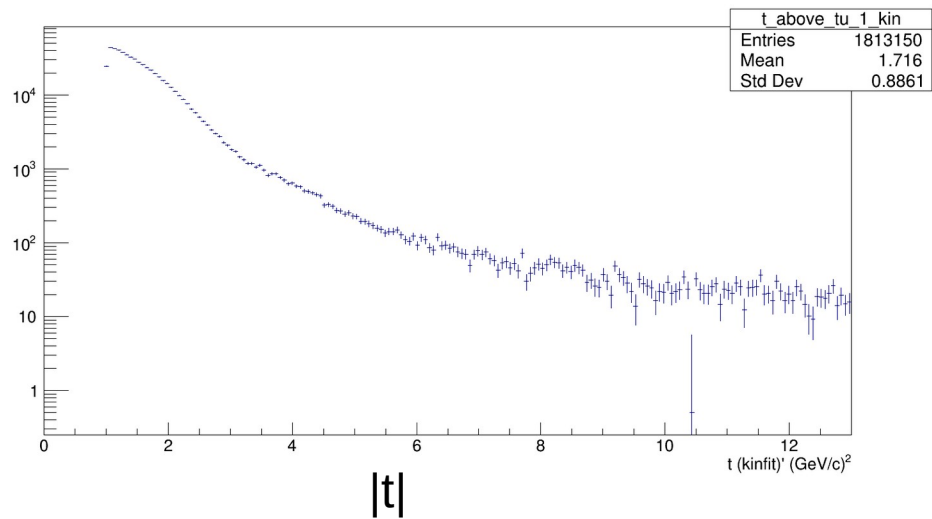


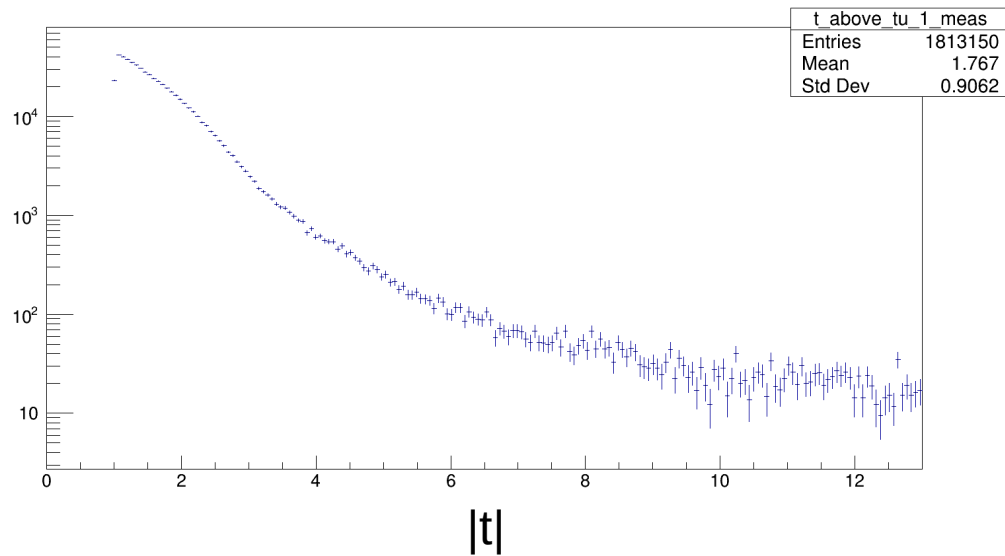
# Events Selection for Rho0 candidate in Deuterium.

- $\gamma + D = (\pi^+) , (\pi^-) , p , \text{missing neutron.}$
- Cut Applied:
  - 1) PIDFOM > 0.01
  - 2) CL > 0.001
  - 3) Beam Energy\_measured > 6.5 GeV
  - 4) No Extra Shower,
  - 5) No Extra Tracks
  - 6) Accidentally beam Subtracted.
  - 7) Measured Vertex Proton(52,78)
  - 8) Coplanarity angle (170,190)
  - 9)  $\Sigma(E_{\text{final}}) E_{\text{p}^+} + E_{\text{p}^0} + E_{\text{p}^-} > 6.5\text{GeV}$
  - 10)  $P_{\text{missing\_minus}} (0.8 -1.1)$
  - 11)  $|t| > 1 : t = (\text{beam} - \text{rho}).m2()$
  - 12)  $|u| > 1 : u = (\text{beam} - \text{proton}).m2()$

