

Events per 0.025 GeV

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

$5 < p_T < 6$ GeV/c

centrality 70-90%

$2.5 < y < 4$

fitFuncCB2VWG_pp13_2.20_4.50

$N_{J/\psi} = 338 \pm 46$

Mass = 3.0988 ± 0.0053

$\sigma_{J/\psi} = 0.0569 \pm 0.0067$

$N_{\psi'} = 38 \pm 4$

$\chi^2/nDoF = 1.60$

$S/B_{\pm 3\sigma} = 3.29$

$S/\sqrt{S+B} = 2.46$

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: 7.644 ± 2.725

a1: 3.061 ± 0.068

a2: 0.272 ± 0.111

a3: -0.870 ± 0.548

a4: 4.673 ± 1.158

—+— 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)

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fitFuncCB2VWG_geant3_2.20_4.50

$N_{J/\psi} = 431 \pm 22$

Mass = 3.0968 ± 0.0049

$\sigma_{J/\psi} = 0.0722 \pm 0.0051$

$N_{\psi'} = 24 \pm 2$

$\chi^2/nDoF = 1.14$

$S/B_{\pm 3\sigma} = 7.80$

$S/\sqrt{S+B} = 2.96$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 1.11

p1: 3.15

t2: 2.17

p1: 3.00

Background Normalization factor: 5.316 ± 0.622

a1: 0.835 ± 0.289

a2: 10.000 ± 15.609

a3: -4.809 ± 2.309

a4: 0.694 ± 0.661

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fitFuncCB2VWG_pp13_2.40_4.70

