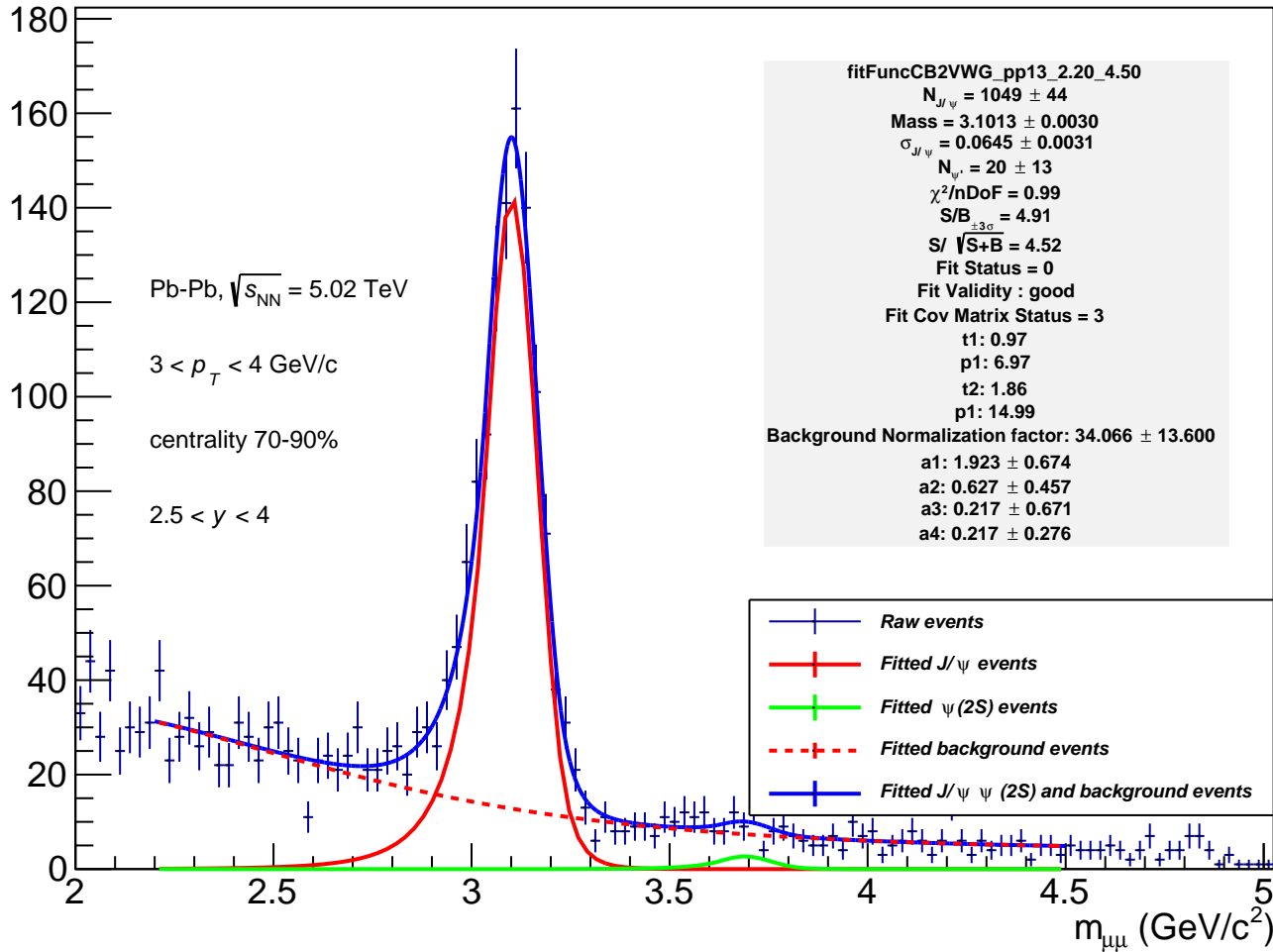
