Résumé de l'analyse

Top group, Lyon

29 août 2012

Table des matières

1 Datasets

1.1 MC

- $m = 500$ GeV : @@m-500-entries@@ entrées.
- $m = 750$ GeV : @@m-750-entries@@ entrées.
- $m = 1000$ GeV : @@m-1000-entries@@ entrées.
- $m = 1250$ GeV : @@m-1250-entries@@ entrées.
- $m = 1500$ GeV : @@m-1500-entries@@ entrées.

1.2 Data

@@data-entries@@ entrées.

2 Frit

2.1 $m = 750$ GeV

2.2 $m = 1000$ GeV

2.3 $m = 1250$ GeV

2.4 $m = 1500$ GeV

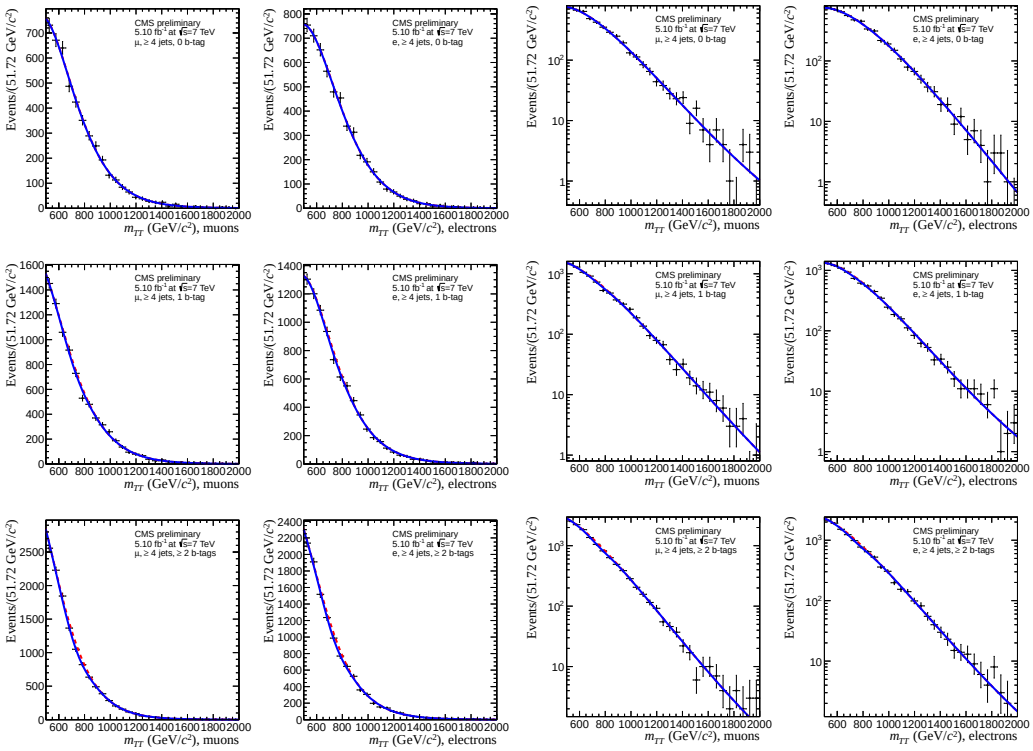
2.5 Efficacités

2.5.1 Efficacités de sélection

2.5.2 Efficacité totales

3 σ_{ref}

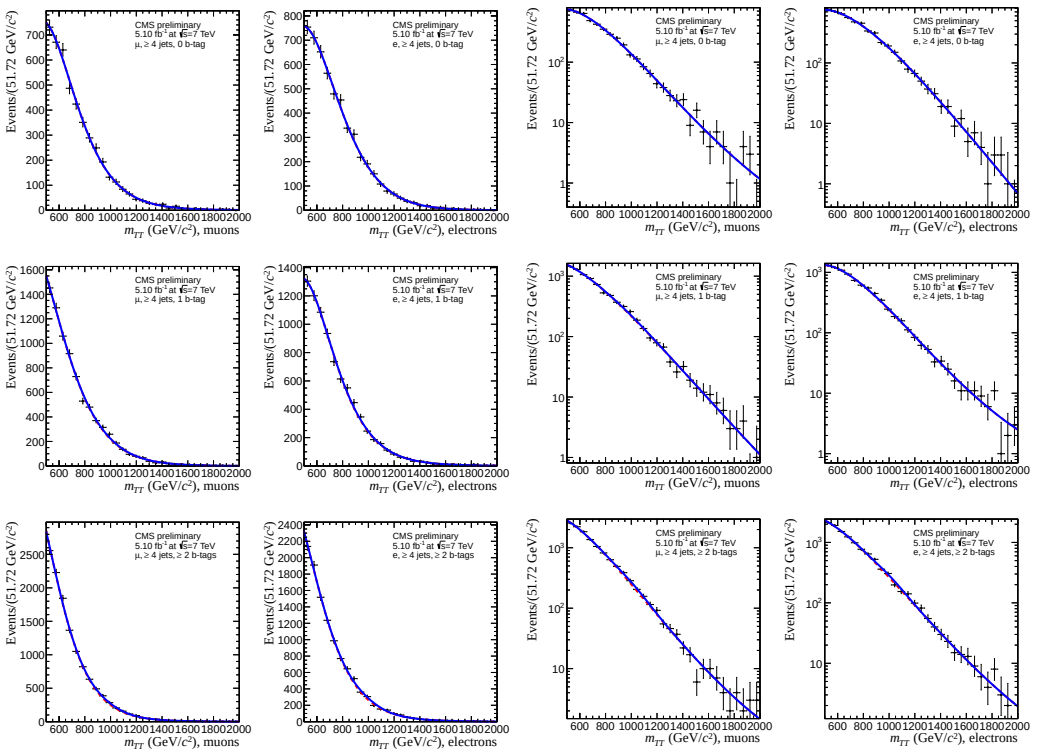
3.1 $m = 750$ GeV