$N_{J/\psi} = 401 \pm 29$

Mass = 3.0986 ± 0.0050

$\sigma_{J/\psi} = 0.0678 \pm 0.0057$

$N_{\psi'} = 5 \pm 7$

$\chi^2/nDoF = 0.94$

$S/B_{\pm 3\sigma} = 5.98$

$S/\sqrt{S+B} = 2.84$

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: 4.672 ± 0.598

a1: 2.611 ± 0.448

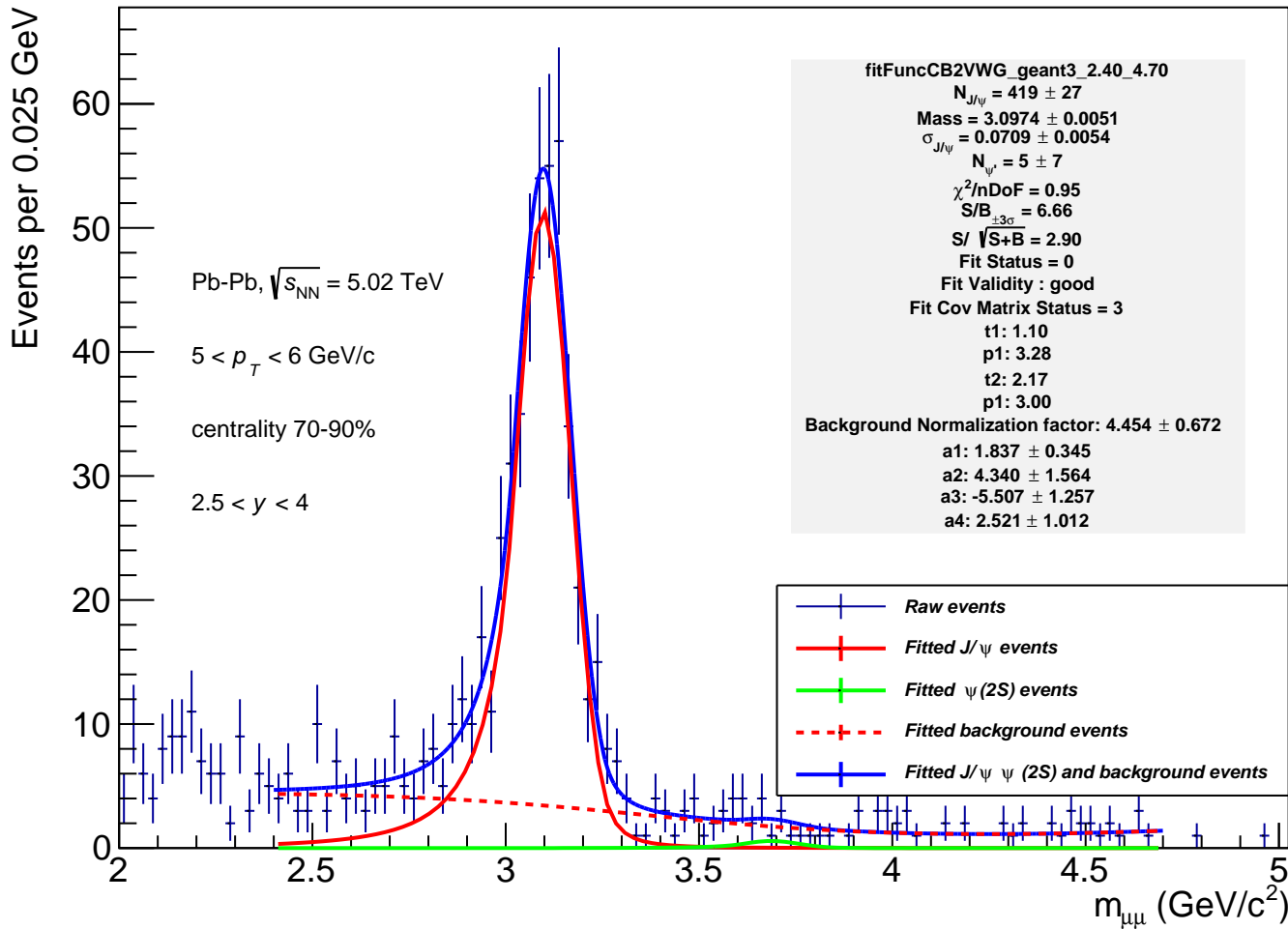
a2: 1.065 ± 0.815

a3: -1.839 ± 1.667

a4: 2.712 ± 1.697

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$m_{\mu\mu}$ (GeV/c²)



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fitFuncCB2Pol_pp13_2.20_4.50

$N_{J/\psi} = 430 \pm 24$

Mass = 3.0969 ± 0.0050

$\sigma_{J/\psi} = 0.0730 \pm 0.0048$

$N_{\psi'} = 24 \pm 2$

$\chi^2/\text{nDoF} = 1.01$

$S/B_{\pm 3\sigma} = 8.26$

$S/\sqrt{S+B} = 2.99$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 0.97

p1: 6.97

t2: 1.86

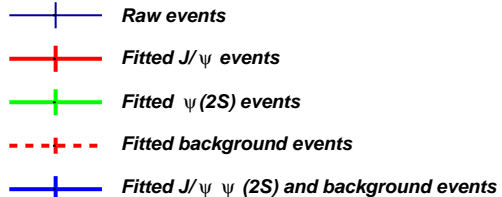
p1: 14.99

Background Normalization factor: 46.726 ± 4.314

a1: -0.535 ± 0.000 ; a2: 0.07165 ± 0.000

b1: -17.615 ± 0.048 ; b2: 20.733 ± 0.013

b3: -7.327 ± 0.003 ; b4: 0.814 ± 0.001



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fitFuncCB2Pol_geant3_2.20_4.50

$N_{J/\psi} = 432 \pm 28$

Mass = 3.0968 ± 0.0050

$\sigma_{J/\psi} = 0.0728 \pm 0.0055$

$N_{\psi'} = 3 \pm 7$

$\chi^2/\text{nDoF} = 1.00$

$S/B_{\pm 3\sigma} = 7.57$

$S/\sqrt{S+B} = 2.96$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 1.11

p1: 3.15

t2: 2.17

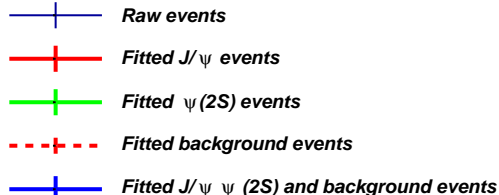
p1: 3.00

Background Normalization factor: 49.287 ± 58.382

a1: -0.458 ± 0.014 ; a2: 0.05247 ± 0.003

b1: -6.001 ± 7.138 ; b2: 9.046 ± 1.986

b3: -3.112 ± 0.099 ; b4: 0.311 ± 0.041



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fitFuncCB2Pol_pp13_2.40_4.70

$N_{J/\psi} = 403 \pm 29$

Mass = 3.0986 ± 0.0050

$\sigma_{J/\psi} = 0.0680 \pm 0.0058$

$N_{\psi^*} = 5 \pm 7$

$\chi^2/\text{nDoF} = 0.96$

$S/B_{\pm 3\sigma} = 6.08$

$S/\sqrt{S+B} = 2.85$

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: 179.470 ± 91.059

a1: -0.485 ± 0.024 ; a2: 0.06089 ± 0.006

b1: 66.244 ± 6.506 ; b2: -44.471 ± 2.225

b3: 9.782 ± 0.591 ; b4: -0.622 ± 0.131

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$m_{\mu\mu}$ (GeV/c²)