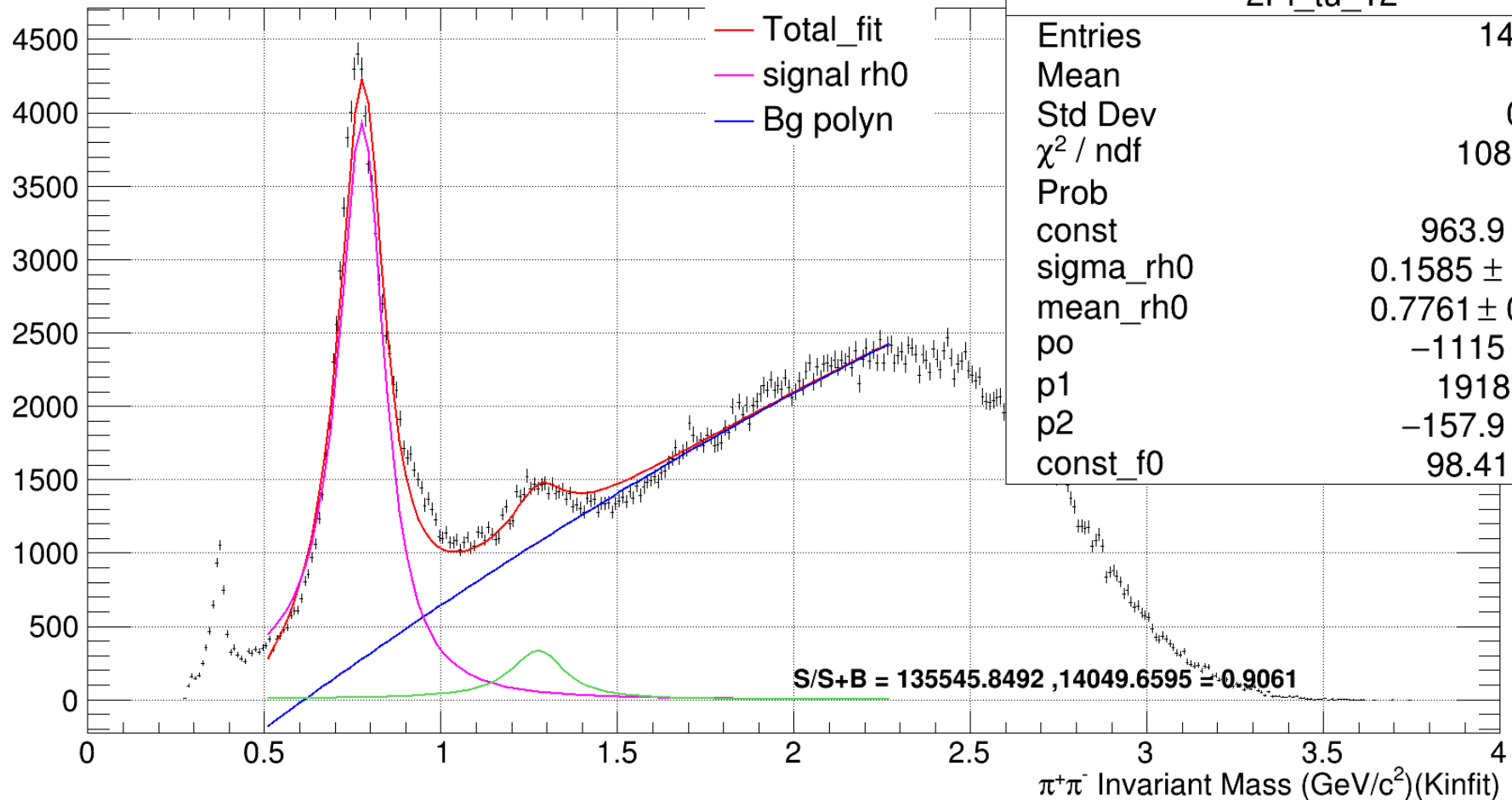
# Kinfit $|t| > 1$



# Measured $|t| > 1$

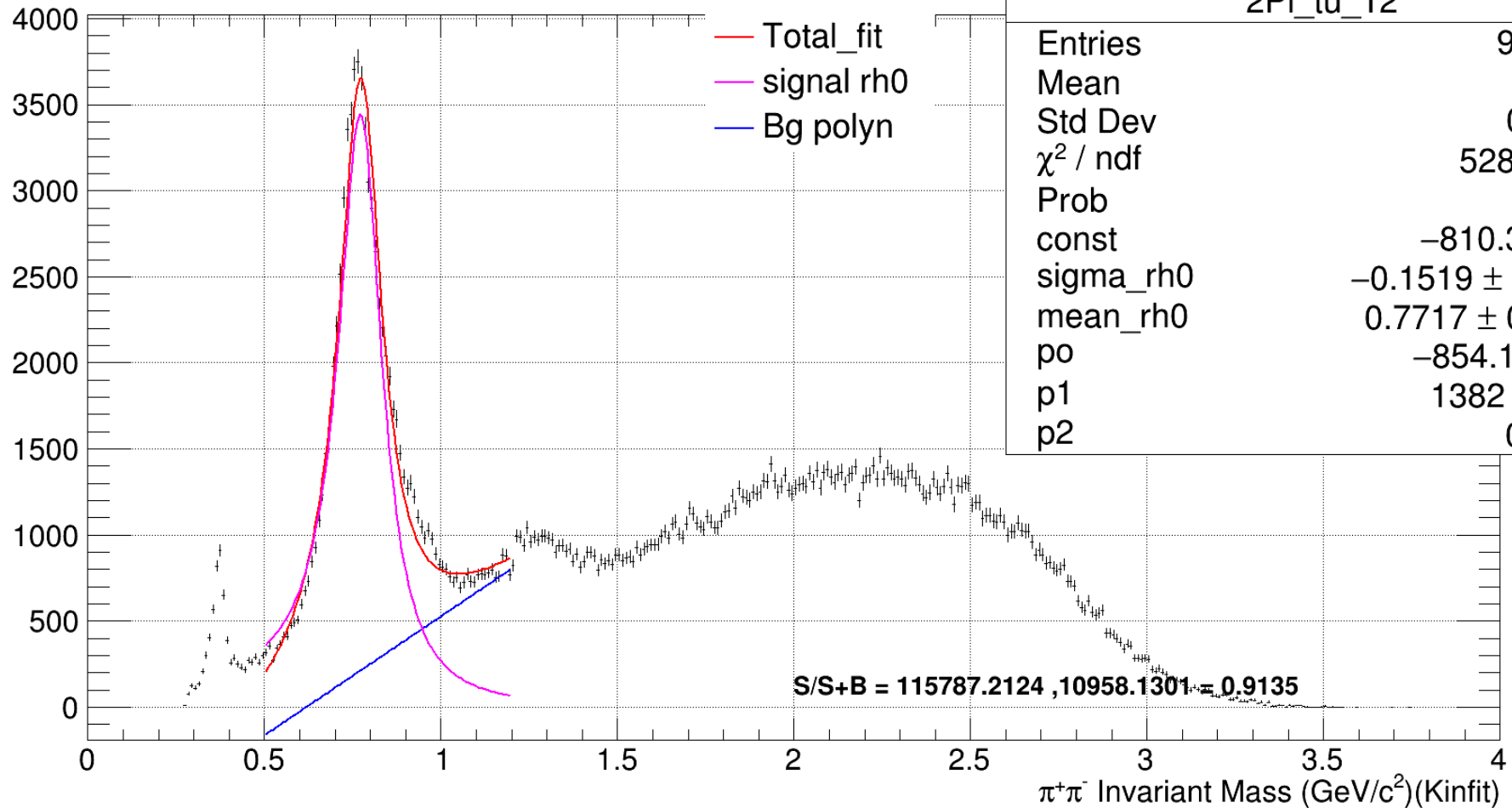


$1 < |t| \leq 2$