Nominal Nominal, échelle log

– $\chi^2 = 1.01299405098$
– Statut du fit : Echec

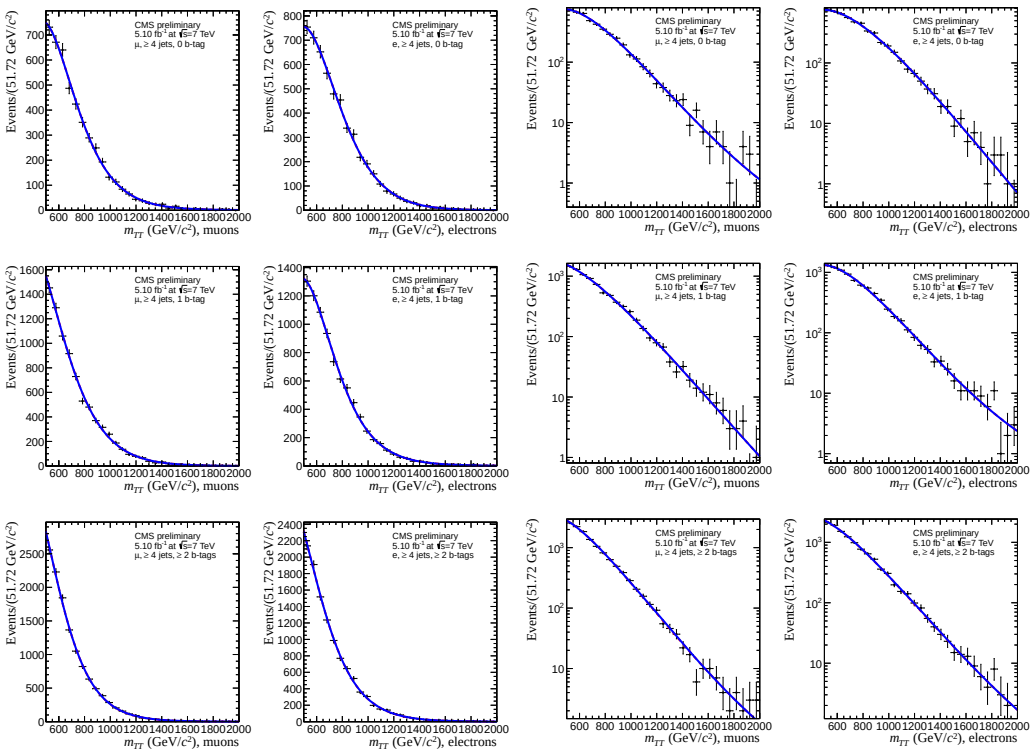
3.2 $m = 1000$ GeV



Nominal Nominal, échelle log

– $\chi^2 = 0.981320261955$
– Statut du fit : OK

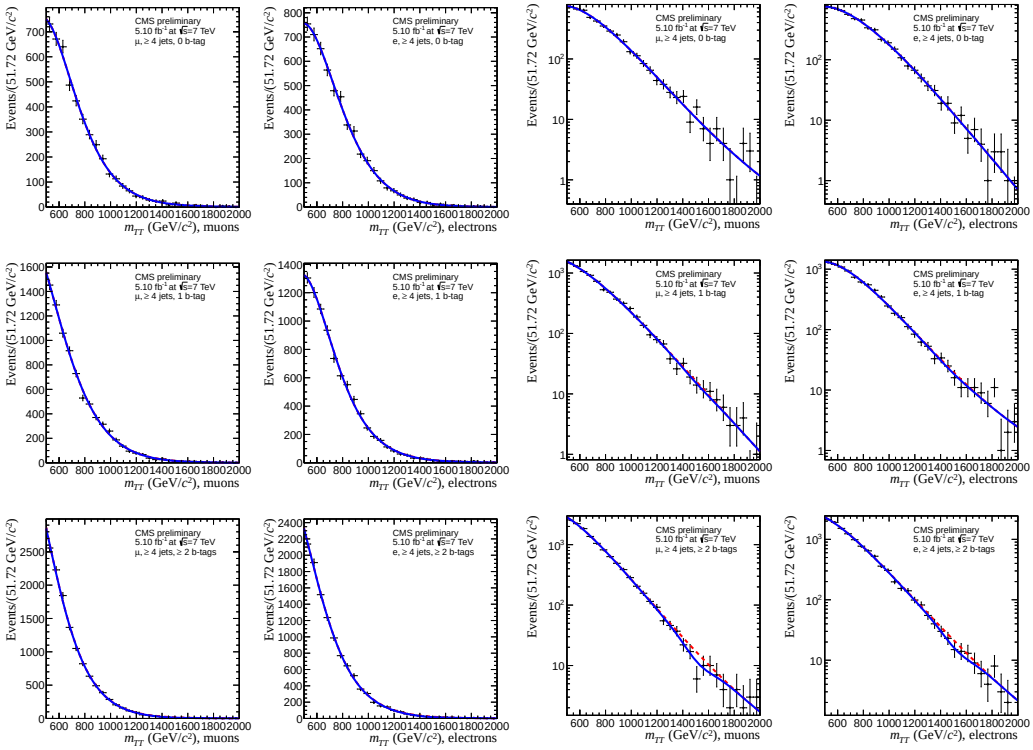
3.3 $m = 1250$ **GeV**



Nominal Nominal, échelle log

– $\chi^2 = 0.990370869637$
– Statut du fit : OK

3.4 $m = 1500$ GeV



Nominal Nominal, échelle log

– $\chi^2 = 0.974906921387$
– Statut du fit : OK

3.5 Sections efficaces

$m_{t\bar{t}}$	750 GeV	1000 GeV	1250 GeV	1500 GeV
σ (pb)	-3.21186156633	1.04907737751	0.0970084398455	-0.656284319286