Events per 0.025 GeV

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

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$2.5 < y < 4$

fitFuncCB2Pol_geant3_2.40_4.70

$N_{J/\psi} = 430 \pm 34$

Mass = 3.0973 ± 0.0051

$\sigma_{J/\psi} = 0.0728 \pm 0.0060$

$N_{\psi'} = 5 \pm 7$

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

$S/B_{\pm 3\sigma} = 7.77$

$S/\sqrt{S+B} = 2.96$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

t1: 1.10

p1: 3.28

t2: 2.17

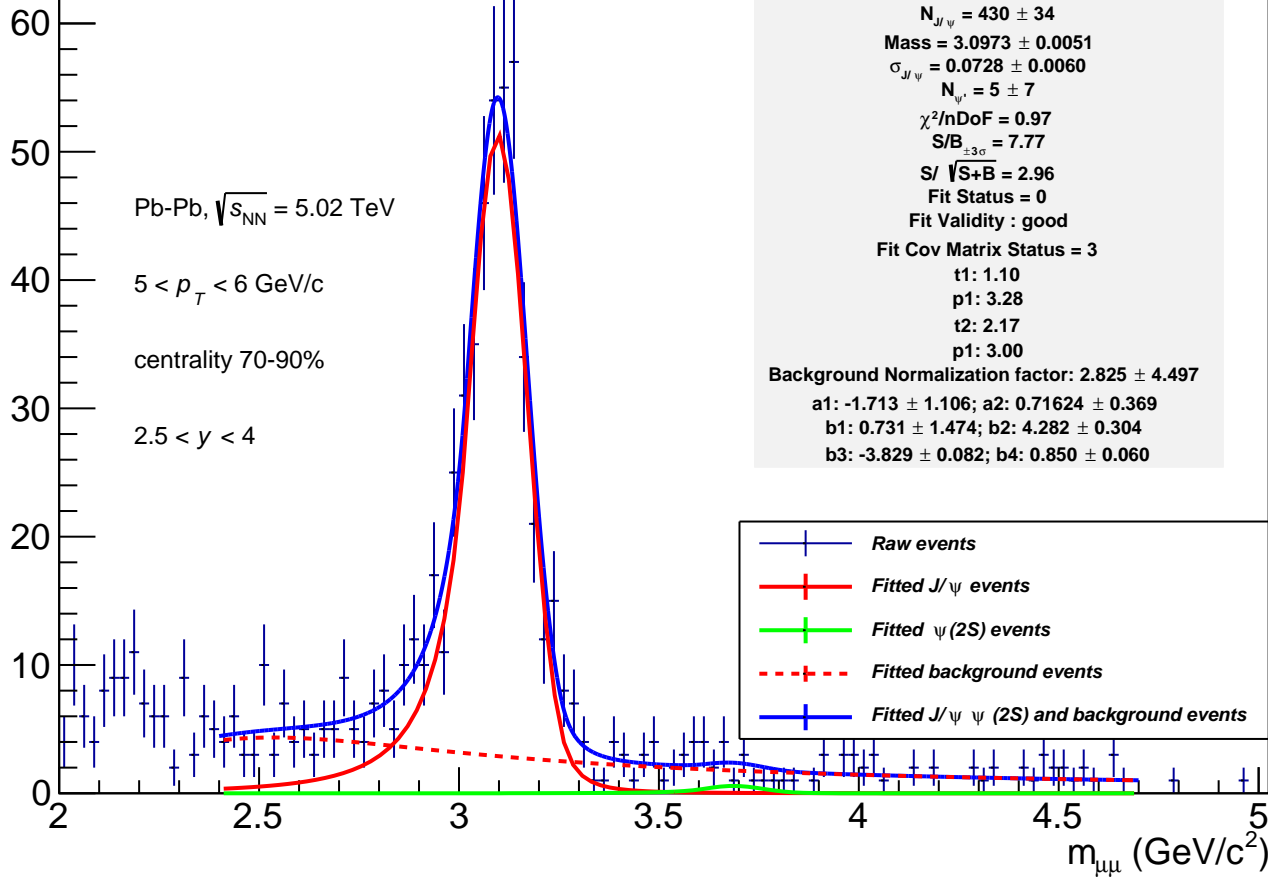
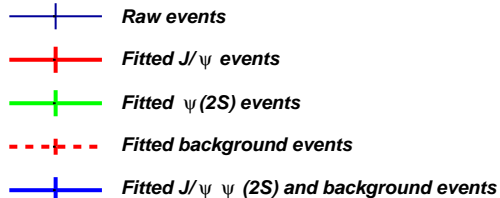
p1: 3.00

