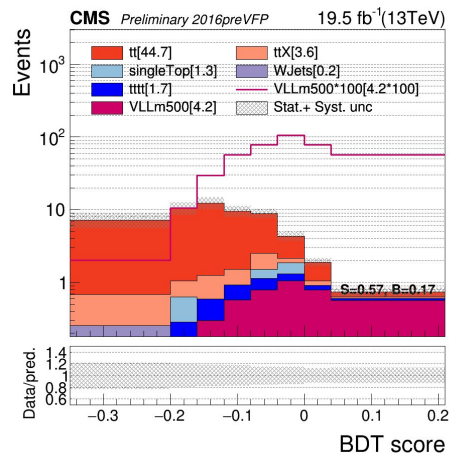


Analysis of 4top process with VLL model(2016 preVFP)

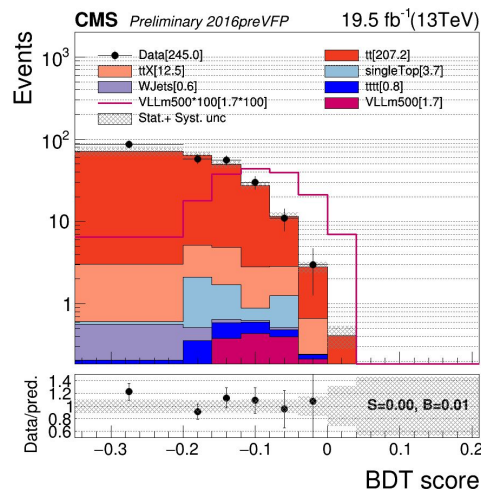
VLLm500 **best bin**(last bin: 0.04-0.2)



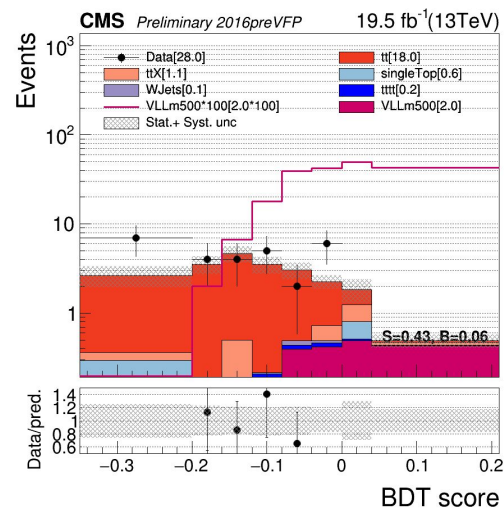
SR

limit: 2.16

significance: 1.28



CR1

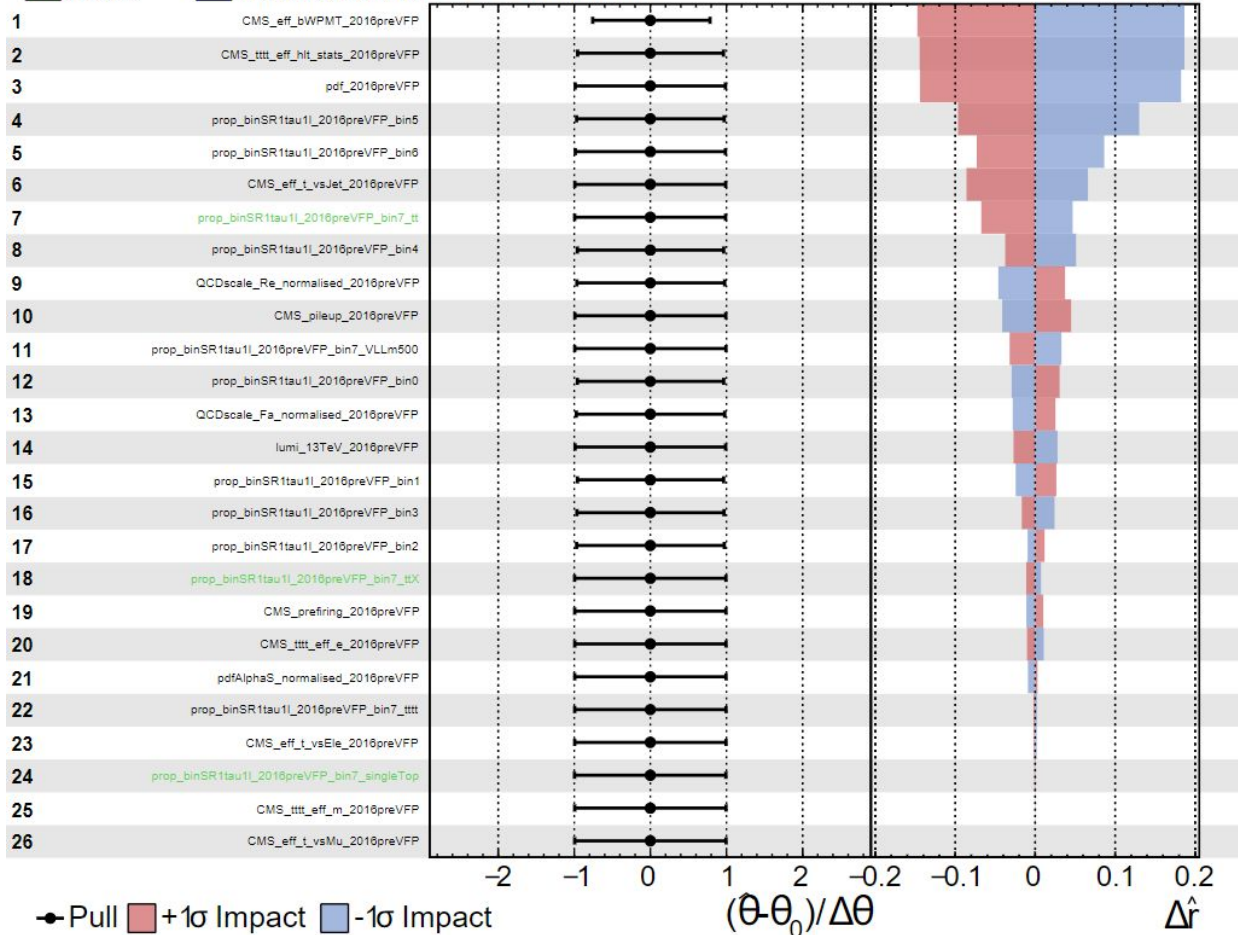


CR2

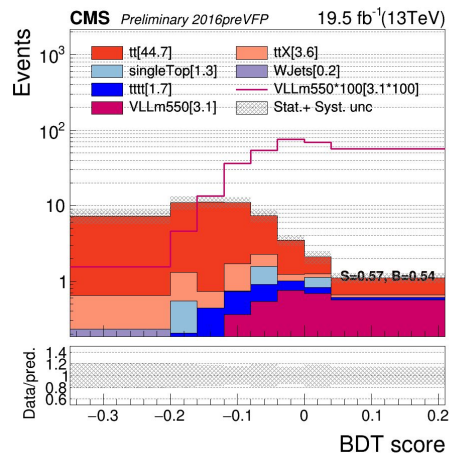
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+1.2}_{-0.8}$