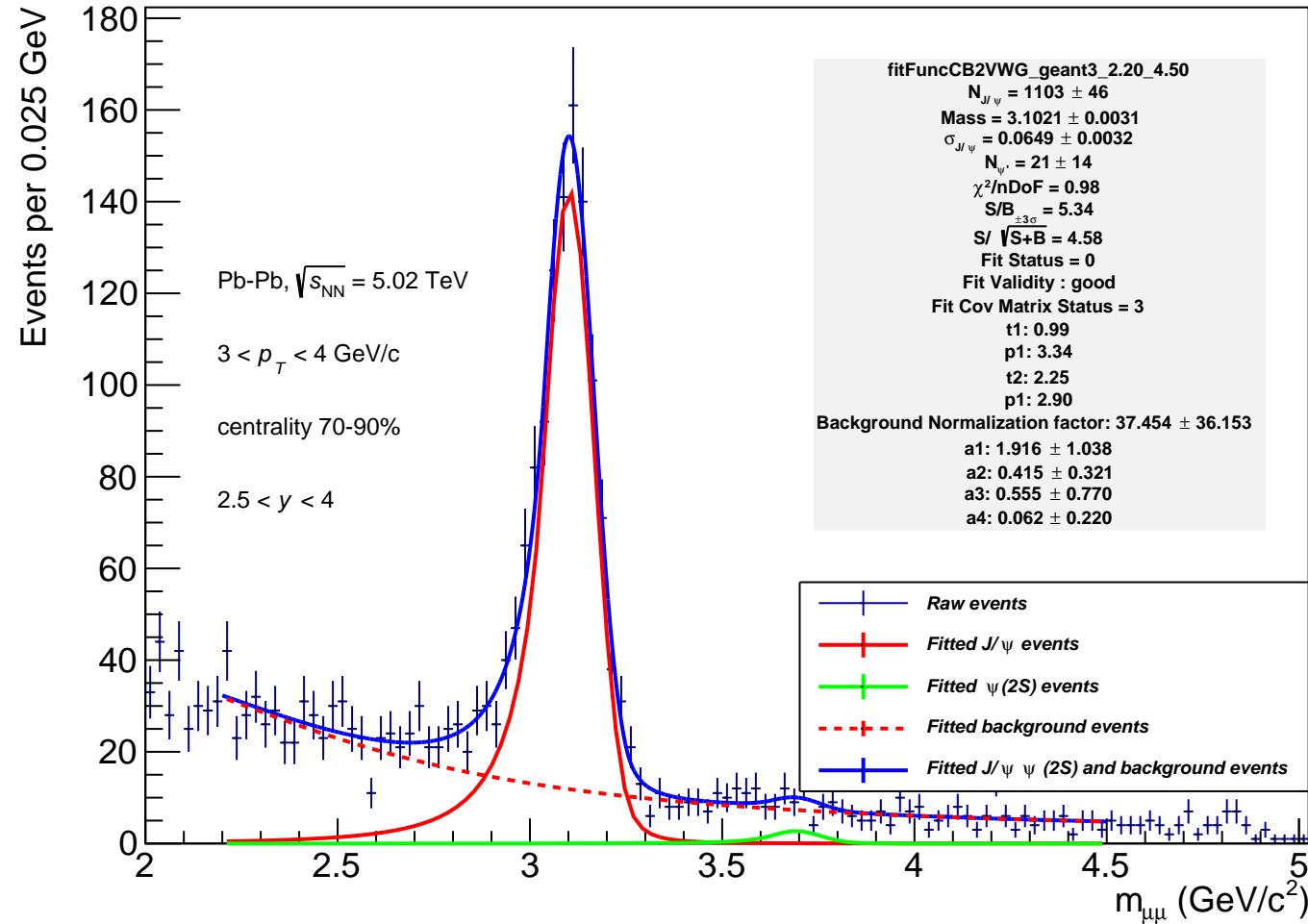