4 Erreurs systématiques

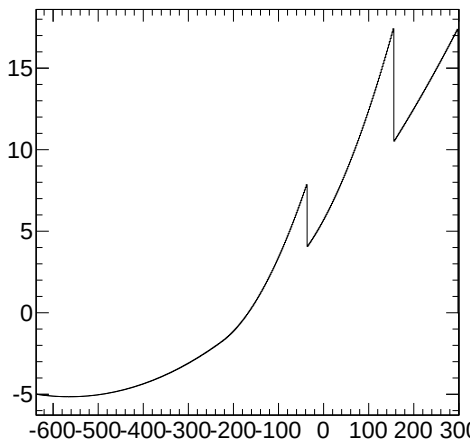
4.1 JEC

4.2 Signal

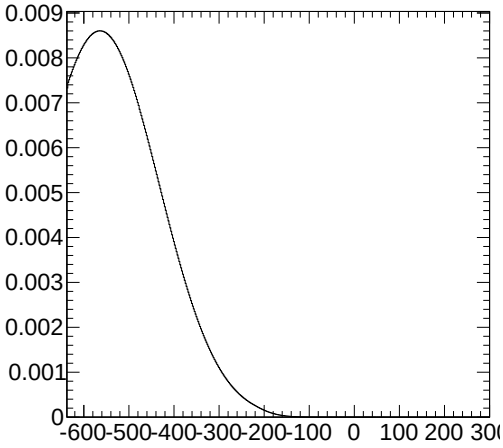
4.3 Background

5 Likelihood scan

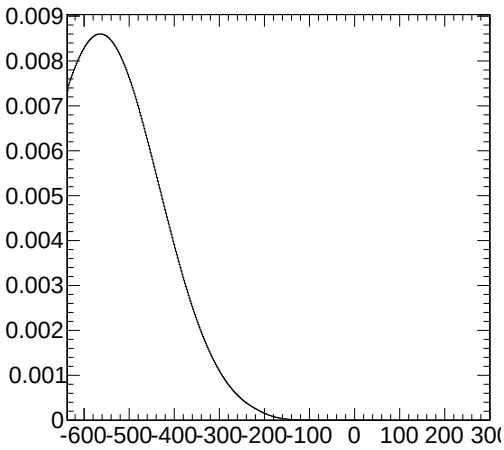
5.1 $m = 750$ GeV



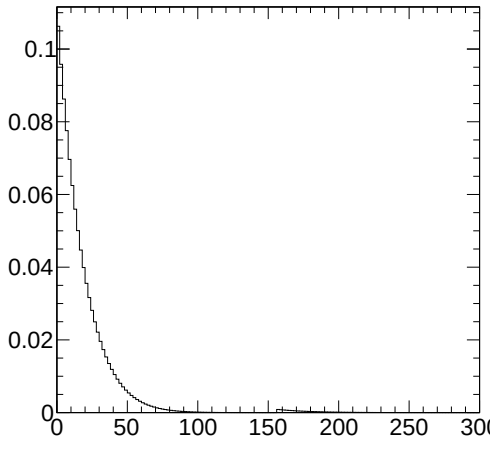
Likelihood scan



PDF scan

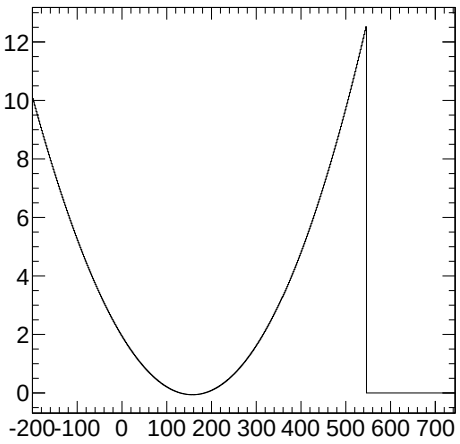


PDF scan + systématiques

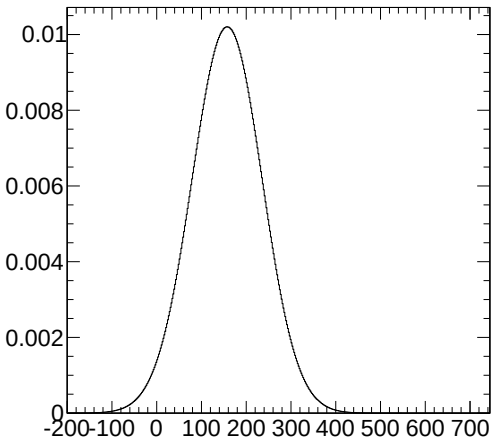


PDF scan + systématiques pour $N_{sig} > 0$

5.2 $m = 1000$ GeV



Likelihood scan



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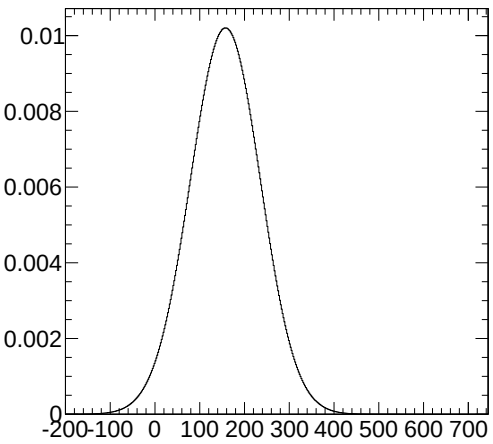
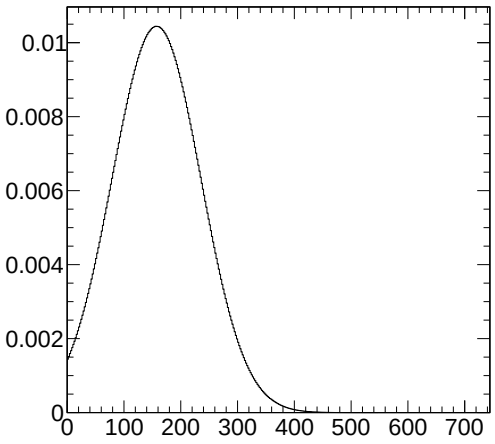
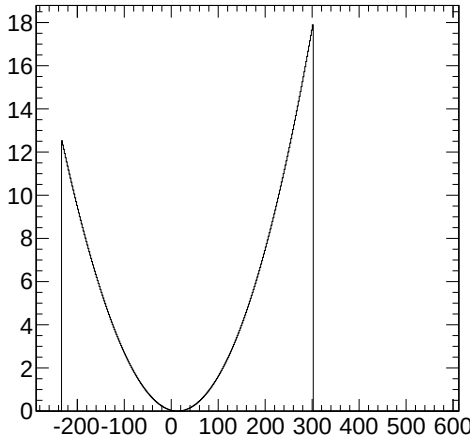