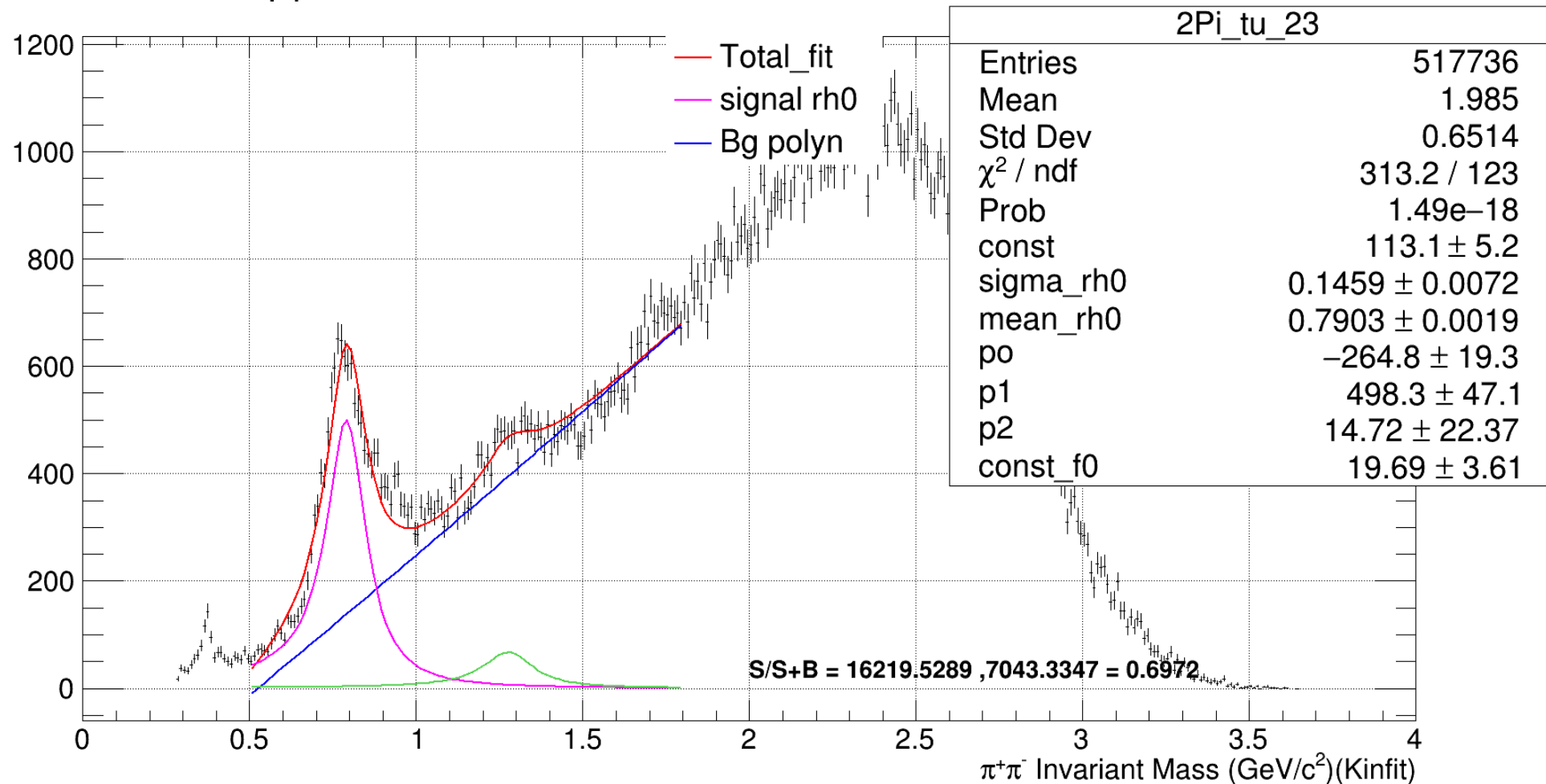


2Pi_tu_12	
Entries	1441518
Mean	1.763
Std Dev	0.7235
$\chi^2 / \text{ndf}$	1081 / 171
Prob	0
const	$963.9 \pm 10.9$
sigma_rh0	$0.1585 \pm 0.0021$
mean_rh0	$0.7761 \pm 0.0005$
p0	$-1115 \pm 32.7$
p1	$1918 \pm 48.1$
p2	$-157.9 \pm 17.6$
const_f0	$98.41 \pm 5.44$