Events per 0.025 GeV





Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2VWG_pp13_2.40_4.70

$N_{J/\psi} = 1075 \pm 44$

Mass = 3.1012 ± 0.0030

$\sigma_{J/\psi} = 0.0645 \pm 0.0031$

$N_{\psi'} = 120 \pm 6$

$\chi^2/nDoF = 1.97$

$S/B_{\pm 3\sigma} = 5.81$

$S/\sqrt{S+B} = 4.64$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 0.97

p1: 6.97

t2: 1.86

p1: 14.99

Background Normalization factor: 112.037 ± 50.941

a1: 0.015 ± 0.006

a2: 2.655 ± 0.877

a3: -0.013 ± 0.004

a4: 0.000 ± 0.000

—+— Raw events
—+— Fitted J/ψ events
—+— Fitted $\psi(2S)$ events
- - + - Fitted background events
—+— Fitted J/ψ $\psi(2S)$ and background events

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

```
fitFuncCB2VWG_geant3_2.40_4.70
NJ/ψ = 1090 ± 45
Mass = 3.1026 ± 0.0030
σJ/ψ = 0.0643 ± 0.0032
Nψ = 22 ± 14
χ2/nDoF = 0.90
S/B = 5.26
+3σ
S/√(S+B) = 4.55
Fit Status = 0
Fit Validity : good
Fit Cov Matrix Status = 3
t1: 0.98
p1: 3.47
t2: 2.24
p1: 2.91
Background Normalization factor: 804.998 ± 597.124
a1: 0.005 ± 0.004
a2: 0.516 ± 0.203
a3: 0.001 ± 0.001
a4: 0.000 ± 0.000
```

—+— *Raw events*
—+— *Fitted J/ψ events*
—+— *Fitted ψ(2S) events*
- - + - *Fitted background events*
—+— *Fitted J/ψ ψ(2S) and background events*

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Pol_pp13_2.20_4.50

$N_{J/\psi} = 1071 \pm 0$

Mass = 3.1000 ± 0.0029

$\sigma_{J/\psi} = 0.0664 \pm 0.0028$

$N_{\psi'} = 124 \pm 0$

$\chi^2/\text{nDoF} = 1.17$

$S/B_{\pm 3\sigma} = 5.13$

$S/\sqrt{S+B} = 4.58$

Fit Status = 4

Fit Validity : bad

Fit Cov Matrix Status = 2

t1: 0.97

p1: 6.97

t2: 1.86

p1: 14.99

Background Normalization factor: 254.285 ± 17.315

a1: -0.541 ± 0.001 ; a2: 0.07316 ± 0.000

b1: -27.106 ± 0.518 ; b2: 30.085 ± 0.204

b3: -10.333 ± 0.011 ; b4: 1.131 ± 0.008

- +— Raw events
- +— Fitted J/ψ events
- +— Fitted $\psi(2S)$ events
- - + - - Fitted background events
- +— Fitted J/ψ $\psi(2S)$ and background events