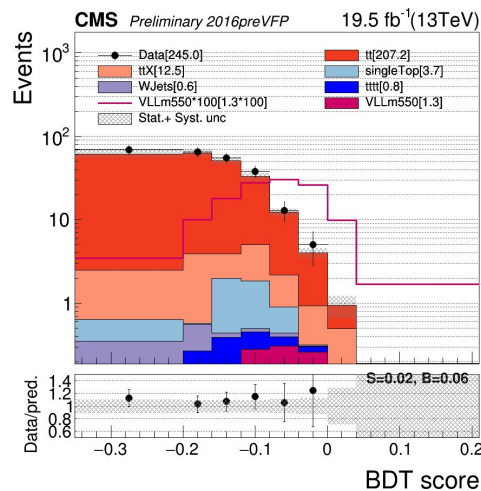
VLLm550 **best bin**(last bin: 0.04-0.2)



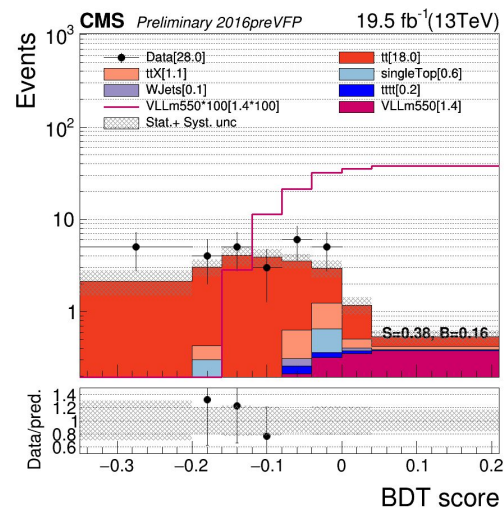
SR

limit: 2.75

significance: 0.93



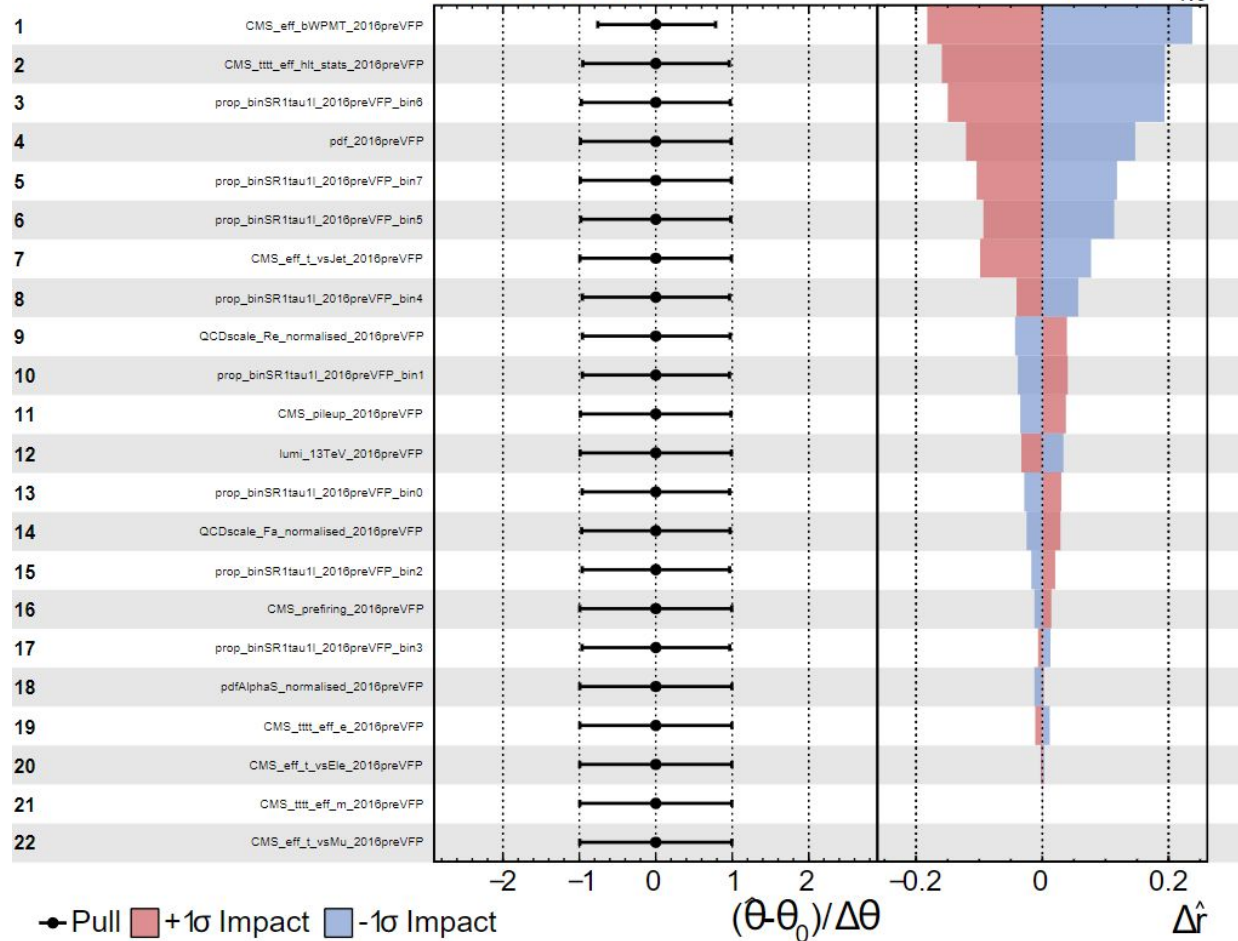
CR1



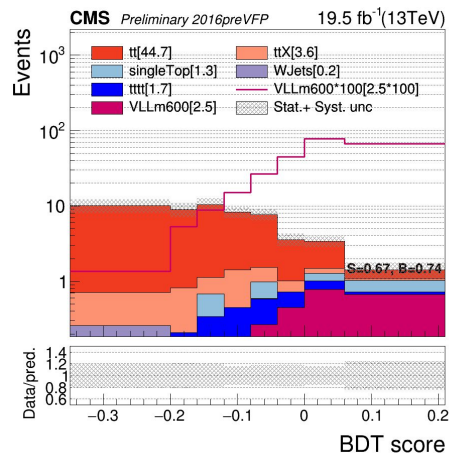
CR2

CMS Internal

$\hat{r} = 1.0^{+1.5}_{-1.0}$



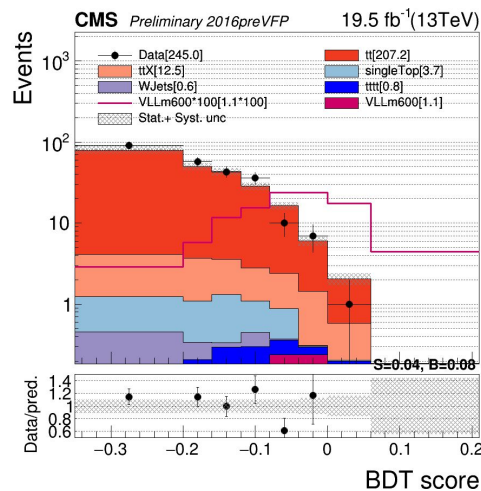