PDF scan + systématiques

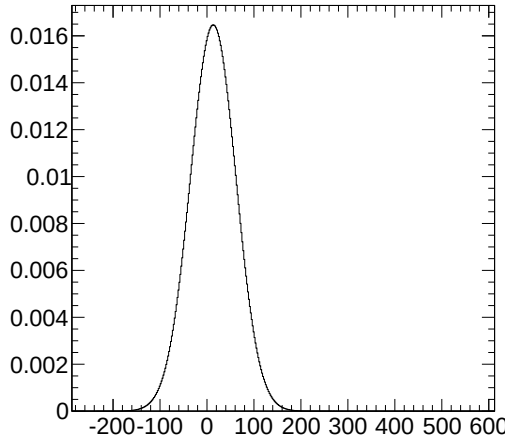


PDF scan + systématiques pour $N_{sig} > 0$

5.3 $m = 1250$ **GeV**



Likelihood scan



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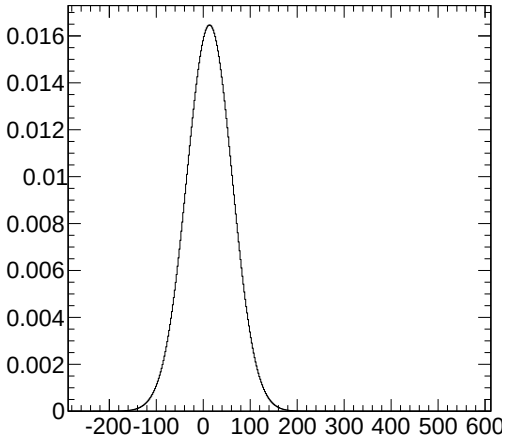
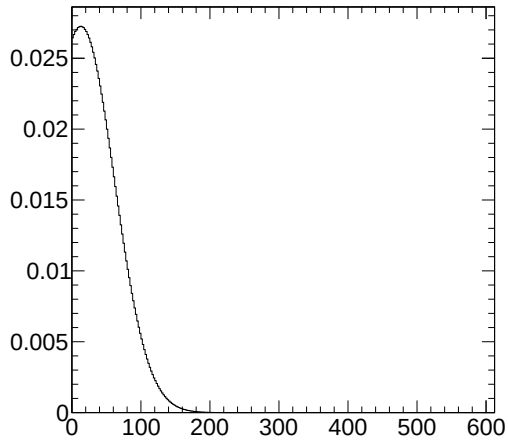
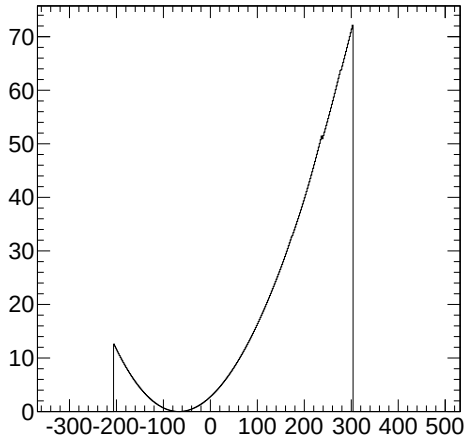


PDF scan + systématiques

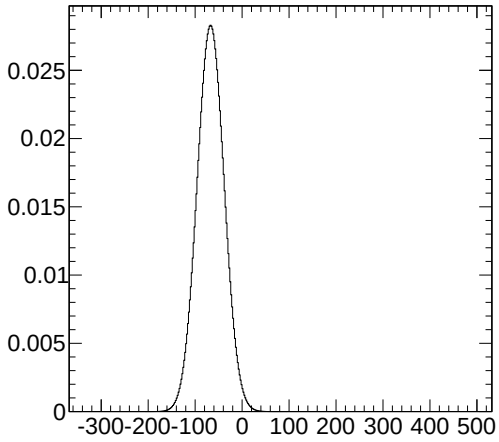


PDF scan + systématiques pour $N_{sig} > 0$

5.4 $m = 1500$ GeV



Likelihood scan



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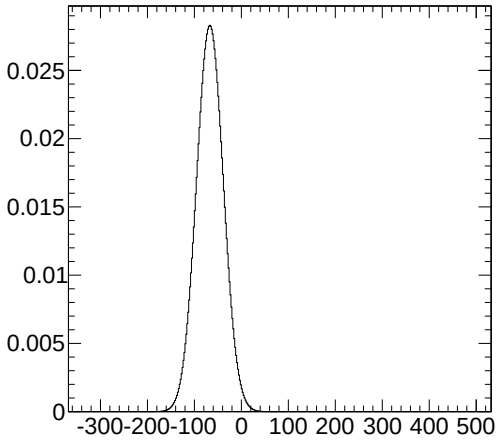
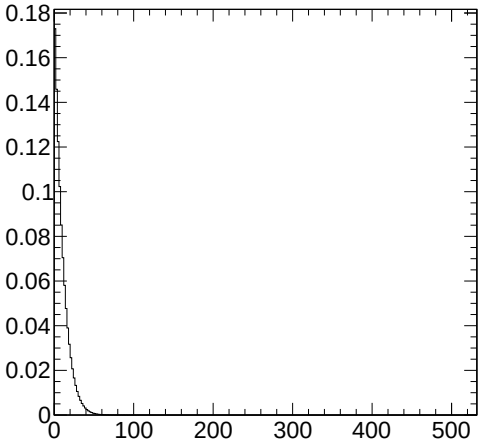


PDF scan + systématiques



PDF scan + systématiques pour $N_{sig} > 0$

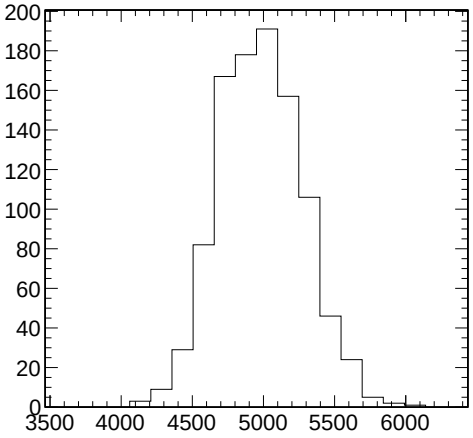
5.5 Limites observées

$m_{t\bar{t}}$	750 GeV	1000 GeV	1250 GeV	1500 GeV
Limite observée (pb)	0.477	2.0795	0.8153	0.2678

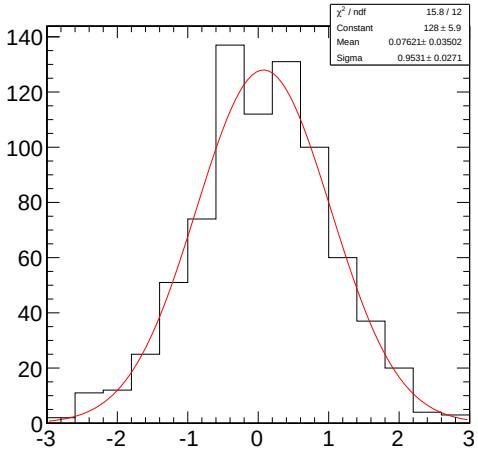
6 Toy MC

- Nombre de toys par masse : 1000
- Nombre de jobs par masse : 100
- Nombre de toys par jobs : 10

