DECADIMENTO MESONICO 7Li

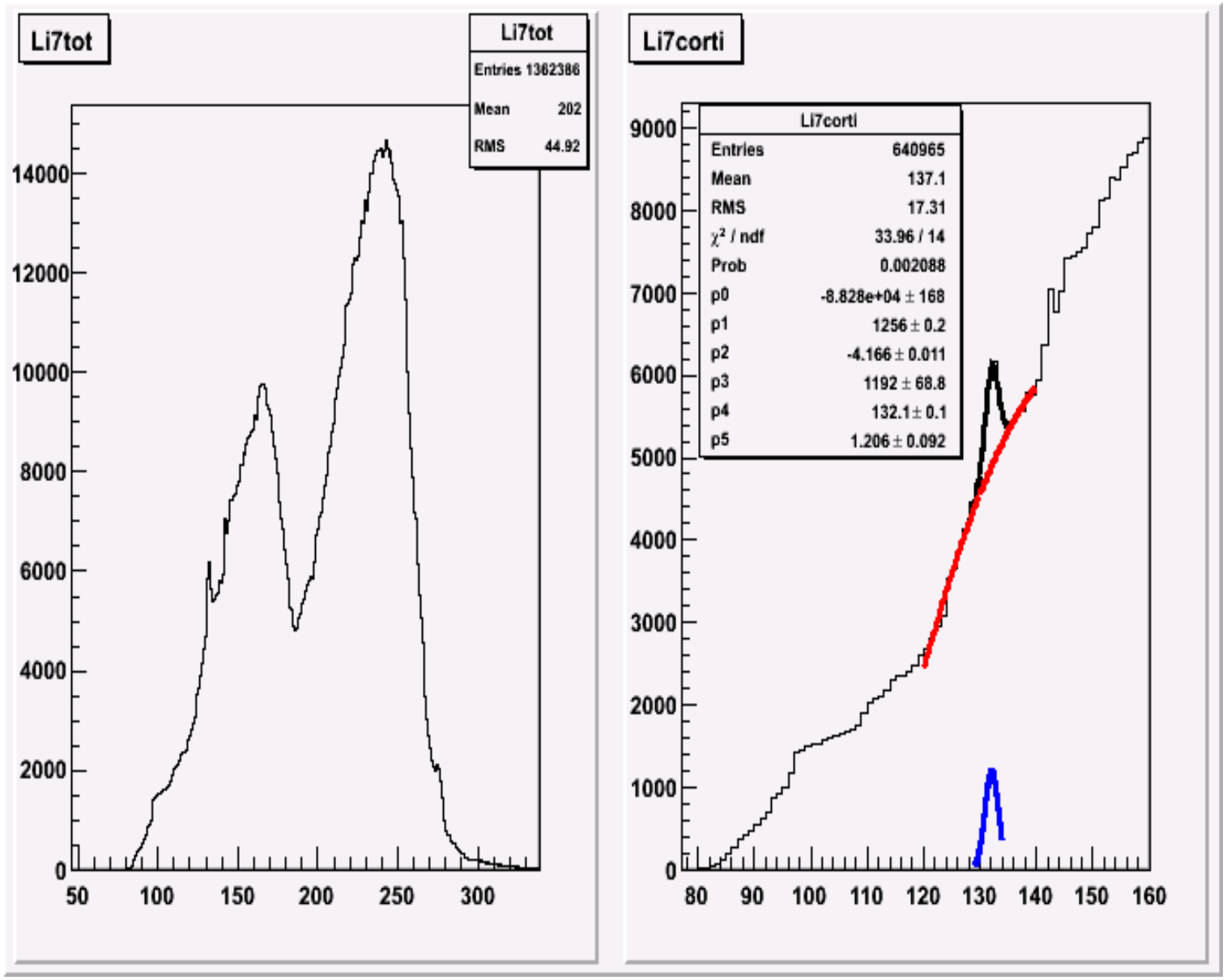
TARGHETTE ANALIZZATE:
7Li – Produzione APR 08

TAGLI UTILIZZATI PER GLI SPETTRI INCLUSIVI DI PIONI:
Tracce forward+backward LUNGHE (Longmin>=1)
Fitemin=0, Prercod=0, Stopmin=1, Extrmin=1
Disvmin<0.3, Dev2min<10, Stermin<100, Resdmin<0.5