VLLm600 **best bin**(last bin: 0.06-0.2)



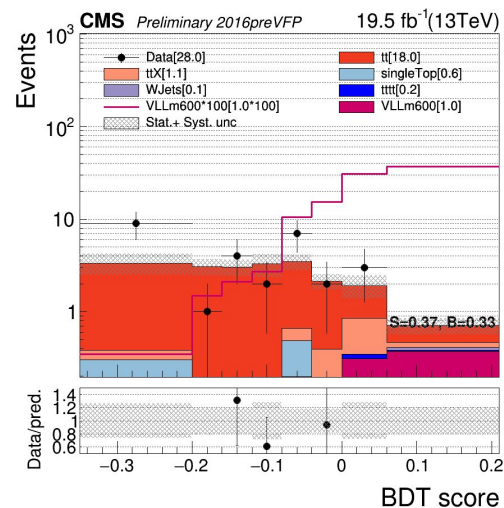
SR

limit: 3.23

significance: 0.78



CR1

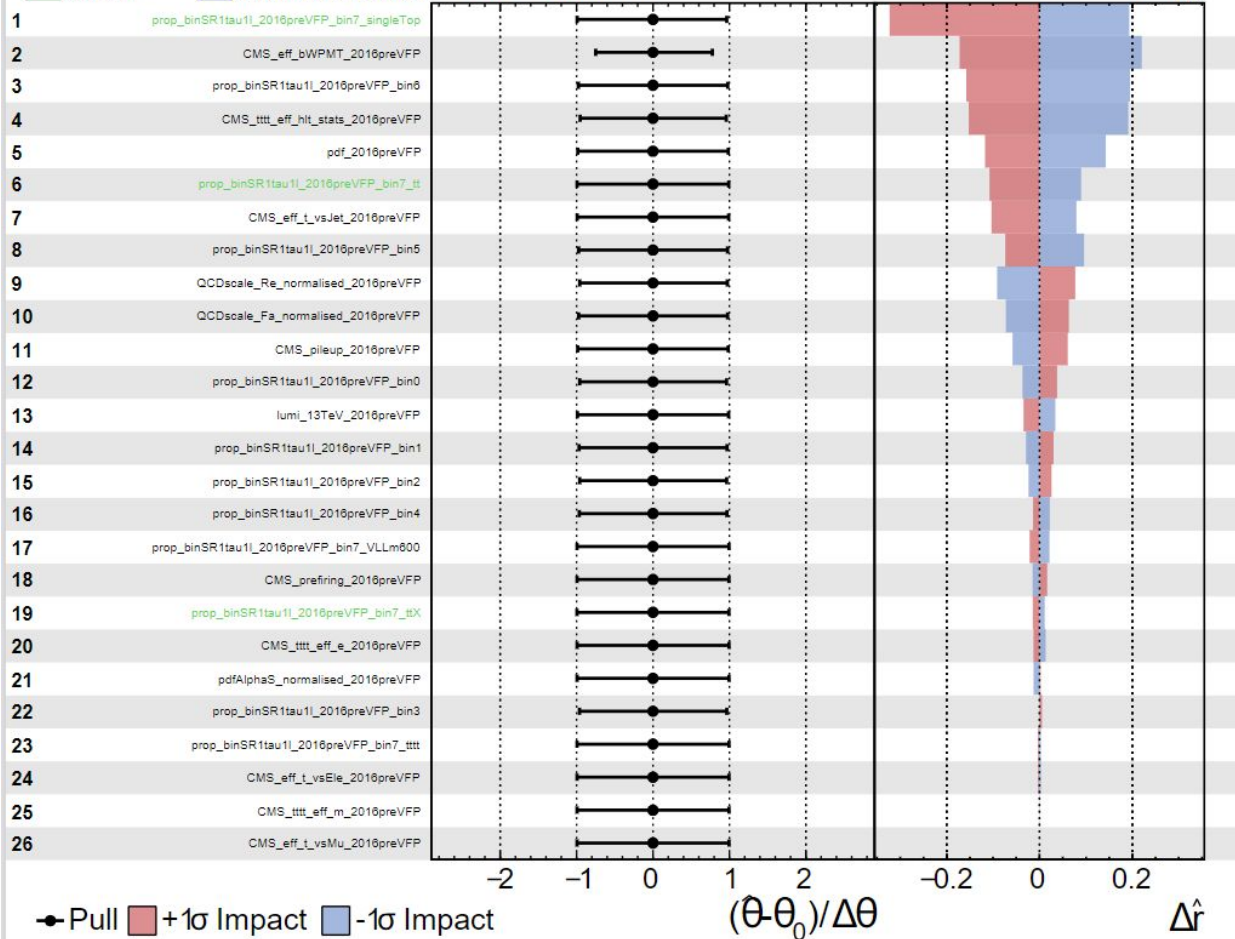


CR2

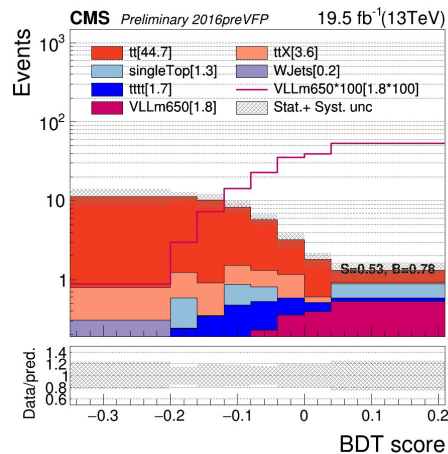
Unconstrained Gaussian
 Poisson AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+1.7}_{-1.0}$