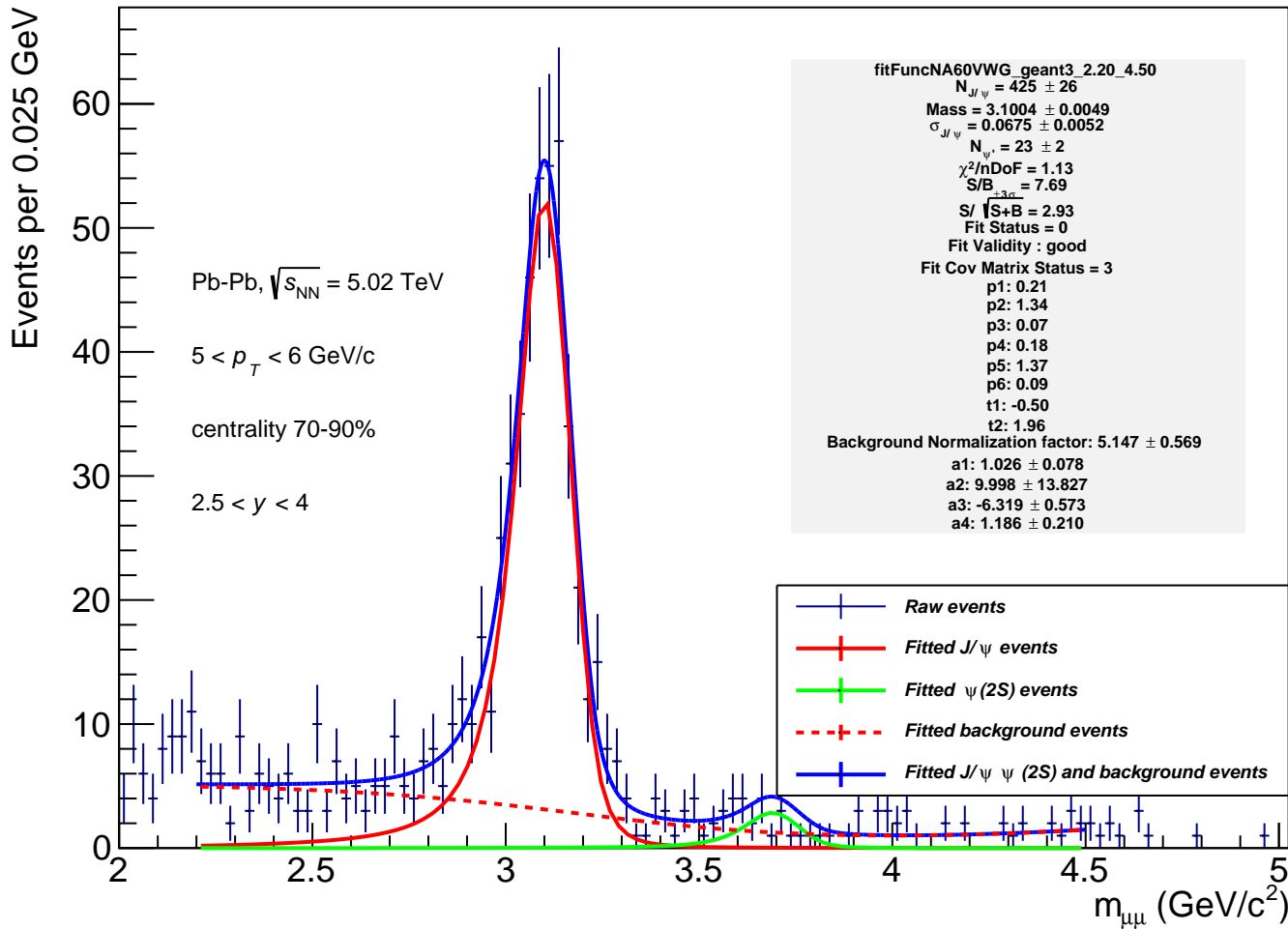
Background Normalization factor: 2.825 ± 4.497

