Zprime at 8TeV

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My results compared with the reference

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Process	resource	120GeV	over 200 GeV	over 400 GeV
total	Reference	78k	20k	1.7k
	SM	74k	17k	1.1k
Z/γ	Reference	72k	16k	1.5k
	SM	68k	14k	1.1k
tt	Reference	4.5k	2.6k	0.2k
	SM	5.0k	3.0k	0
diboson+other	Reference	1.7k	1.0k	0.1k
	SM	1.1k	0.4k	0

minimal Z prime model

Process	SM	MZp=2TeV	MZp=3TeV
pp$\rightarrow$ mu+ mu-	0.1877 $\pm$ 5.1e-4	0.1879$\pm$ 4.7e-4	0.1877$\pm$ 4.6e-4
pp$\rightarrow$ t t	134.7 $\pm$ 0.21	138.8$\pm$0.20	138.8$\pm$0.20
pp$\rightarrow$ diboson	52.82 $\pm$ 0.13	52.57$\pm$0.11	52.57$\pm$0.11

Table : Cross section(pb) comparison

Note: bwcutoff=100,mmll=300, MH1=120GeV, MH2=450GeV

limit of Zp mass

In Reference, $Z'_{SSM} < 2770GeV$,(Sequential Standard Model)
$Z'_{\psi} < 2430GeV$(superstring inspired model)

L=20.6fb^{-1}

	pp→mu+mu-		pp→Zp→mu+mu-	
Parameters	xsec(pb)	Events	xsec(pb)	Events
MZp=2TeV mmll=1TeV	1.316e-3±1.9e-6	27	5.22e-5±4.5e-8	1.0
MZp=2TeV mmll=2TeV	3.947e-5±6.1e-8	0.80	1.9825e-5±1.6e-8	0.40
Mzp=3TeV mmll=2TeV	1.736e-5±3.2e-8	0.47	1.991e-6±2.1e-9	0.034

$$significance = \frac{signal}{\sqrt{background}}$$

Question : how to define signal and background as so few events? This is my next job.