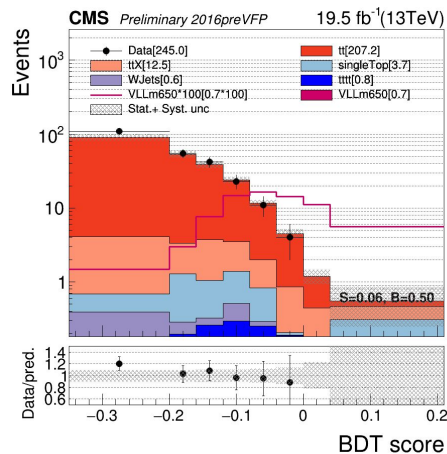
VLLm650 **best bin**(last bin: 0.04-0.2)



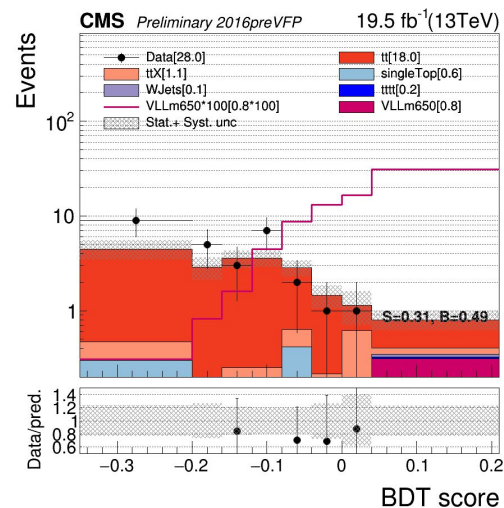
SR

limit: 4.34

significance: 0.61



CR1

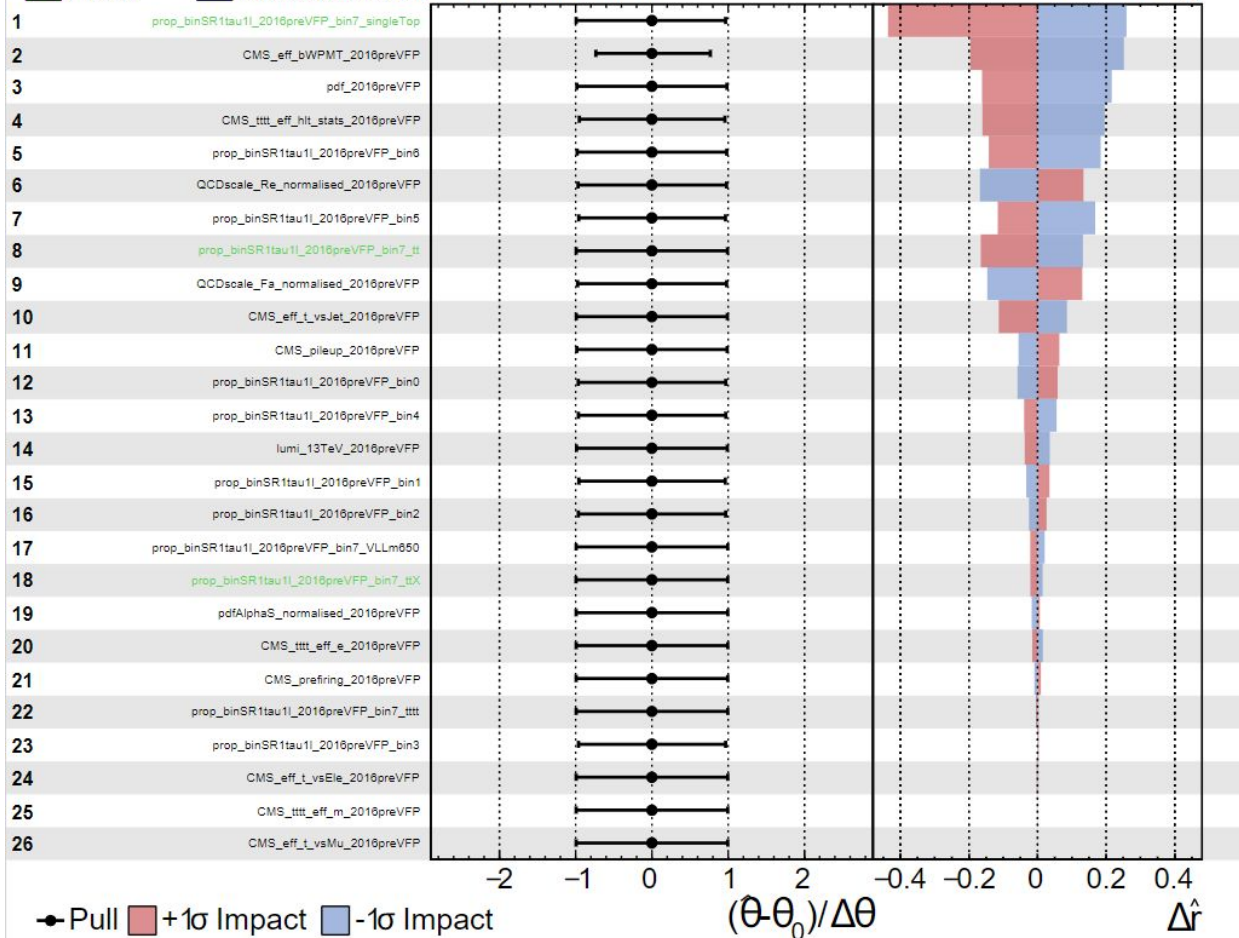


CR2

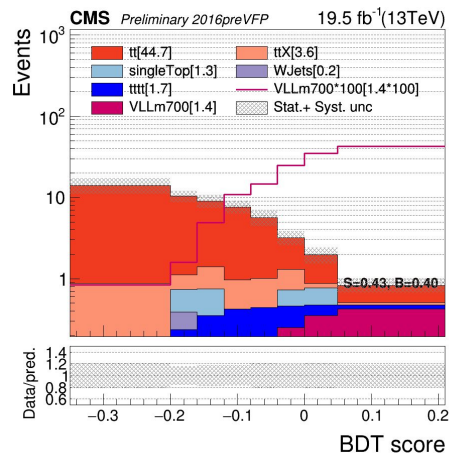
Unconstrained Gaussian
 Poisson AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+2.2}_{-1.0}$