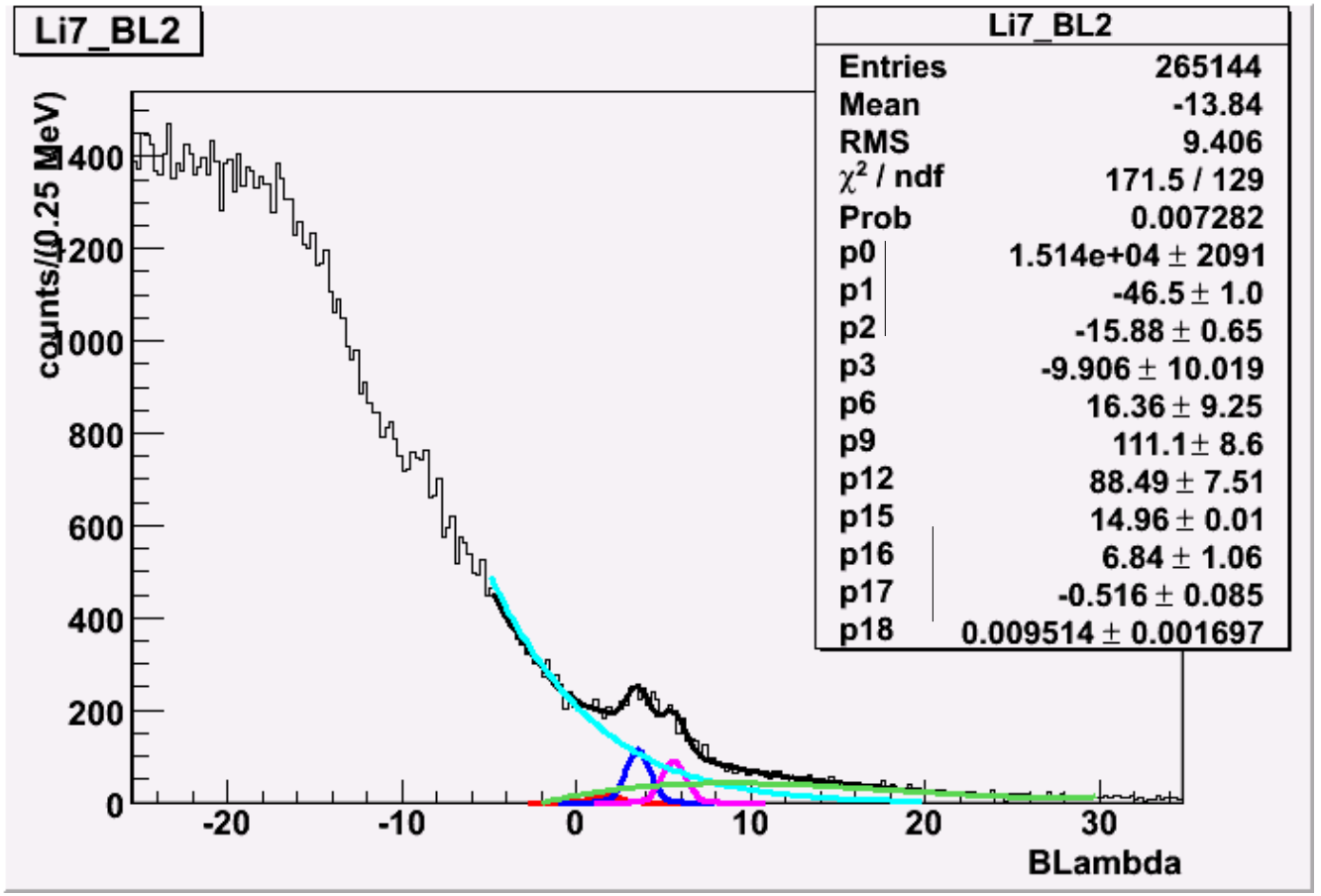
TAGLI UTILIZZATI PER PIONI CORTI:
Fitemin=0, Prercod=0, Stopmin=1, Extrmin=1
Disvmin<0.3, Dev2min<10, no Straw, no Tofone
(backward, no supporti)

PID: Pione identificato richiedendo sempre la presenza di OSIM e almeno una delle due camere. Se e' presente anche il TOF viene utilizzata anche la massa ricavata dal tempo di volo.

Entries: +3%



σ = 1.2 MeV/c
1.04-1.06 MeV/c



p4 = -0.95 MeV p5 = 0.75 3^ exc 5/2+ T=1
p7 =1.703 MeV p8 = 0.75 2^ exc 1/2+ T=1
p10 = 3.53 MeV p11 = 0.75 1^ exc 5/2+ T=0
p13 = 5.85 MeV p14 = 0.75 g.s. 1/2+ T=0