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Pol_geant3_2.20_4.50

$N_{J/\psi} = 1128 \pm 49$

Mass = 3.1020 ± 0.0031

$\sigma_{J/\psi} = 0.0661 \pm 0.0033$

$N_{\psi'} = 64 \pm 3$

$\chi^2/nDoF = 1.18$

$S/B_{\pm 3\sigma} = 6.03$

$S/\sqrt{S+B} = 4.67$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 0.99

p1: 3.34

t2: 2.25

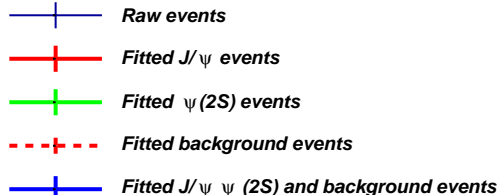
p1: 2.90

Background Normalization factor: 782.070 ± 83.916

a1: -0.541 ± 0.114 ; a2: 0.08356 ± 0.039

b1: 24.261 ± 22.152 ; b2: -13.060 ± 9.884

b3: 0.547 ± 3.858 ; b4: 0.681 ± 1.669



$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Pol_pp13_2.40_4.70

$N_{J/\psi} = 1085 \pm 0$

Mass = 3.1002 ± 0.0031

$\sigma_{J/\psi} = 0.0672 \pm 0.0027$

$N_{\psi} = 125 \pm 0$

$\chi^2/\text{nDoF} = 0.97$

$S/B_{\pm 3\sigma} = 5.54$

$S/\sqrt{S+B} = 4.64$

Fit Status = 4

Fit Validity : bad

Fit Cov Matrix Status = 2

t1: 0.97

p1: 6.97

t2: 1.86

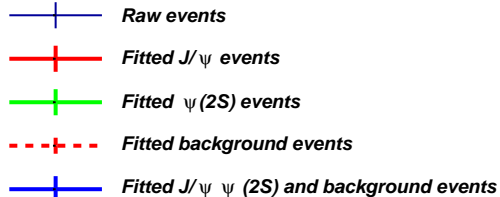
p1: 14.99

Background Normalization factor: 227.357 ± 22.082

a1: -0.540 ± 0.001 ; a2: 0.07289 ± 0.000

b1: -36.417 ± 1.473 ; b2: 37.655 ± 1.116

b3: -12.363 ± 0.310 ; b4: 1.310 ± 0.032



$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Pol_geant3_2.40_4.70

$N_{J/\psi} = 1128 \pm 0$

Mass = 3.1018 ± 0.0030

$\sigma_{J/\psi} = 0.0662 \pm 0.0030$

$N_{\psi'} = 64 \pm 0$

$\chi^2/\text{nDoF} = 1.09$

$S/B_{\pm 3\sigma} = 6.19$

$S/\sqrt{S+B} = 4.69$

Fit Status = 4

Fit Validity : bad

Fit Cov Matrix Status = 2

t1: 0.98

p1: 3.47

t2: 2.24

p1: 2.91

Background Normalization factor: 629.674 ± 553.227

a1: -0.661 ± 0.059 ; a2: 0.16163 ± 0.019

b1: 96.158 ± 5.134 ; b2: -72.553 ± 2.217

b3: 8.733 ± 0.822 ; b4: 2.546 ± 0.318

—+— Raw events
—+— Fitted J/ψ events
—+— Fitted $\psi(2S)$ events
- - + - Fitted background events
—+— Fitted J/ψ $\psi(2S)$ and background events

$m_{\mu\mu}$ (GeV/c²)