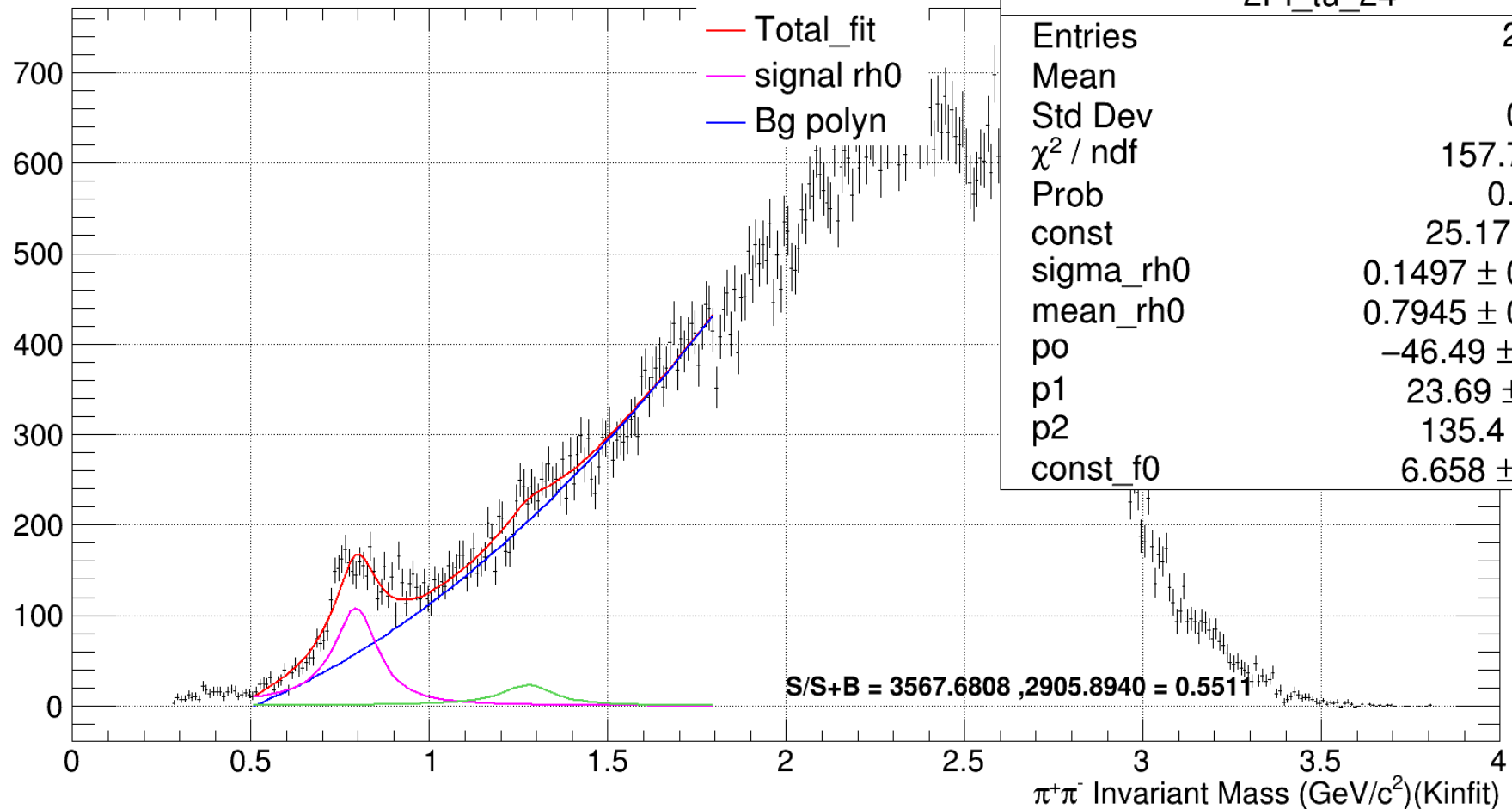
$1 < |t| \leq 1.5$



**$1.5 < |t| \leq 2$**



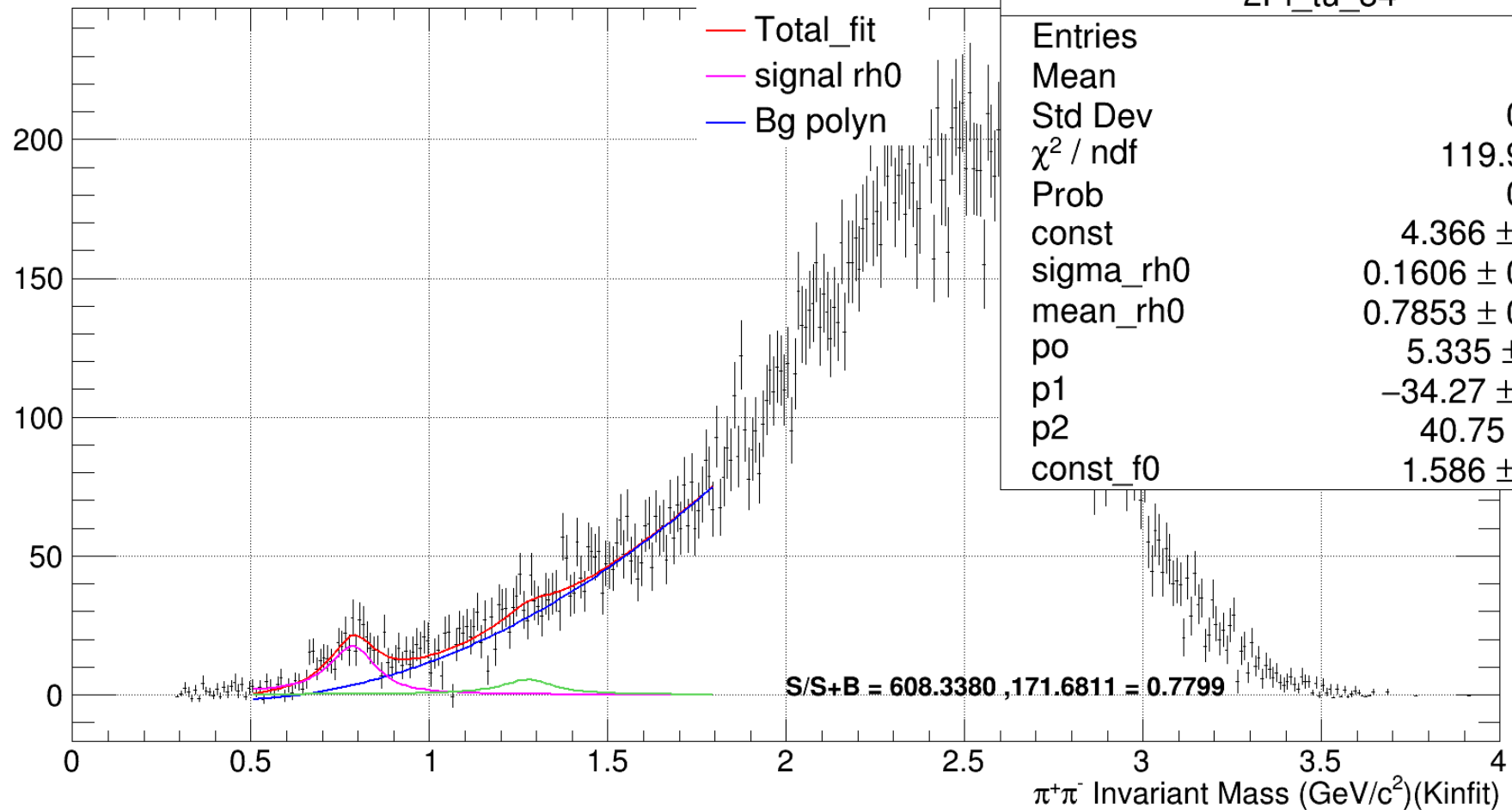
$2 < |t| \leq 3$



2Pi_tu_24	
Entries	281801
Mean	2.105
Std Dev	0.5937
$\chi^2 / \text{ndf}$	157.7 / 123
Prob	0.01889
const	$25.17 \pm 3.01$
sigma_rh0	$0.1497 \pm 0.0173$
mean_rh0	$0.7945 \pm 0.0053$
p0	$-46.49 \pm 12.35$
p1	$23.69 \pm 31.51$
p2	$135.4 \pm 15.2$
const_f0	$6.658 \pm 2.506$