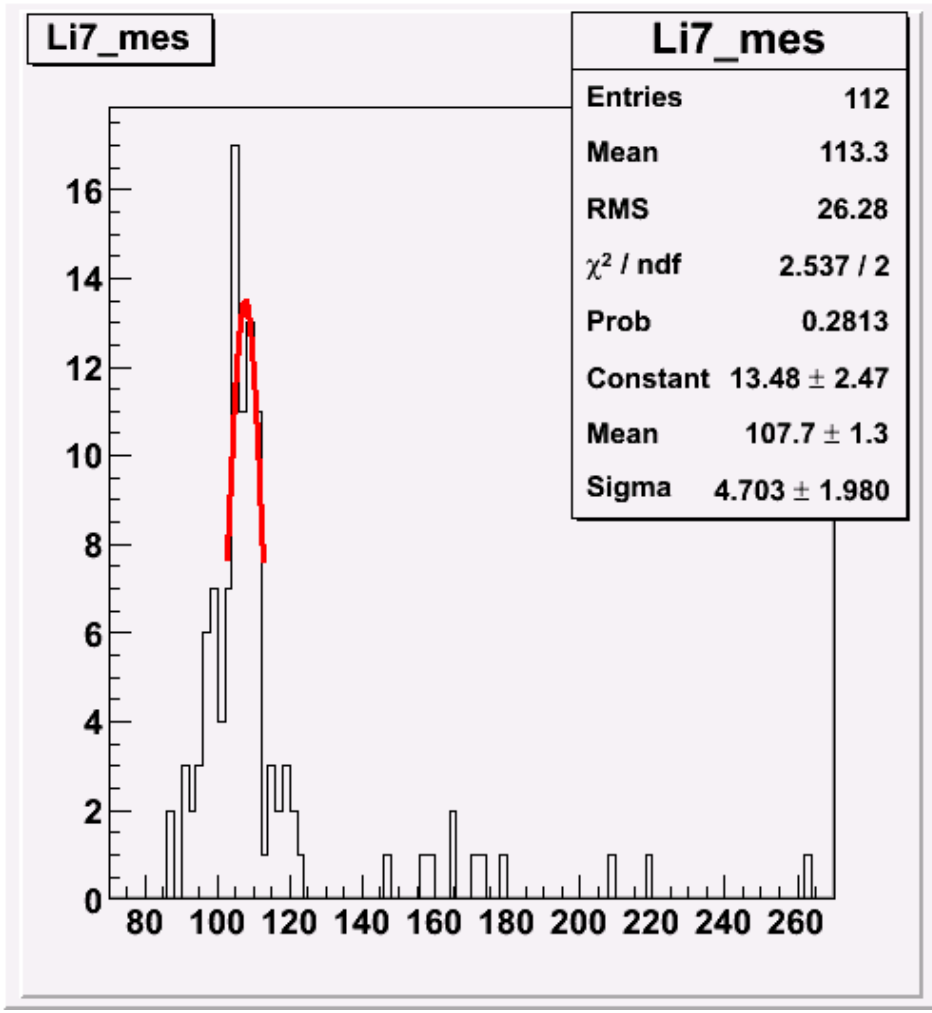
selezione BL: picchi +/- 2σ: **BL: 0.2-7.1 MeV – p_π: 271-279 MeV/c**