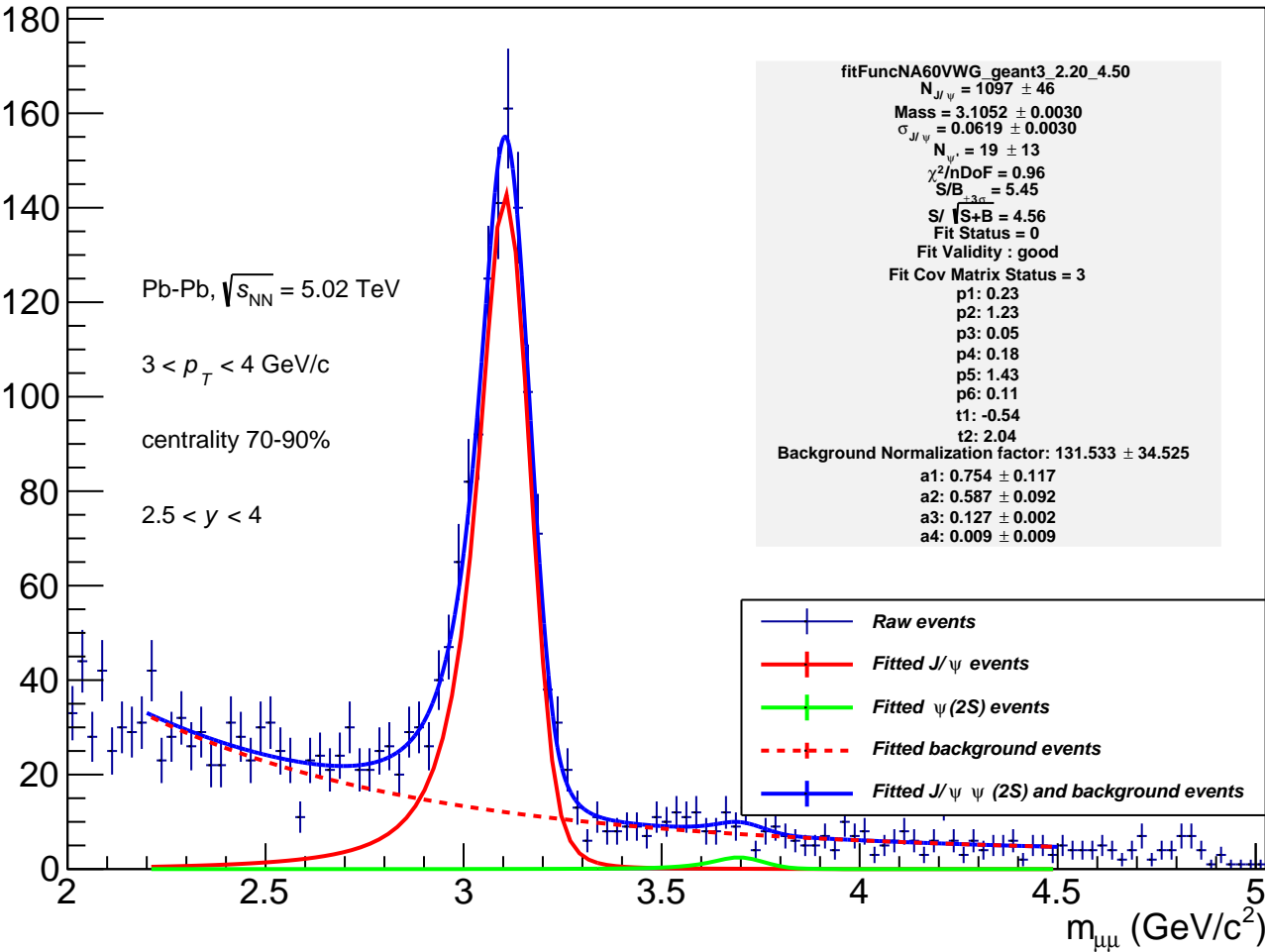
Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$



Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

```
fitFuncNA60VWG_geant3_2.40_4.70
NJ/ψ = 1104 ± 46
Mass = 3.1051 ± 0.0030
σJ/ψ = 0.0624 ± 0.0031
Nψ(2S) = 19 ± 14
χ²/nDoF = 0.87
S/B = 5.71
S/√(S+B) = 4.60
Fit Status = 0
Fit Validity : good
Fit Cov Matrix Status = 3
p1: 0.22
p2: 1.37
p3: 0.09
p4: 0.18
p5: 1.43
p6: 0.11
t1: -0.35
t2: 2.03
Background Normalization factor: 31.831 ± 28.636
a1: 2.324 ± 0.453
a2: 0.150 ± 0.099
a3: 1.283 ± 0.695
a4: -0.291 ± 0.437
```

—+— *Raw events*
—+— *Fitted J/ψ events*
—+— *Fitted ψ(2S) events*
- - + - *Fitted background events*
—+— *Fitted J/ψ ψ(2S) and background events*

$m_{\mu\mu}$ (GeV/c²)