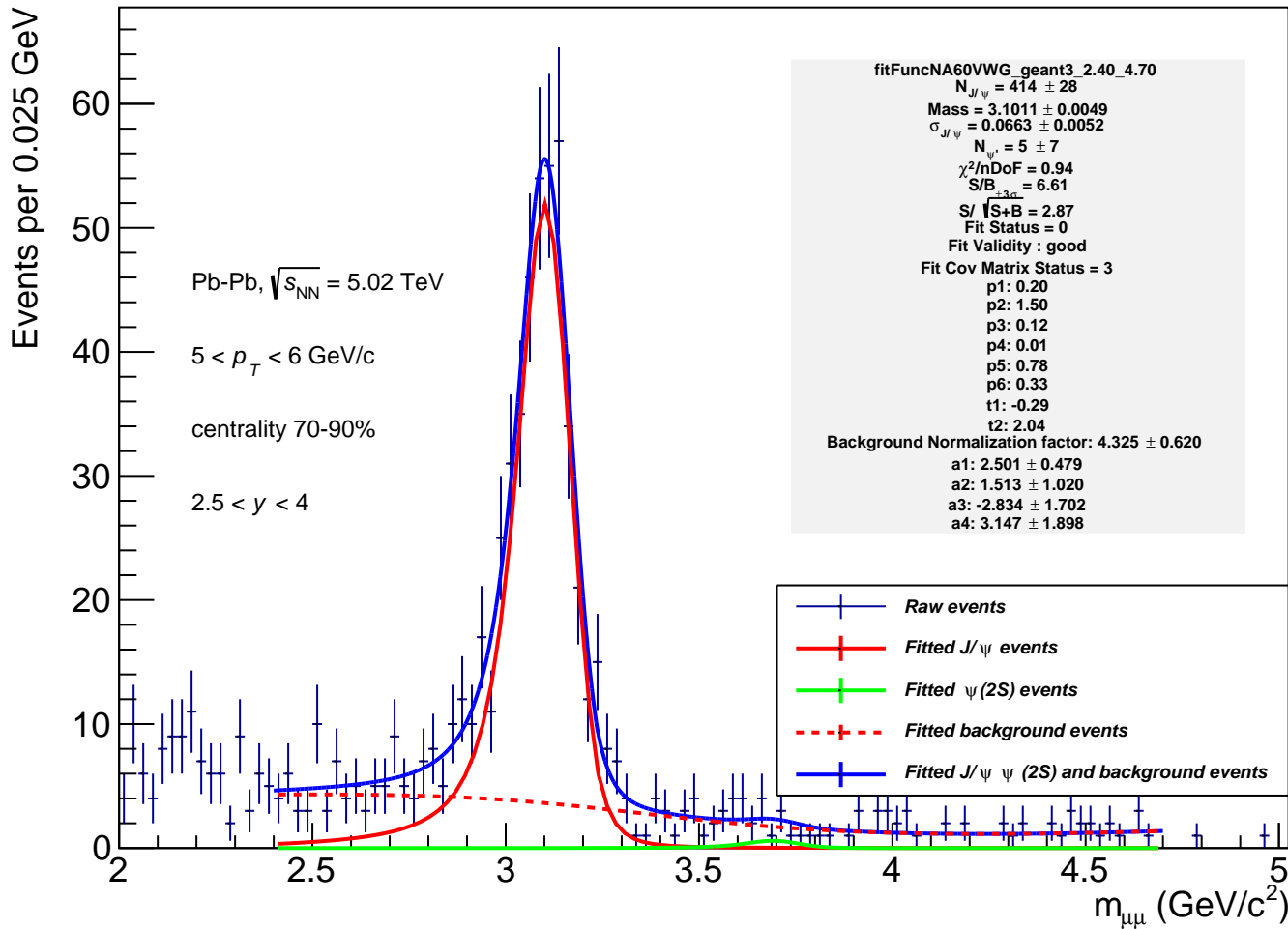
a1: -1.713 ± 1.106 ; a2: 0.71624 ± 0.369

b1: 0.731 ± 1.474 ; b2: 4.282 ± 0.304

b3: -3.829 ± 0.082 ; b4: 0.850 ± 0.060







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fitFuncNA60Pol2_geant3_2.20_4.50

$N_{J/\psi} = 149 \pm 0$

Mass = 3.0711 ± 0.0175

$\sigma_{J/\psi} = 0.0543 \pm 0.0175$

$N_{\psi'} = 11 \pm 0$

$\chi^2/nDoF = 0.97$

S/B = 0.48

$\frac{S}{S+B} = 1.05$

Fit Status = 4

Fit Validity : bad

Fit Cov Matrix Status = 2

p1: 0.21

p2: 1.34

p3: 0.07

p4: 0.18

p5: 1.37

p6: 0.09

t1: -0.50

t2: 1.96

Background Normalization factor: 6.421 ± 2.532

a1: -0.615 ± 0.019 ; a2: 0.09513 ± 0.005

b1: -1.810 ± 0.608 ; b2: 2.626 ± 0.172

b3: -1.123 ± 0.086 ; b4: 0.150 ± 0.024

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$m_{\mu\mu}$ (GeV/c²)