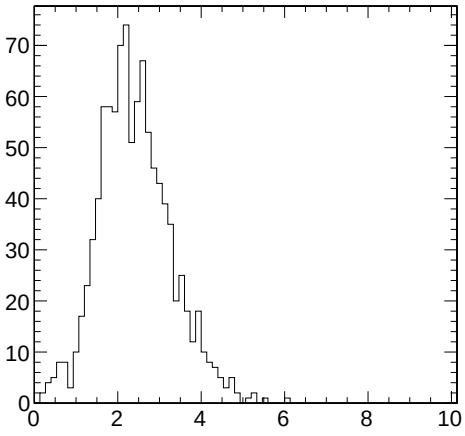
6.1 $m = 750$ **GeV**



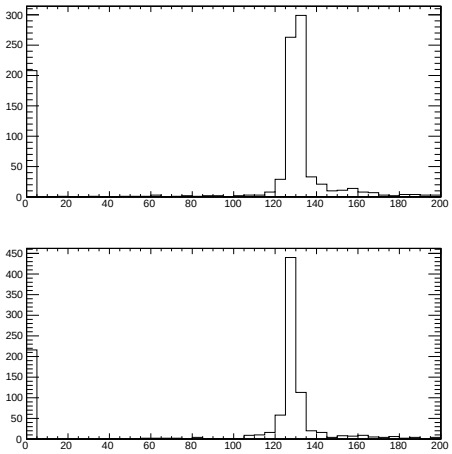
Nll Toy exp



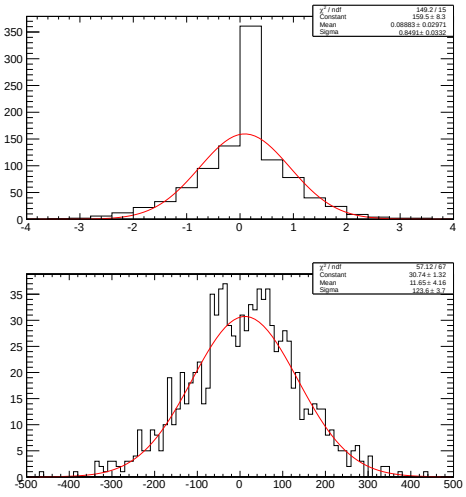
Pull



Limite Z'