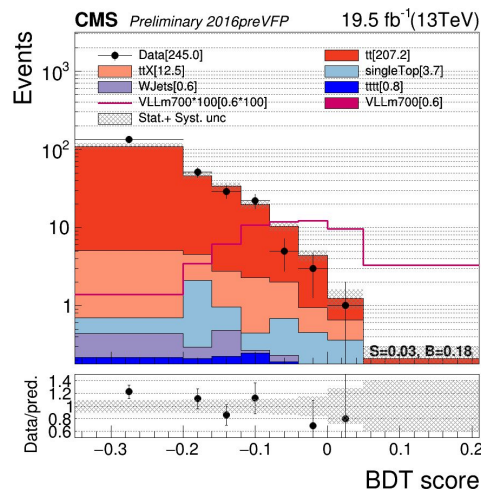
VLLm700 **best bin**(last bin: 0.05-0.2)



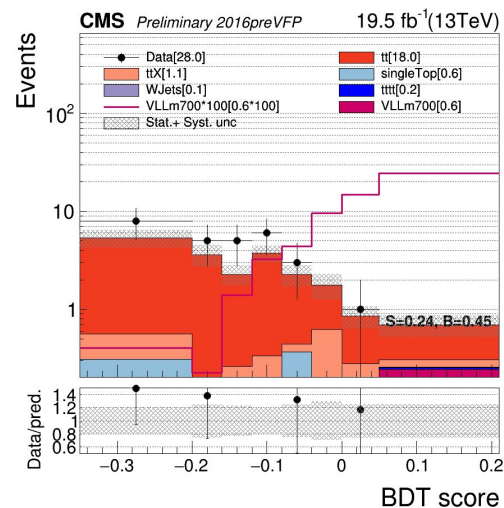
SR

limit: 4.88

significance: 0.63



CR1

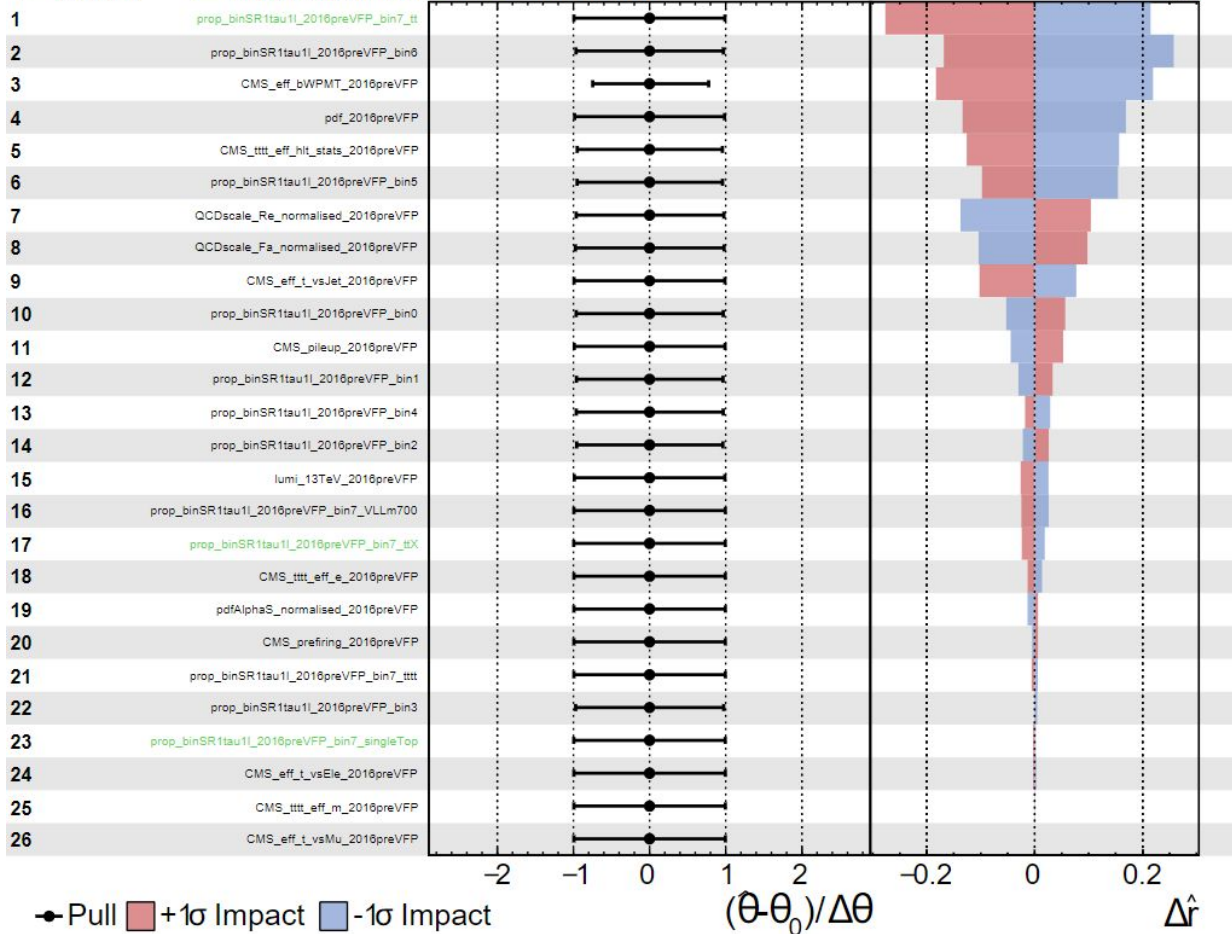


CR2

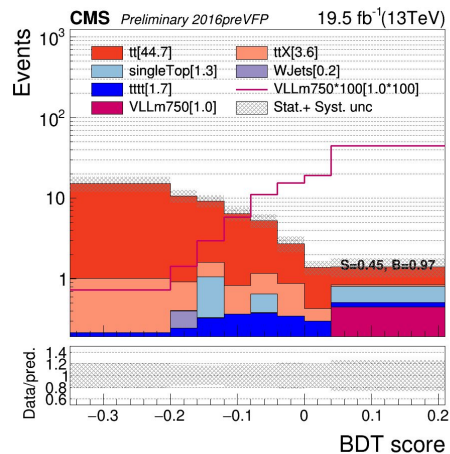
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