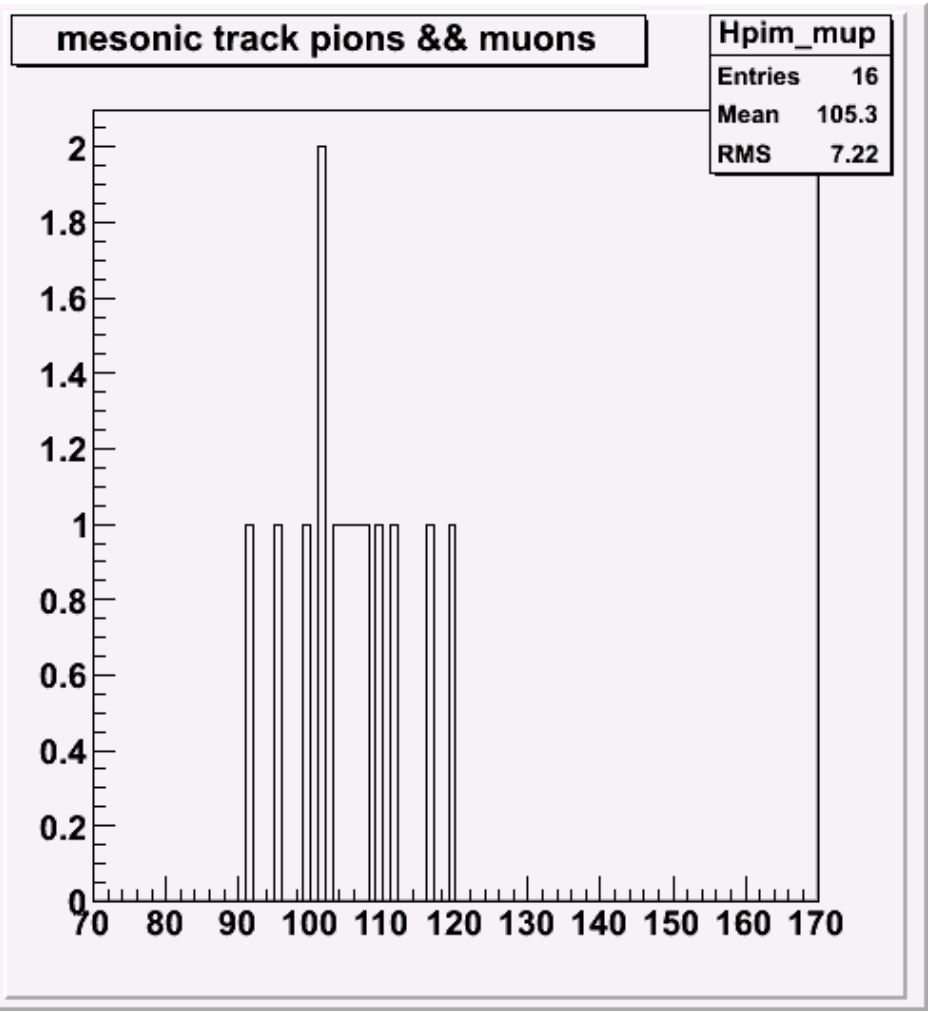
Δp/p = 0.7%--> ΔT/T

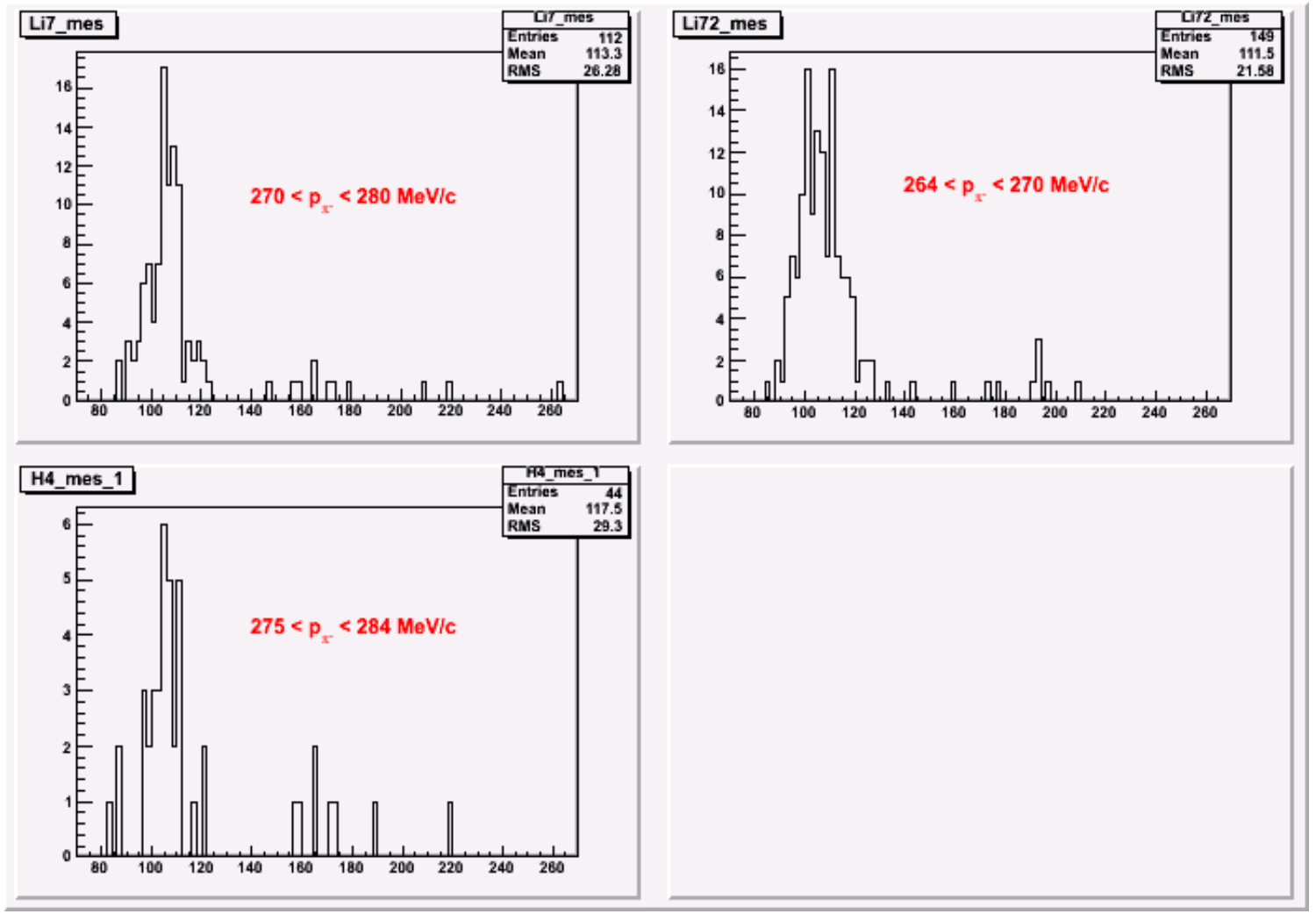