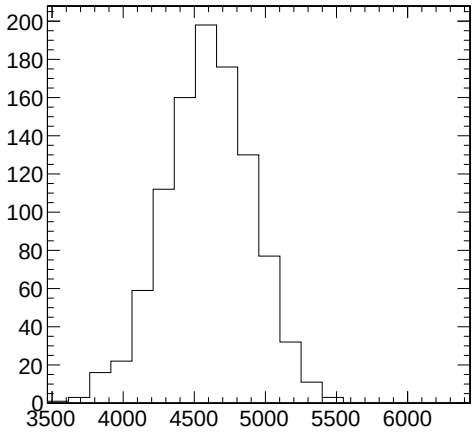


Erreur sur limite

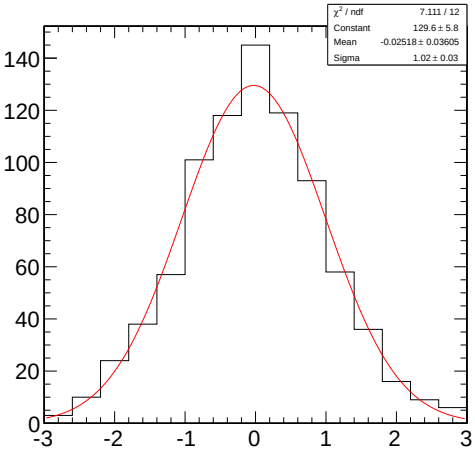


Plots e μ

6.2 $m = 1000$ GeV



Nll Toy exp



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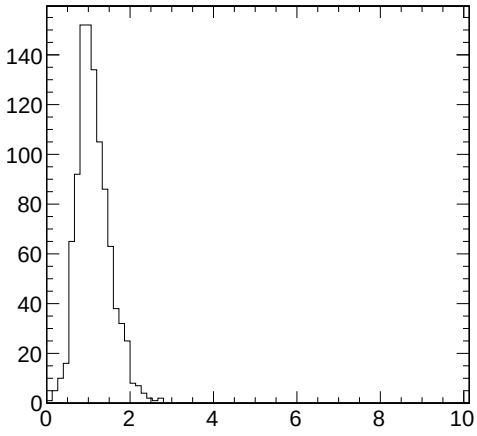
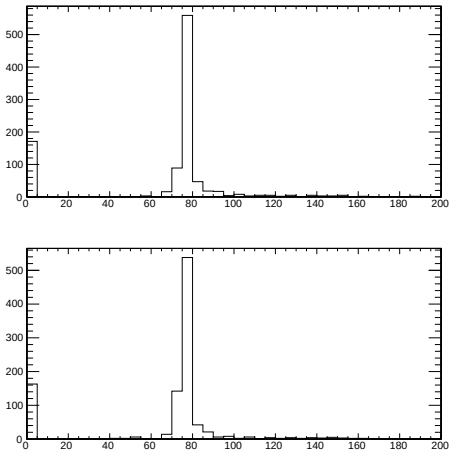
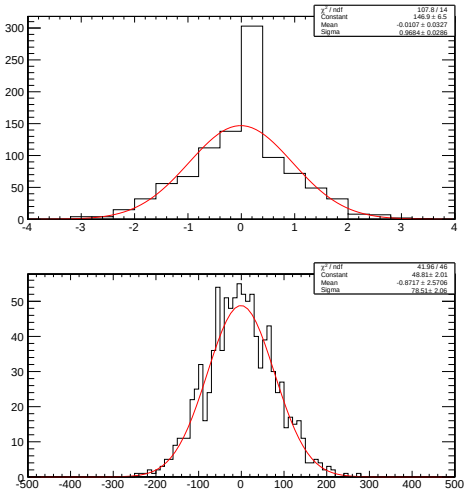


Limite Z'