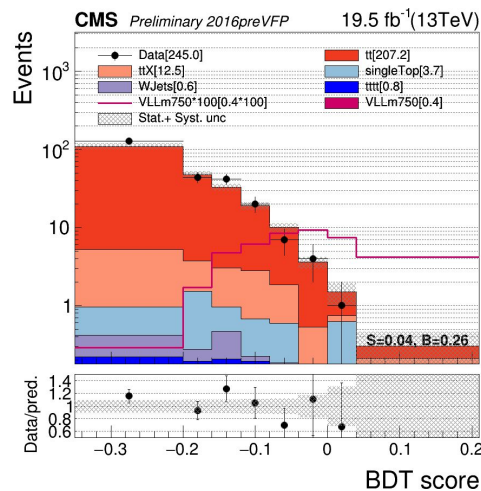
$\hat{r} = 1.0^{+2.4}_{-1.0}$



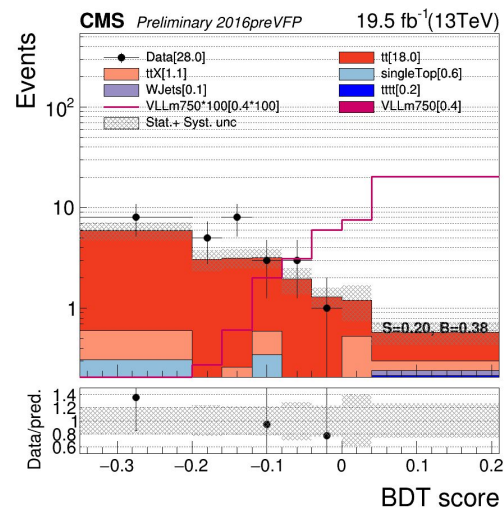
VLLm750 **best bin**(last bin: 0.04-0.2)



limit: 6.53
significance: 0.43



CR1

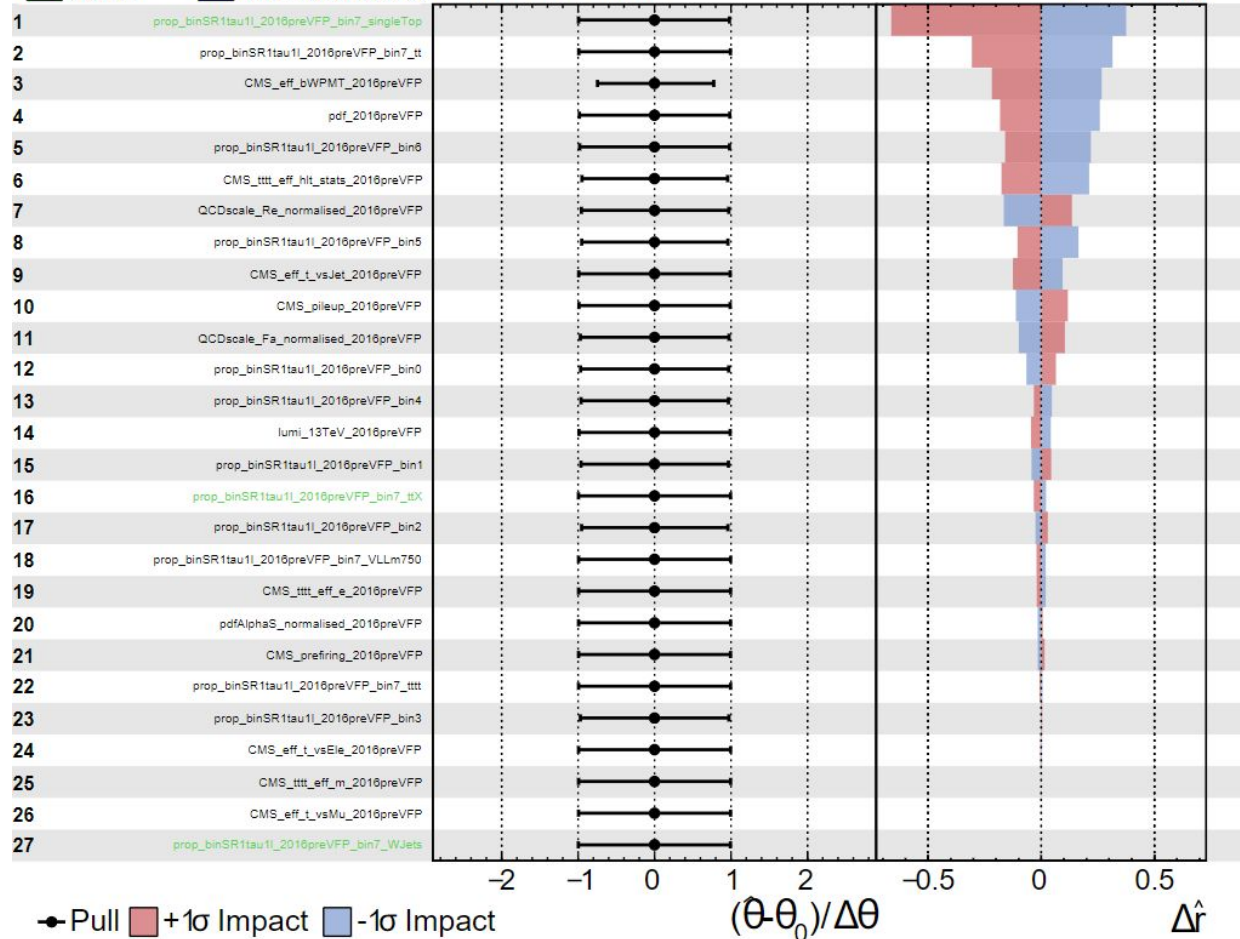


CR2

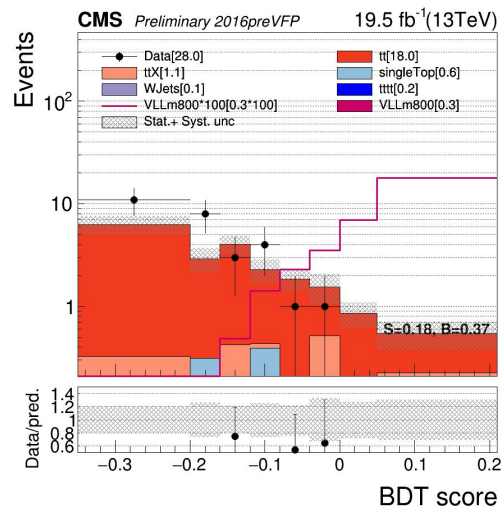
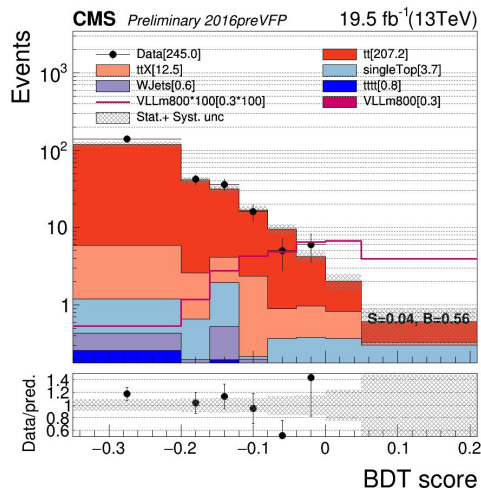
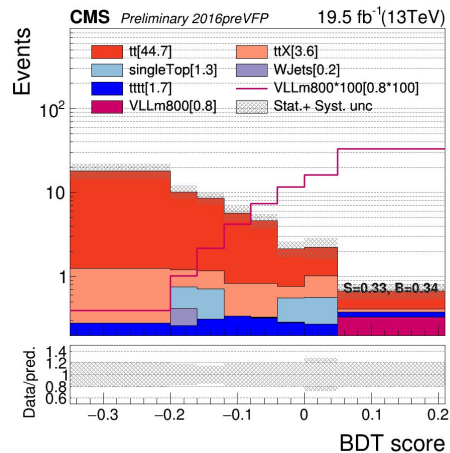
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+3.1}_{-1.0}$



