\text{syst.}) + [-26.1^{+6.0}_{-7.9}(\text{fit})^{+1.7}_{-2.0}(\text{syst.})]i \text{ [MeV]}$$

⇒ Mean/RMS だとエラーが大きい

⇒ 2sigmaFit の No cut だと幅のエラーが大きくなる。

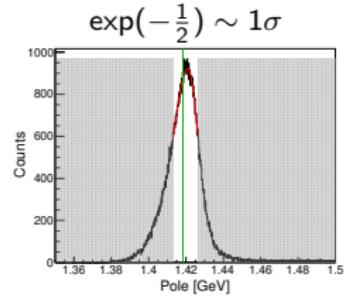
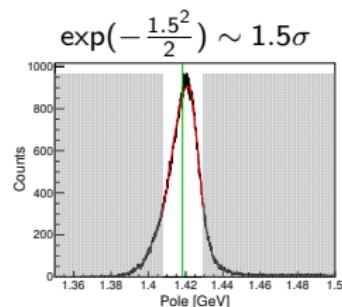
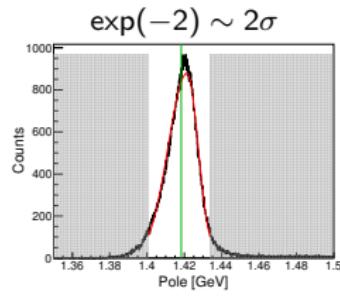
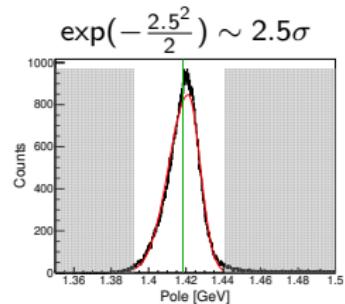
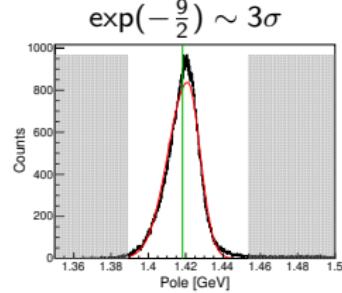
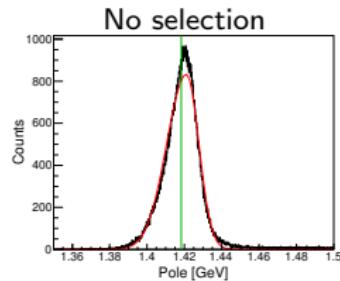
# Pole mass and width fit $\chi^2/\text{NDF}$



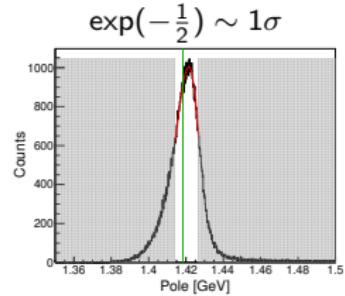
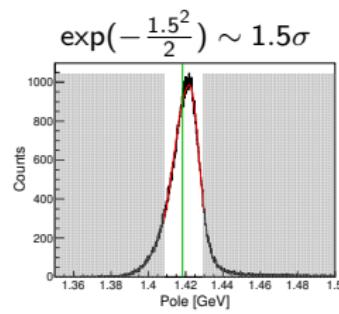
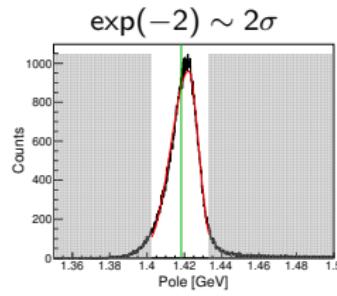
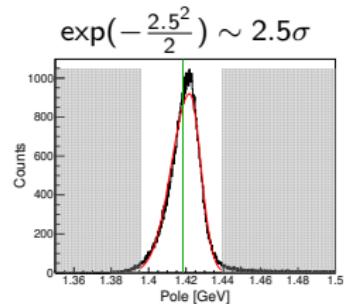
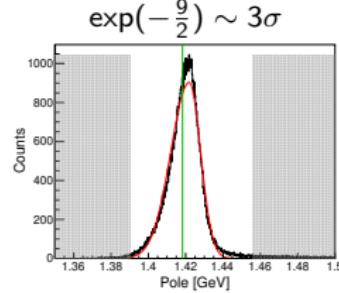
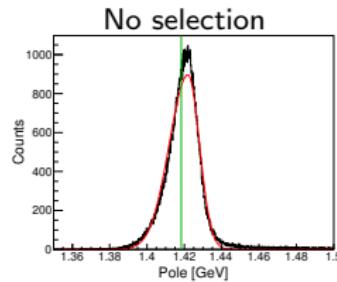
1.5 $\sigma$ で  $\chi^2/\text{NDF}$  が安定として選んでいる