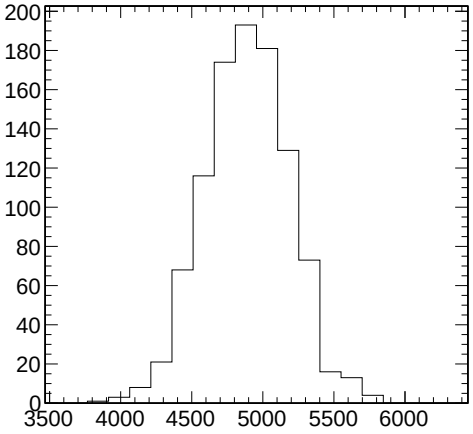


Erreur sur limite

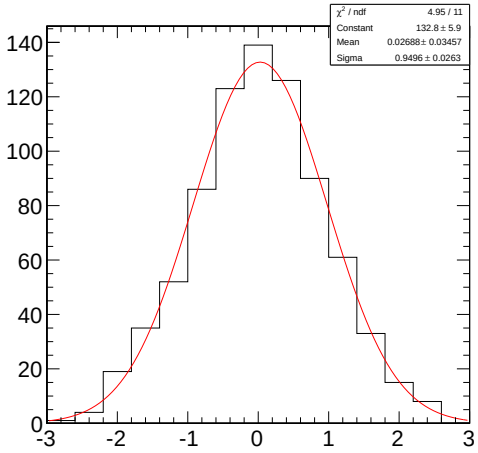


Plots e μ

6.3 $m = 1250$ **GeV**



Nll Toy exp



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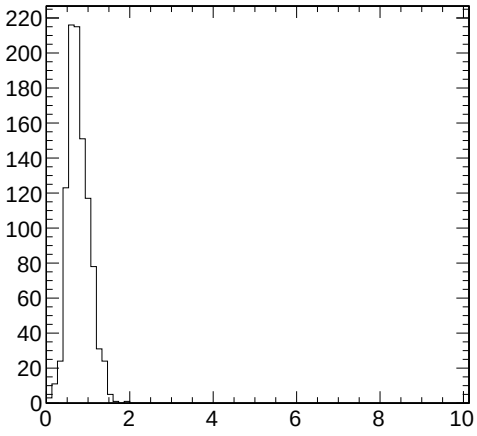
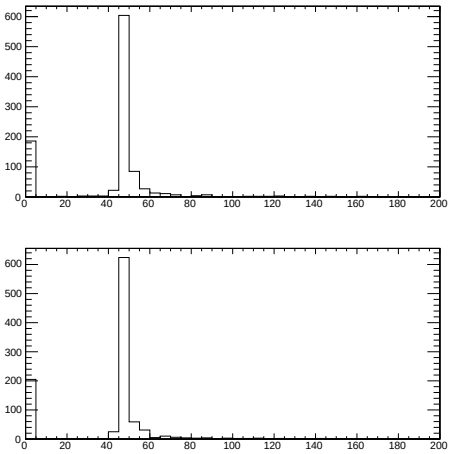
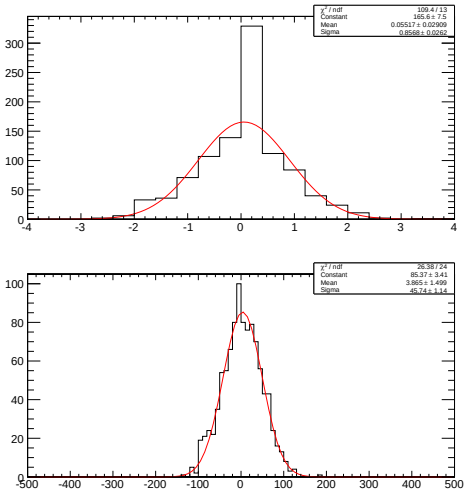