Selezione: 270-280 MeV/c

p_π = 107.7 MeV/c per 7LLi-> Be* + $\pi-$

= 102.6 MeV/c per 7LLi-> 4He – 3He + $\pi-$ 102.6-112.8 MeV/c

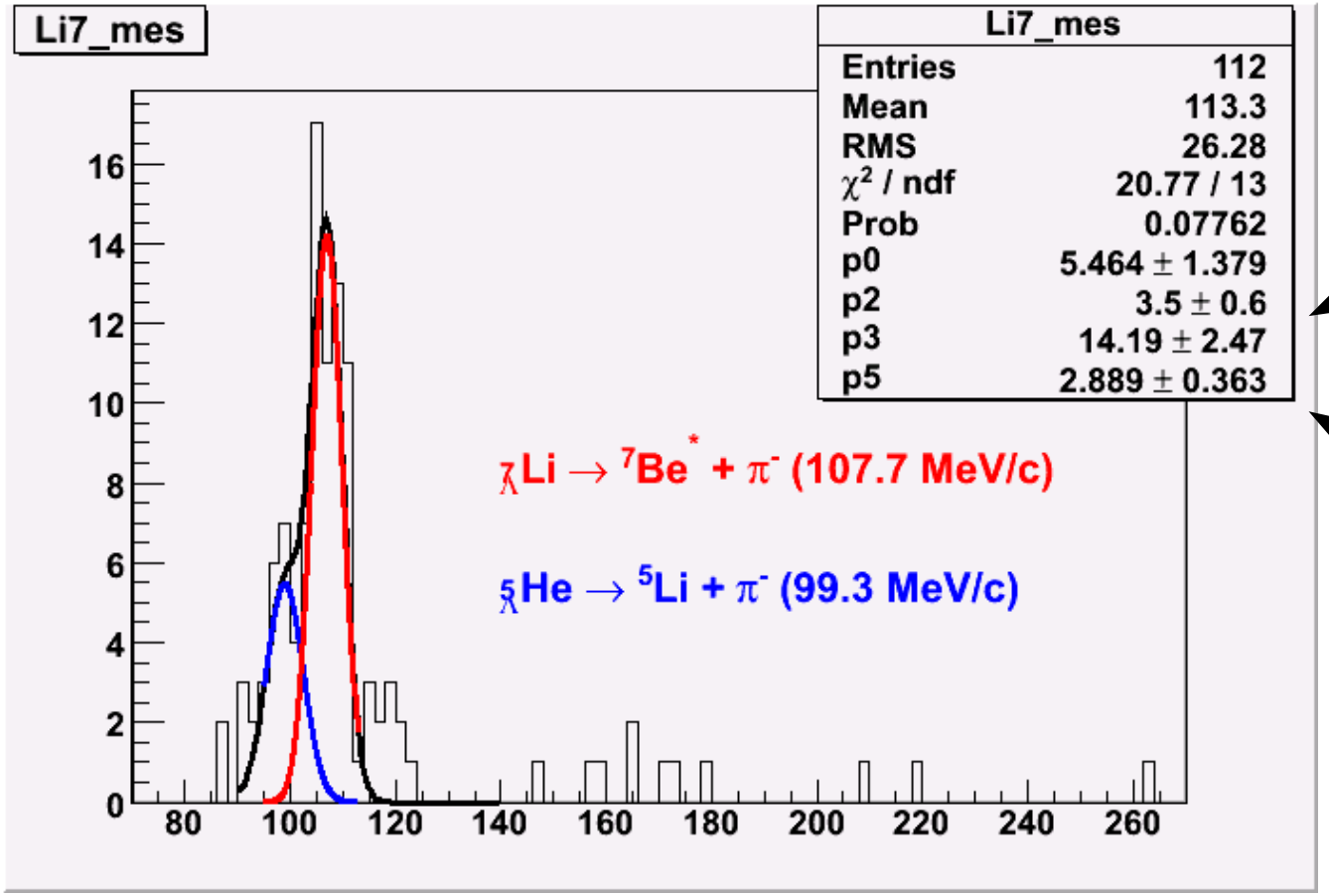




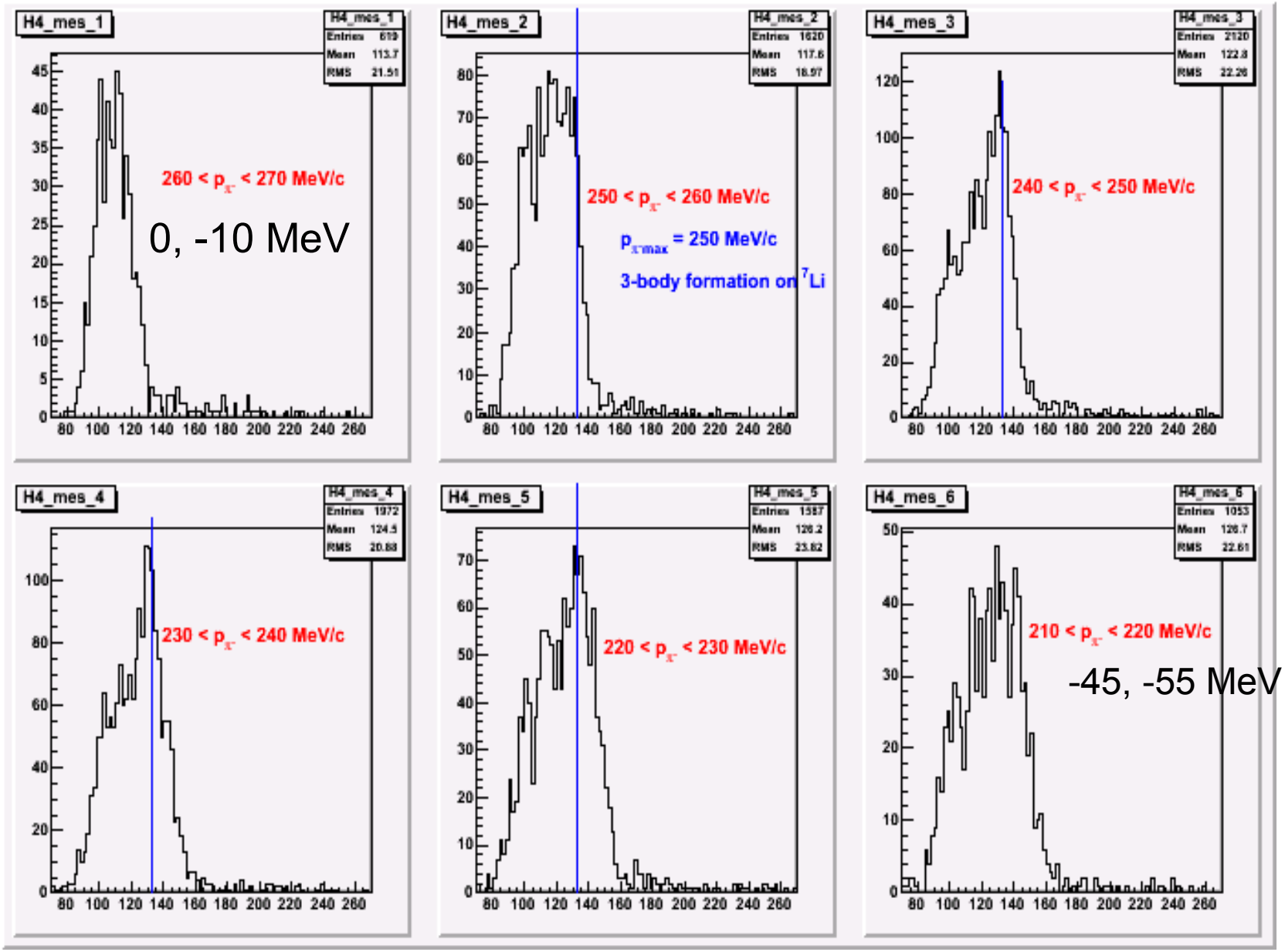