→ 恣意的ではないというために領域を選ばないほうがいいか

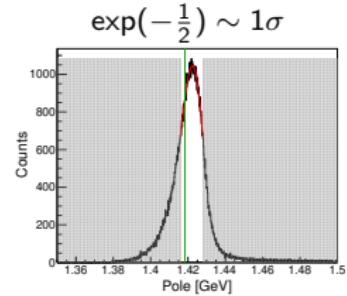
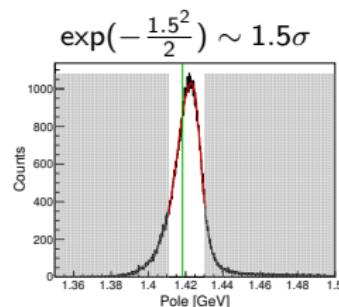
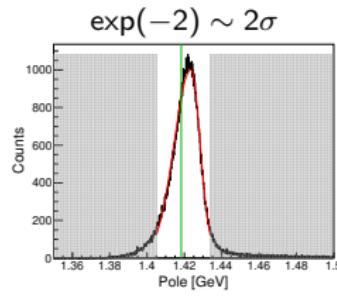
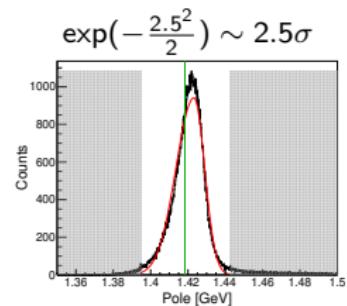
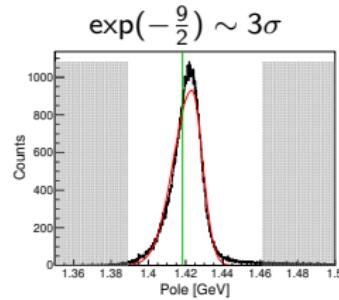
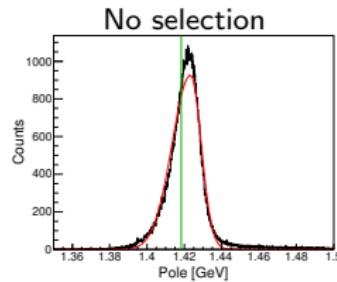
# $\Lambda(1405)$ Pole Fitting w/ $K^- p$ threshold