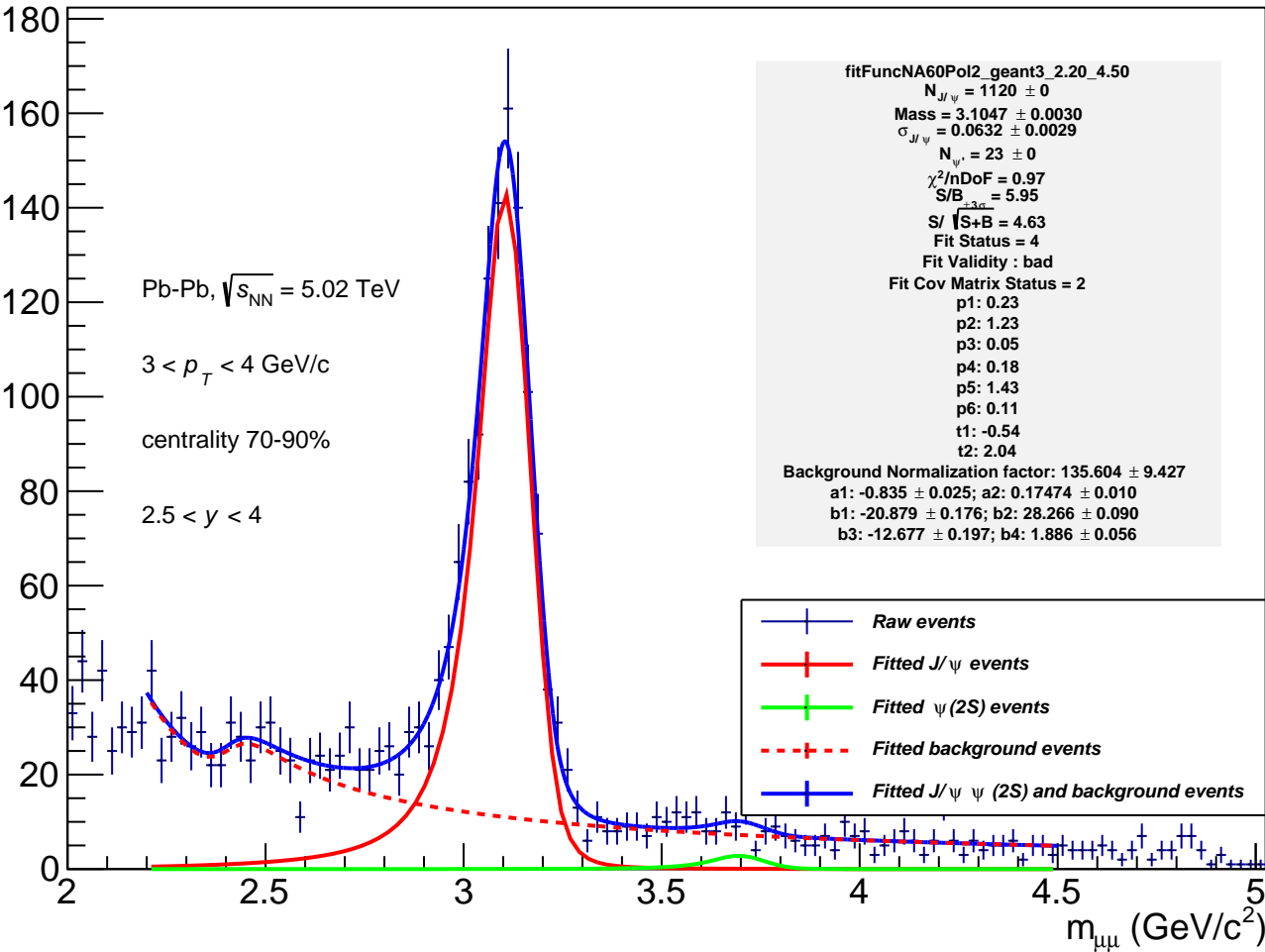
Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$