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$2.5 < y < 4$

fitFuncNA60Pol2_geant3_2.40_4.70

$N_{J/\psi} = 49 \pm 62$

Mass = 3.0700 ± 0.0055

$\sigma_{J/\psi} = 0.0400 \pm 0.0063$

$N_{\psi'} = 28 \pm 0$

$\chi^2/nDoF = 1.20$

$S/B = 0.14$

$S/\sqrt{S+B} = 0.37$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

p1: 0.20

p2: 1.50

p3: 0.12

p4: 0.01

p5: 0.78

p6: 0.33

t1: -0.29

t2: 2.04

Background Normalization factor: 120.085 ± 13.743

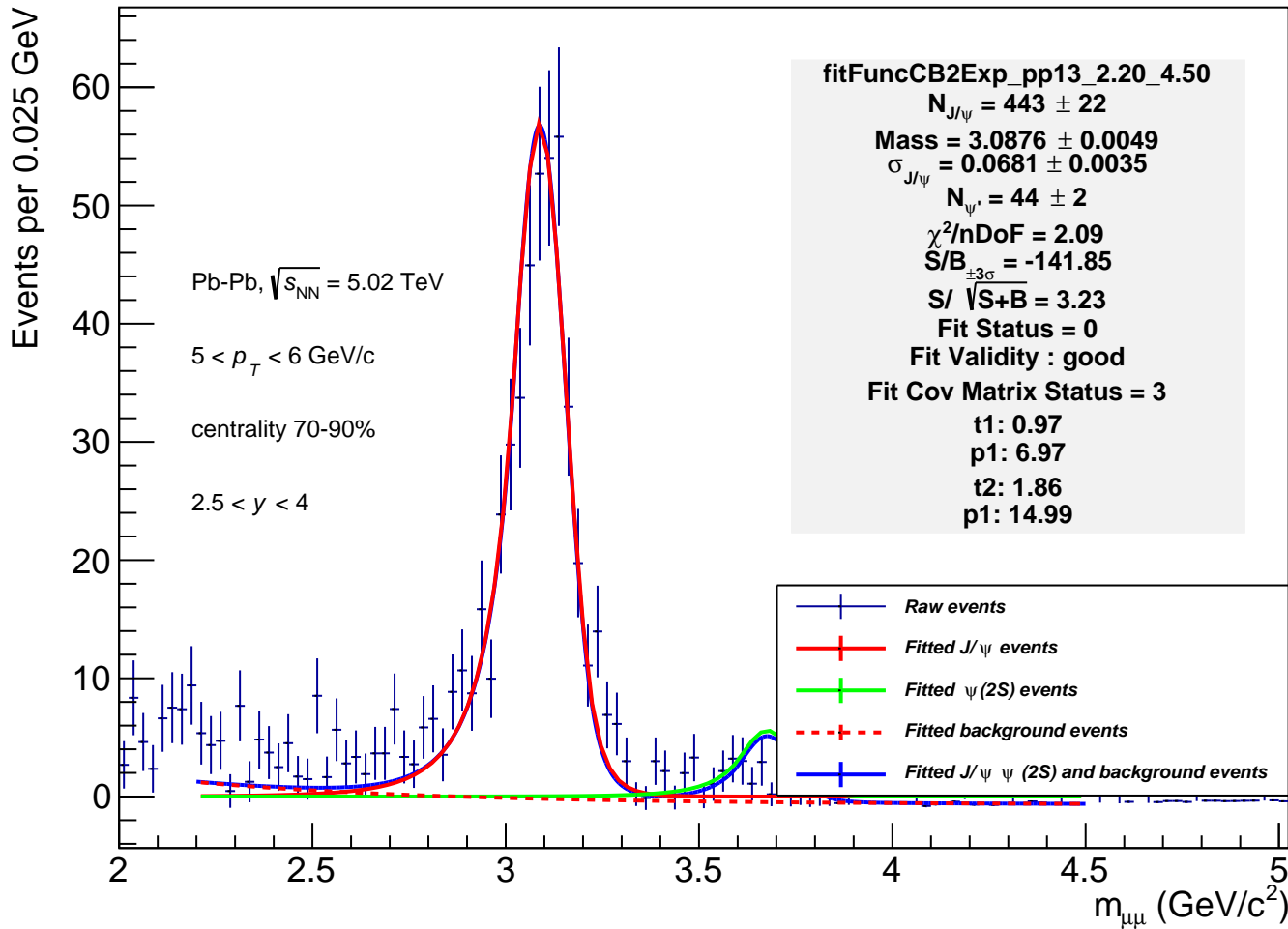
a1: -0.595 ± 0.006 ; a2: 0.08910 ± 0.002