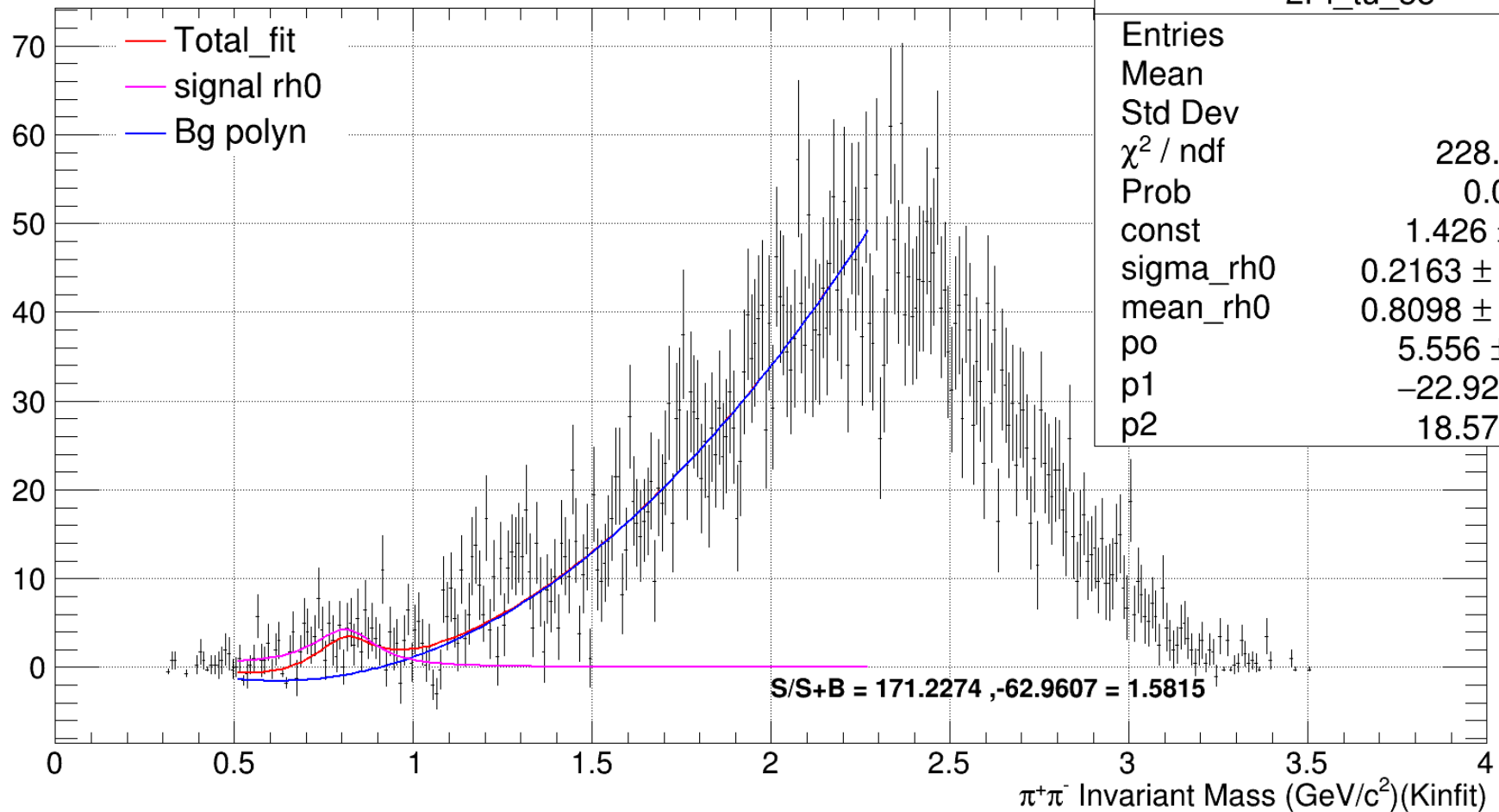
$S/S+B = 3567.6808 ,2905.8940 = 0.5511$

$3 < |t| \leq 5$



2Pi_tu_34	
Entries	67756
Mean	2.268
Std Dev	0.5315
$\chi^2 / \text{ndf}$	119.9 / 123
Prob	0.5623
const	$4.366 \pm 1.327$
sigma_rh0	$0.1606 \pm 0.0490$
mean_rh0	$0.7853 \pm 0.0097$
p0	$5.335 \pm 4.581$
p1	$-34.27 \pm 11.07$
p2	$40.75 \pm 5.38$
const_f0	$1.586 \pm 0.946$

**$5 < |t| \leq 9$**



2Pi_tu_35	
Entries	16330
Mean	2.152
Std Dev	0.4991
$\chi^2 / \text{ndf}$	228.1 / 172
Prob	0.002717
const	$1.426 \pm 0.491$
sigma_rh0	$0.2163 \pm 0.0623$
mean_rh0	$0.8098 \pm 0.0250$
p0	$5.556 \pm 1.657$
p1	$-22.92 \pm 3.03$
p2	$18.57 \pm 1.28$



S.N	Range of  t	Signal Yield (m_rho0 (0.6-0.9))
1	1-2	135545
2	1-1.5	115787
3	1.5-2	16219
4	2-3	3567
5	3-5	608
6	5-9	171