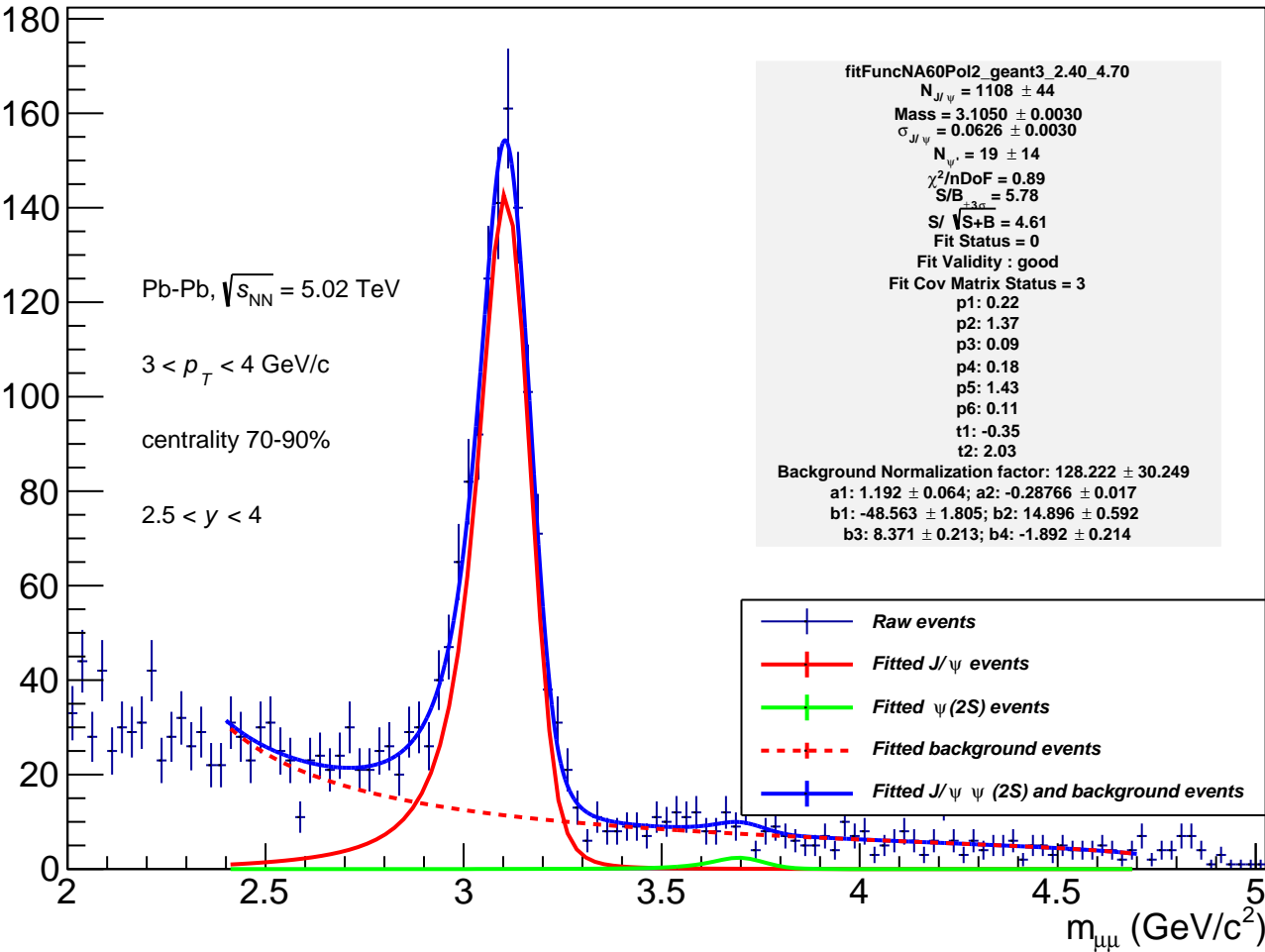
Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$



Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Exp_pp13_2.20_4.50

$N_{J/\psi} = 1041 \pm 47$

Mass = 3.1009 ± 0.0028

$\sigma_{J/\psi} = 0.0638 \pm 0.0018$

$N_{\psi'} = 10 \pm 10$

$\chi^2/nDoF = 0.95$

$S/B_{\pm 3\sigma} = 10.48$

$S/\sqrt{S+B} = 4.72$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 1

t1: 0.97

p1: 6.97

t2: 1.86

p1: 14.99

- +— *Raw events*
- +— *Fitted J/ψ events*
- +— *Fitted $\psi(2S)$ events*
- - + - - *Fitted background events*
- +— *Fitted J/ψ $\psi(2S)$ and background events*