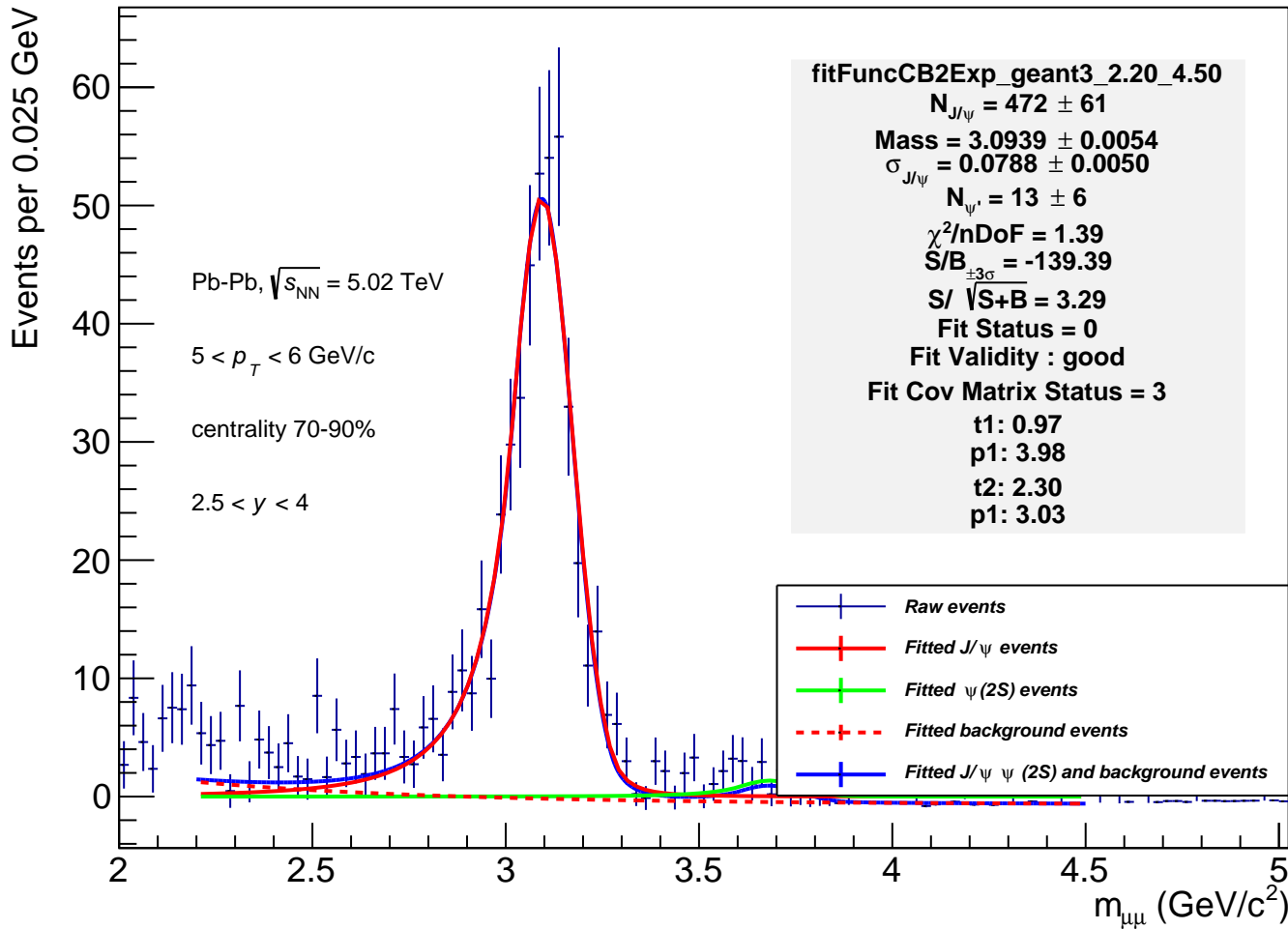
b1: 25.435 ± 0.124 ; b2: -7.495 ± 0.029

b3: -3.016 ± 0.008 ; b4: 0.900 ± 0.006

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$m_{\mu\mu}$ (GeV/c²)





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

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fitFuncCB2Exp_pp13_2.40_4.70