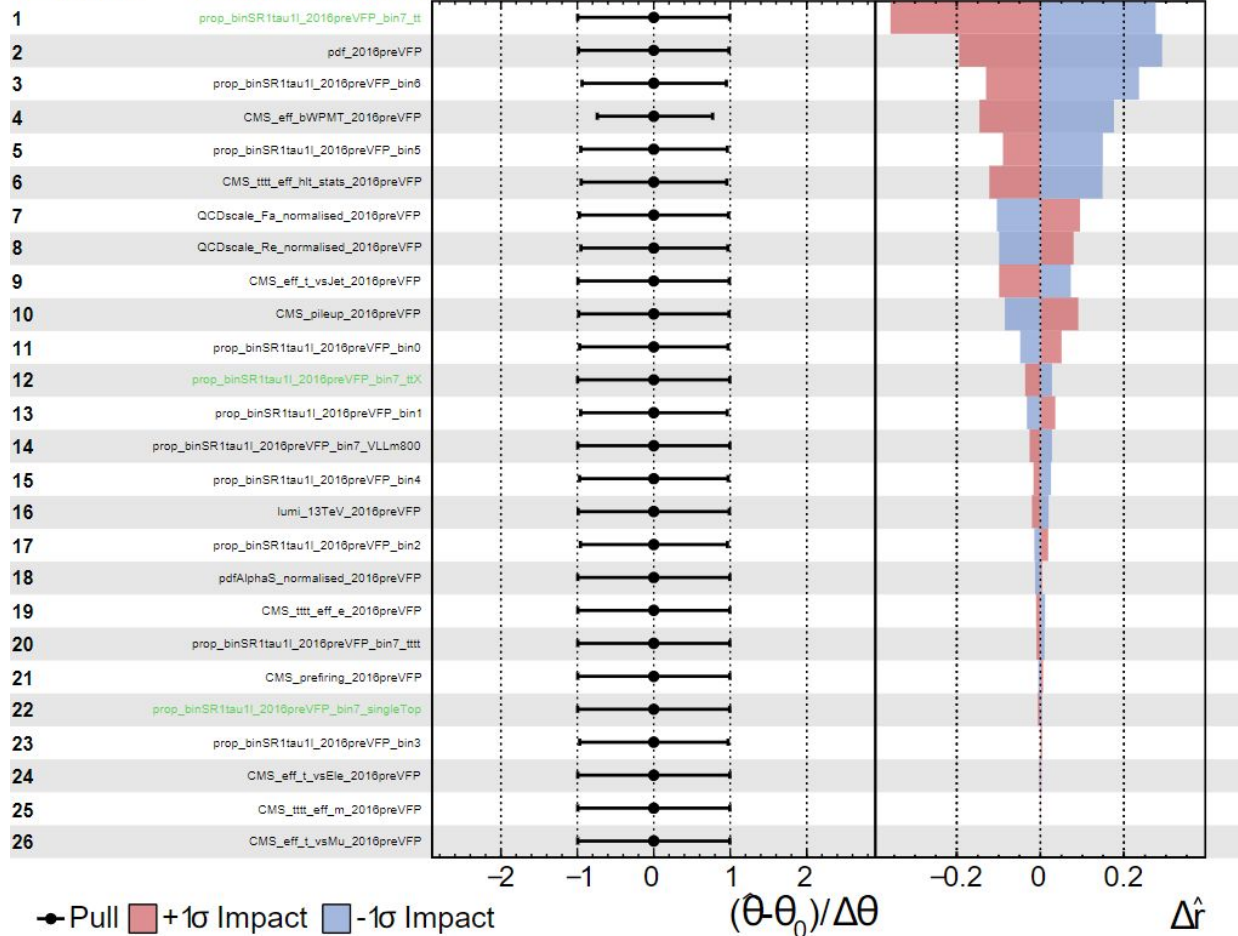
VLLm800 **best bin**(last bin: 0.05-0.2)



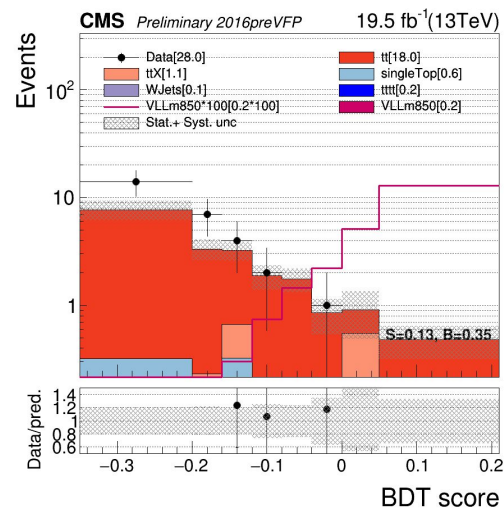
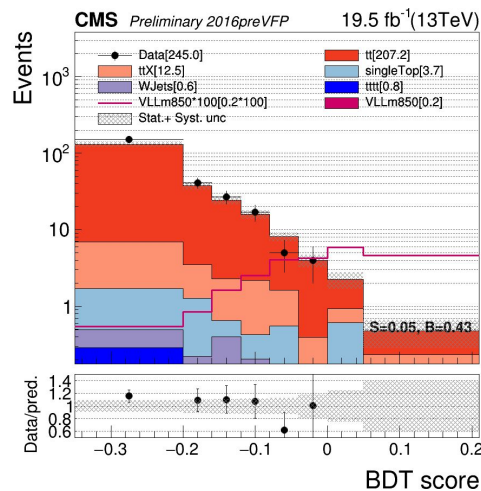
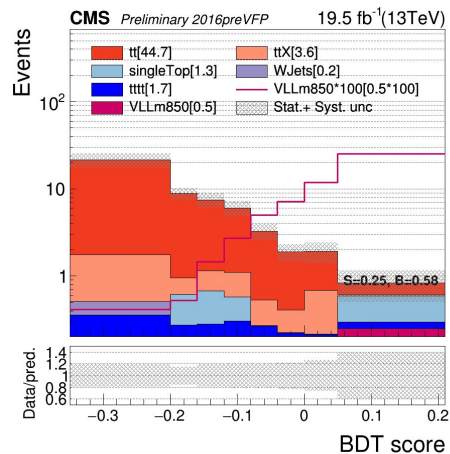
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+3.3}_{-1.0}$