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Exp_geant3_2.20_4.50

$N_{J/\psi} = 1070 \pm 48$

Mass = 3.1024 ± 0.0028

$\sigma_{J/\psi} = 0.0634 \pm 0.0019$

$N_{\psi'} = 11 \pm 10$

$\chi^2/nDoF = 0.94$

$S/B_{\pm 3\sigma} = 11.09$

$S/\sqrt{S+B} = 4.72$

Fit Status = 0

Fit Validity : good

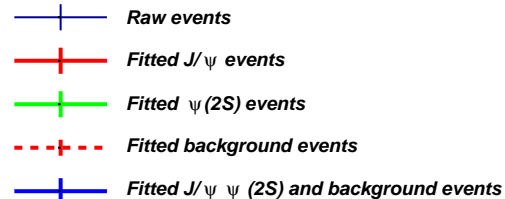
Fit Cov Matrix Status = 1

t1: 0.97

p1: 3.98

t2: 2.30

p1: 3.03



2

2.5

3

3.5

4

4.5

5

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Exp_pp13_2.40_4.70

$N_{J/\psi} = 1069 \pm 47$

Mass = 3.1004 ± 0.0031

$\sigma_{J/\psi} = 0.0657 \pm 0.0033$

$N_{\psi'} = 17 \pm 12$

$\chi^2/nDoF = 0.85$

$S/B_{\pm 3\sigma} = 13.57$

$S/\sqrt{S+B} = 4.83$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 0.97

p1: 6.97

t2: 1.86

p1: 14.99

- +— *Raw events*
- +— *Fitted J/ψ events*
- +— *Fitted $\psi(2S)$ events*
- - + - - *Fitted background events*
- +— *Fitted J/ψ $\psi(2S)$ and background events*

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2Exp_geant3_2.40_4.70

$N_{J/\psi} = 1111 \pm 47$

Mass = 3.1012 ± 0.0032

$\sigma_{J/\psi} = 0.0662 \pm 0.0034$

$N_{\psi'} = 18 \pm 12$

$\chi^2/nDoF = 0.82$

$S/B_{\pm 3\sigma} = 16.55$

$S/\sqrt{S+B} = 4.89$

Fit Status = 0

Fit Validity : good

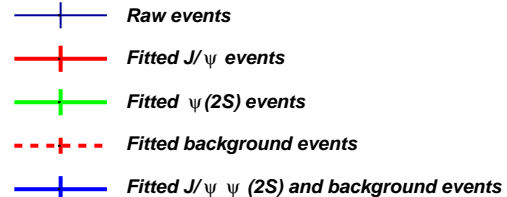
Fit Cov Matrix Status = 3

t1: 0.97

p1: 3.98

t2: 2.30

p1: 3.03



$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncNA60Exp_geant3_2.20_4.50

$N_{J/\psi} = 1080 \pm 49$

Mass = 3.1053 ± 0.0028

$\sigma_{J/\psi} = 0.0606 \pm 0.0018$

$N_{\psi^*} = 11 \pm 10$

$\chi^2/nDoF = 0.92$

S/B = 11.75

S/ $\sqrt{S+B} = 4.72$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 1

p1: 0.23

p2: 1.23

p3: 0.05

p4: 0.18

p5: 1.43

p6: 0.11

t1: -0.54

t2: 2.04

- +— Raw events
- +— Fitted J/ψ events
- +— Fitted $\psi(2S)$ events
- - + - - Fitted background events
- +— Fitted J/ψ $\psi(2S)$ and background events

$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

Pb-Pb, $\sqrt{s_{NN}} = 5.02$ TeV

$3 < p_T < 4$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncNA60Exp_geant3_2.40_4.70

$N_{J/\psi} = 1121 \pm 46$

Mass = 3.1042 ± 0.0030

$\sigma_{J/\psi} = 0.0633 \pm 0.0031$

$N_{\psi^*} = 17 \pm 12$

$\chi^2/nDoF = 0.81$

S/B = 17.76

S/ $\sqrt{S+B}$ = 4.89

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

p1: 0.23

p2: 1.23

p3: 0.05






p4: 0.18

p5: 1.43

p6: 0.11

t1: -0.54

t2: 2.04

-  Raw events
-  Fitted J/ψ events
-  Fitted $\psi(2S)$ events
-  Fitted background events
-  Fitted J/ψ $\psi(2S)$ and background events

$m_{\mu\mu}$ (GeV/c²)