$N_{J/\psi} = 390 \pm 0$

Mass = 3.0879 ± 0.0051

$\sigma_{J/\psi} = 0.0612 \pm 0.0030$

$N_{\psi'} = 17 \pm 0$

$\chi^2/nDoF = 6.70$

$S/B_{\pm 3\sigma} = 29190.37$

$S/\sqrt{S+B} = 3.02$

Fit Status = 4

Fit Validity : bad

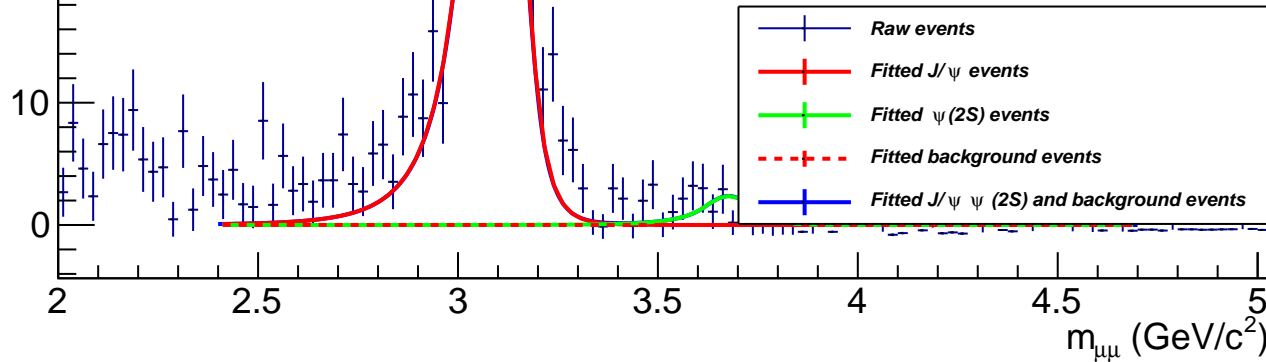
Fit Cov Matrix Status = 1

t1: 0.97

p1: 6.97

t2: 1.86

p1: 14.99



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fitFuncCB2Exp_geant3_2.40_4.70

$N_{J/\psi} = 476 \pm 23$

Mass = 3.0931 ± 0.0049

$\sigma_{J/\psi} = 0.0808 \pm 0.0053$

$N_{\psi'} = 15 \pm 5$

$\chi^2/\text{nDoF} = 1.36$

$S/B_{\pm 3\sigma} = -55.84$

$S/\sqrt{S+B} = 3.34$

Fit Status = 0

Fit Validity : good

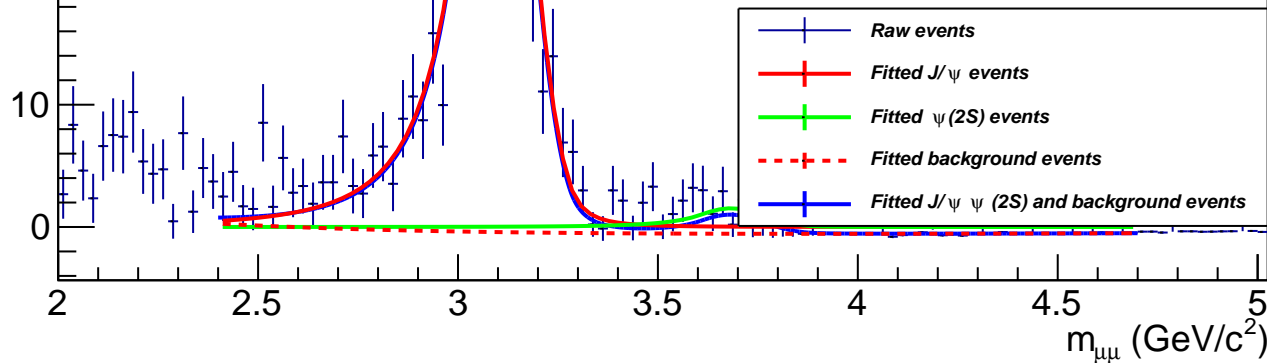
Fit Cov Matrix Status = 3

t1: 0.97

p1: 3.98

t2: 2.30

p1: 3.03



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fitFuncNA60Exp_geant3_2.20_4.50

$N_{J/\psi} = 470 \pm 23$

Mass = 3.0959 ± 0.0047

$\sigma_{J/\psi} = 0.0762 \pm 0.0050$

$N_{\psi'} = 12 \pm 5$

$\chi^2/nDoF = 1.41$

S/B = -144.01

S/ $\sqrt{S+B} = 3.29$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

p1: 0.21

p2: 1.34

p3: 0.07

p4: 0.18

p5: 1.37

p6: 0.09

t1: -0.50

t2: 1.96

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fitFuncNA60Exp_geant3_2.40_4.70

$N_{J/\psi} = 474 \pm 23$

Mass = 3.0953 ± 0.0048

$\sigma_{J/\psi} = 0.0780 \pm 0.0051$

$N_{\psi'} = 14 \pm 5$

$\chi^2/\text{nDoF} = 1.39$

$S/B = -58.28$

$S/\sqrt{S+B} = 3.33$

Fit Status = 0

Fit Validity : good

Fit Cov Matrix Status = 3

p1: 0.21

p2: 1.34

p3: 0.07

p4: 0.18

p5: 1.37

p6: 0.09

t1: -0.50

t2: 1.96

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