Limite Z'

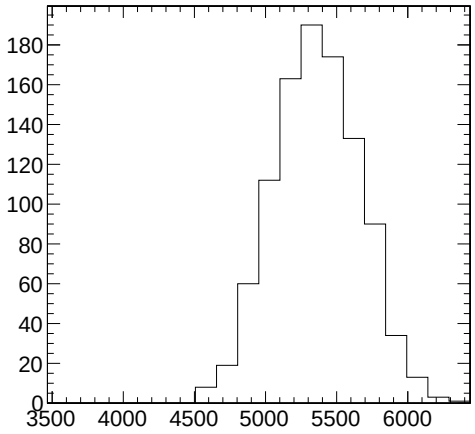


Erreur sur limite

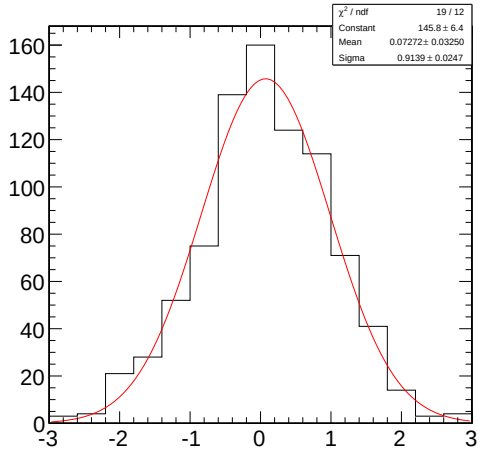


Plots e μ

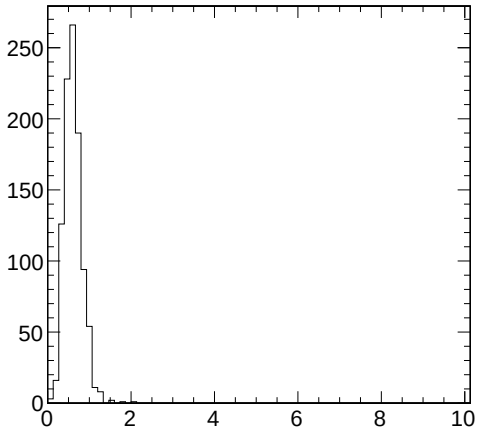
6.4 $m = 1500$ GeV



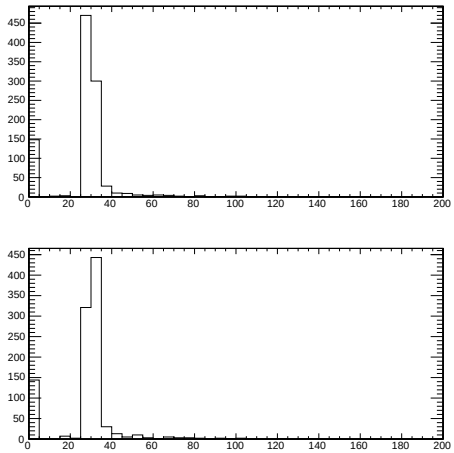
Nll Toy exp



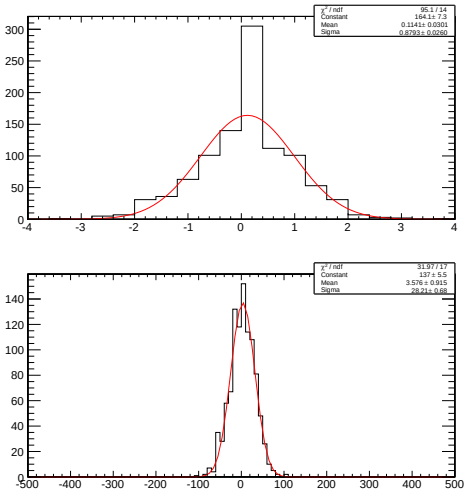
Pull



Limite Z'



Erreur sur limite



Plots e μ

6.5 Limites attendues

$m_{t\bar{t}}$	750 GeV	1000 GeV	1250 GeV	1500 GeV
Limite attendue (pb)	2.3477	1.0736	0.7429	0.597
Bande d'exclusion (68%) (pb)	$^{+0.9018}_{-0.7293}$	$^{+0.4396}_{-0.3157}$	$^{+0.3009}_{-0.2107}$	$^{+0.2186}_{-0.1882}$
Bande d'exclusion (95%) (pb)	$^{+1.957}_{-1.581}$	$^{+0.921}_{-0.5986}$	$^{+0.6237}_{-0.4152}$	$^{+0.4647}_{-0.324}$

7 Limites

$m_{t\bar{t}}$	750 GeV	1000 GeV	1250 GeV	1500 GeV
Limite observée (pb)	0.477	2.0795	0.8153	0.2678
Limite attendue (pb)	2.3477	1.0736	0.7429	0.597
Bande d'exclusion (68%) (pb)	$^{+0.9018}_{-0.7293}$	$^{+0.4396}_{-0.3157}$	$^{+0.3009}_{-0.2107}$	$^{+0.2186}_{-0.1882}$
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