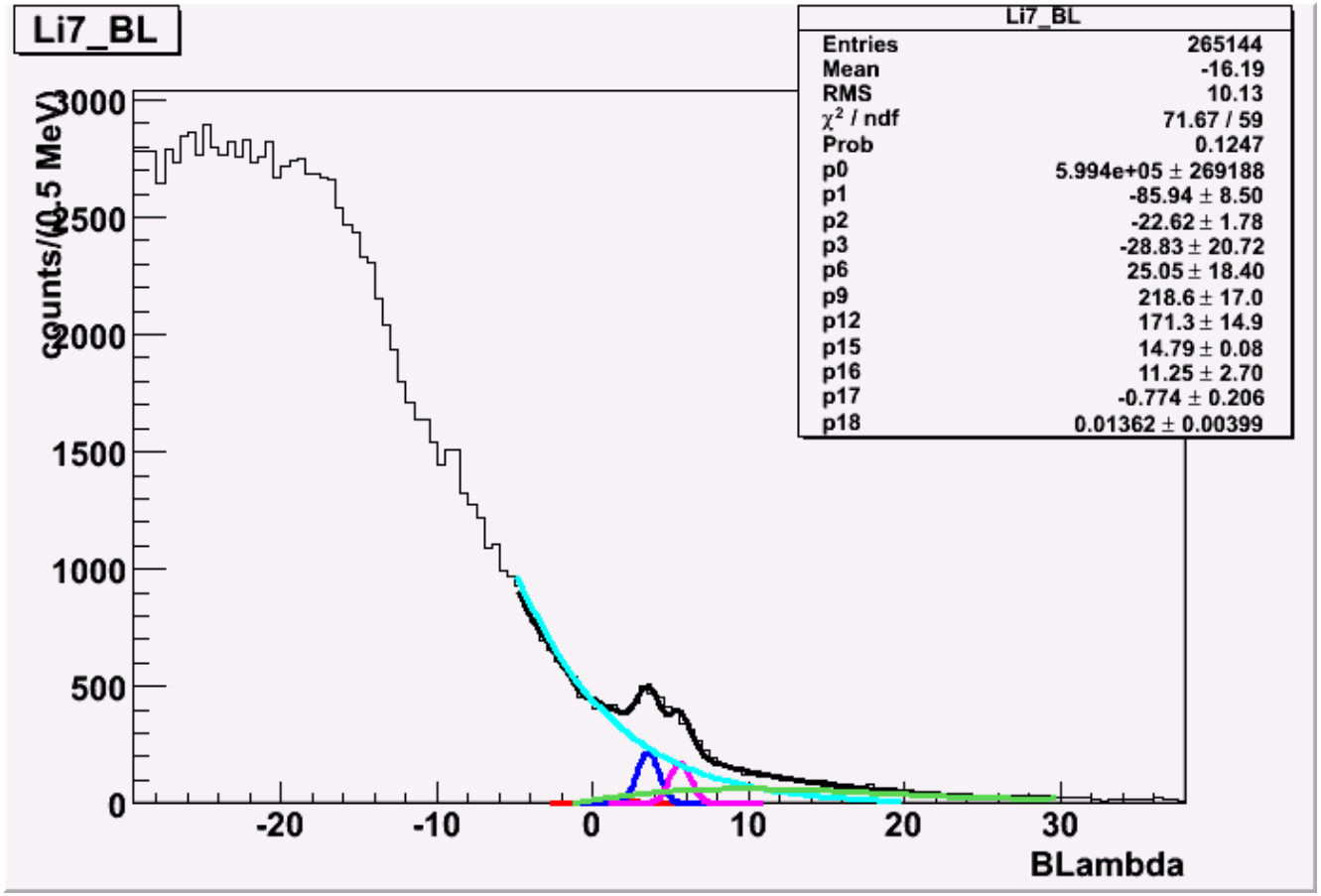
$^{5}_{\Lambda}$He

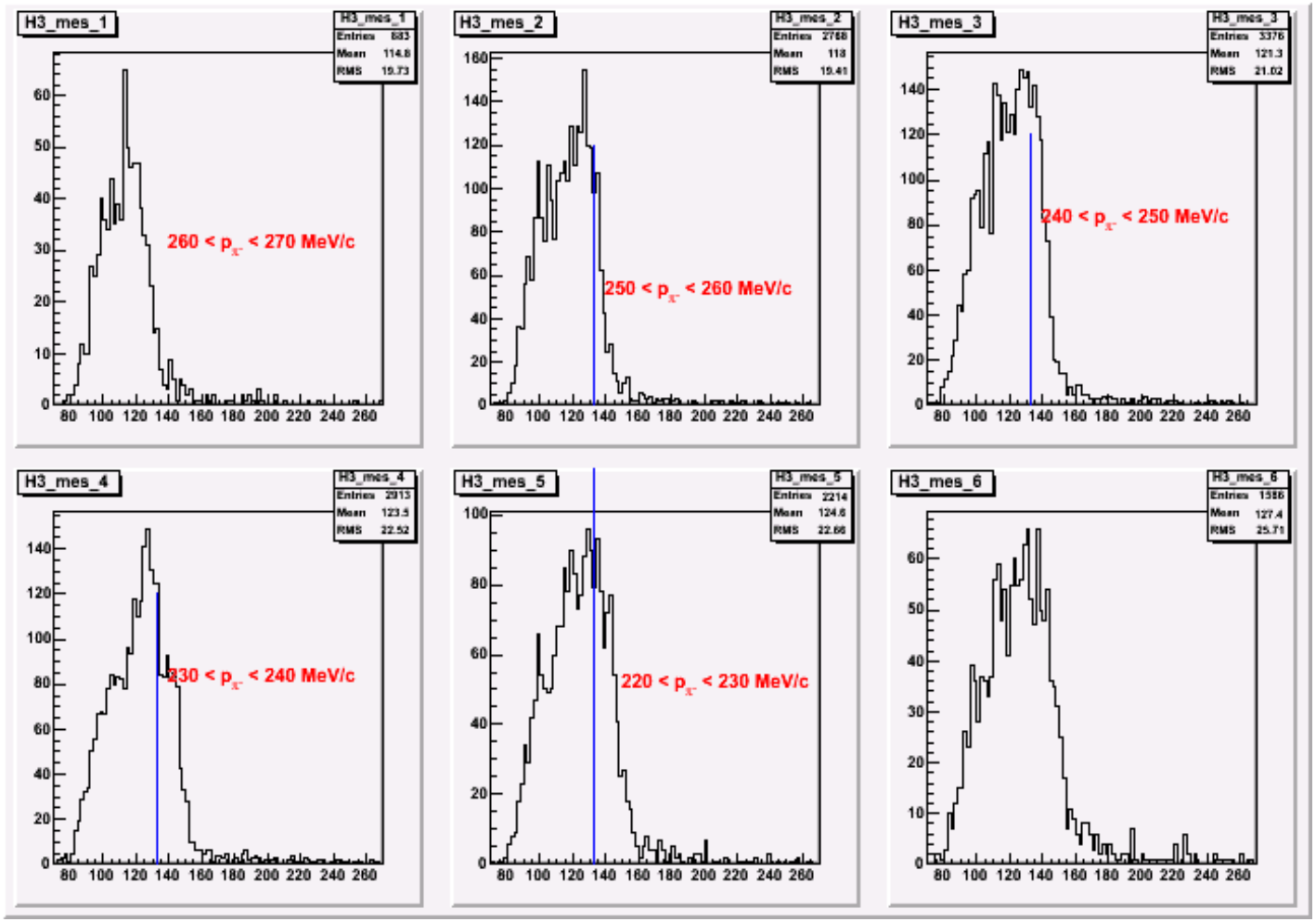
$^{7}_{\Lambda}$Li g.s.