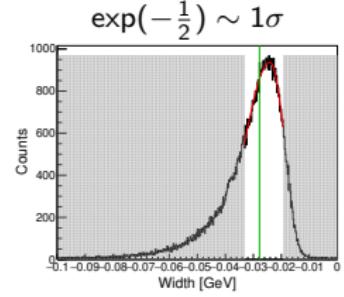
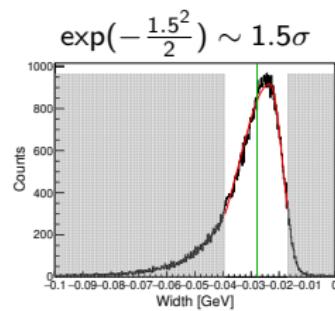
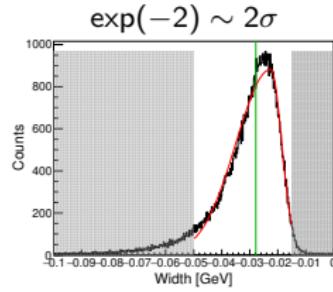
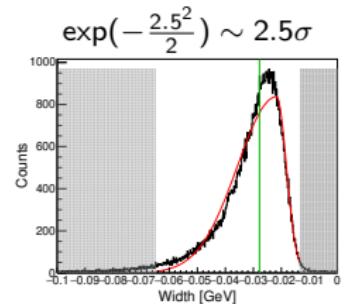
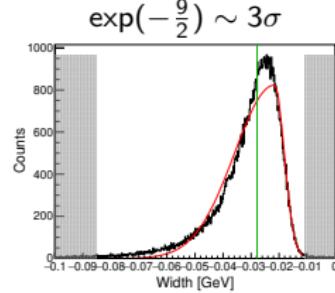
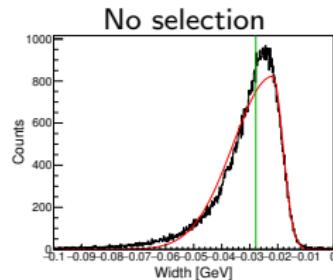
# $\Lambda(1405)$ Pole Fitting w/ $\bar{K}N$ threshold



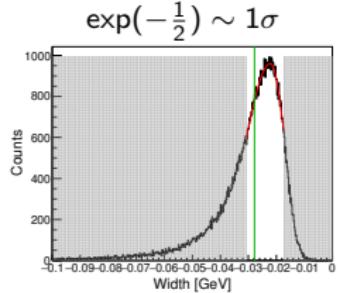
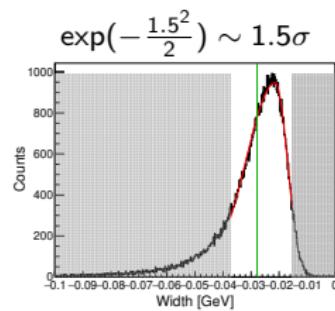
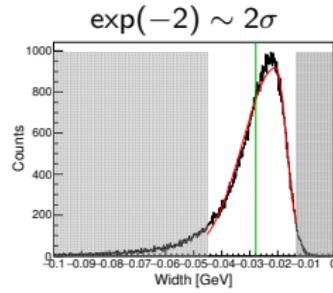
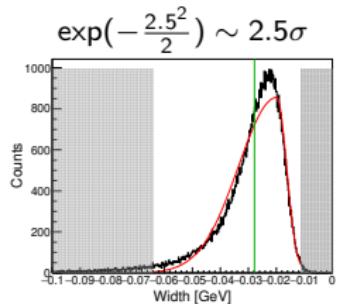
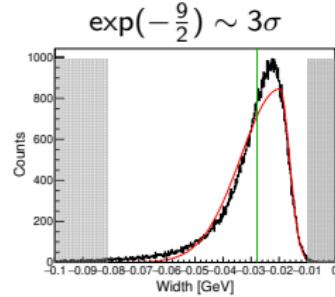
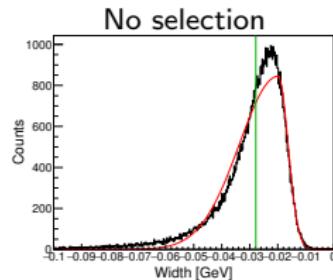
# $\Lambda(1405)$ Pole Fitting w/ $K^0 n$ threshold



# $\Lambda(1405)$ Width Fitting w/ $K^- p$ threshold



# $\Lambda(1405)$ Width Fitting w/ $\bar{K}N$ threshold



# $\Lambda(1405)$ Width Fitting w/ $K^0 n$ threshold