Li7_mes
Li7_mes
Entries 112
Mean 113.3
RMS 26.28
χ² / ndf 20.77 / 13
Prob 0.07762
p0 5.464 ± 1.379
p2 3.5 ± 0.6
p3 14.19 ± 2.47
p5 2.889 ± 0.363
ΛLi → 7Be* + π- (107.7 MeV/c)
ΛHe → 5Li + π- (99.3 MeV/c)
0 2 4 6 8 10 12 14 16
80 100 120 140 160 180 200 220 240 260

		p max 3 body	p mesonico
$K^- + {}^7Li \rightarrow$	${}^{6}_{\Lambda}He + p + \pi^-$	270.6 MeV/c	108.5 MeV/c
	${}^{5}_{\Lambda}He + d + \pi^-$	272.8 MeV/c	99.3 MeV/c
	${}^{4}_{\Lambda}He + t + \pi^-$	252.7 MeV/c	98.0 MeV/c
	${}^{4}_{\Lambda}H + {}^{3}He + \pi^-$	252.3 MeV/c	132.9 MeV/c
	${}^{3}_{\Lambda}H + {}^{4}He + \pi^-$	270.0 MeV/c	114.5 MeV/c


H4_mes_1
260 < p_{π^-} < 270 MeV/c
0, -10 MeV
H4_mes_2
250 < p_{π^-} < 260 MeV/c
$p_{\pi^- max}$ = 250 MeV/c
3-body formation on ^{7}Li
H4_mes_3
240 < p_{π^-} < 250 MeV/c
H4_mes_4
230 < p_{π^-} < 240 MeV/c
H4_mes_5
220 < p_{π^-} < 230 MeV/c
H4_mes_6
210 < p_{π^-} < 220 MeV/c
-45, -55 MeV


Li7_BL
Li7_BL
Entries 265144
Mean -16.19
RMS 10.13
χ² / ndf 71.67 / 59
Prob 0.1247
p0 5.994e+05 ± 269188
p1 -85.94 ± 8.50
p2 -22.62 ± 1.78
p3 -28.83 ± 20.72
p6 25.05 ± 18.40
p9 218.6 ± 17.0
p12 171.3 ± 14.9
p15 14.79 ± 0.08
p16 11.25 ± 2.70
p17 -0.774 ± 0.206
p18 0.01362 ± 0.00399
Counts/(0.5 MeV)
3000
2500
2000
1500
1000
500
0
-20
-10
0
10
20
30
BLambda


H3_mes_1
H3_mes_1
Entries 883
Mean 114.8
RMS 19.73
260 < p$_{\pi^-}$ < 270 MeV/c
H3_mes_2
H3_mes_2
Entries 2768
Mean 118
RMS 19.41
250 < p$_{\pi^-}$ < 260 MeV/c
H3_mes_3
H3_mes_3
Entries 3376
Mean 121.3
RMS 21.02
240 < p$_{\pi^-}$ < 250 MeV/c
H3_mes_4
H3_mes_4
Entries 2913
Mean 123.5
RMS 22.52
230 < p$_{\pi^-}$ < 240 MeV/c
H3_mes_5
H3_mes_5
Entries 2214
Mean 124.6
RMS 22.66
220 < p$_{\pi^-}$ < 230 MeV/c
H3_mes_6
H3_mes_6
Entries 1586
Mean 127.4
RMS 25.71