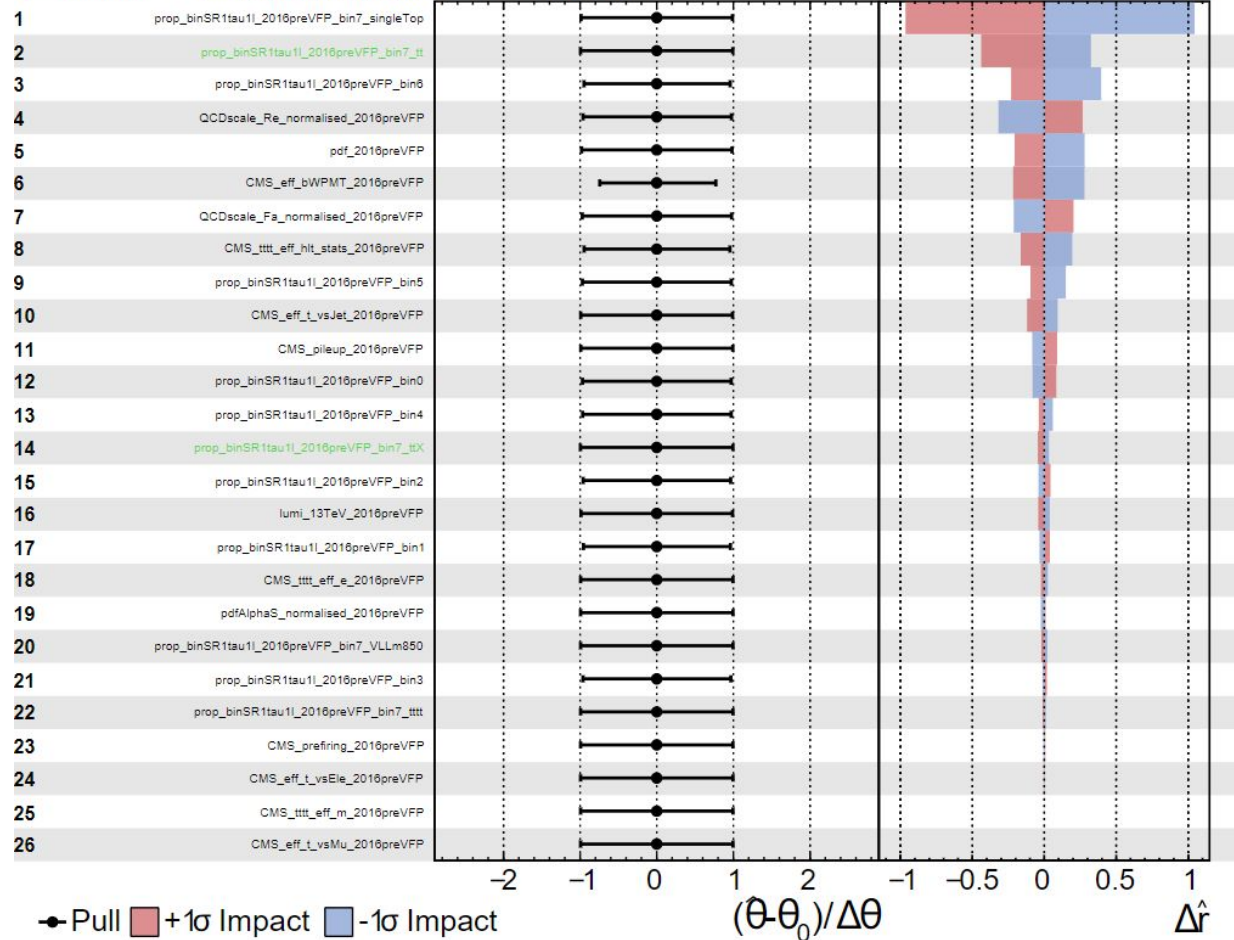
VLLm850 **best bin**(last bin: 0.05-0.2)



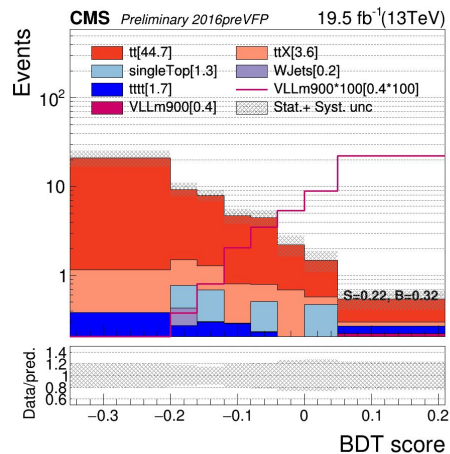
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+4.7}_{-1.0}$



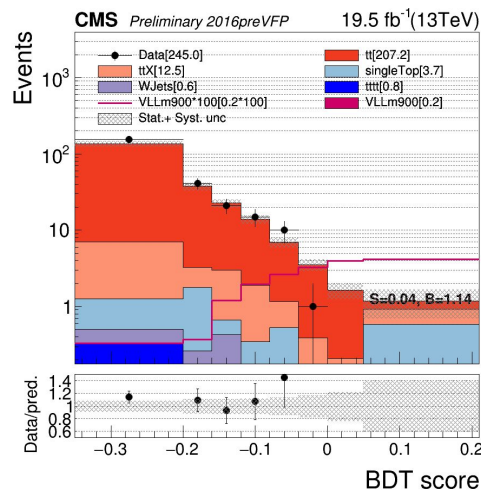
VLLm900 **best bin**(last bin: 0.05-0.2)



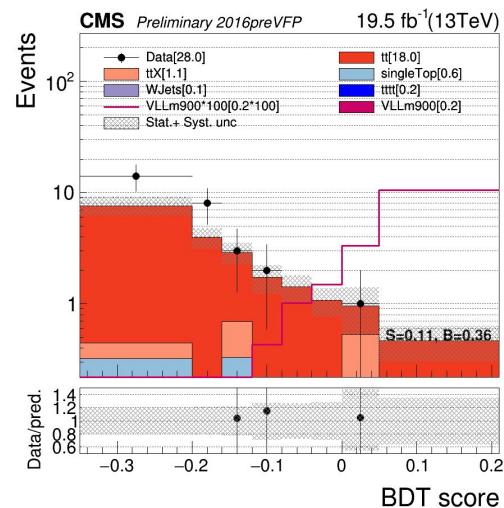
SR

limit: 11.09

significance: 0.35



CR1

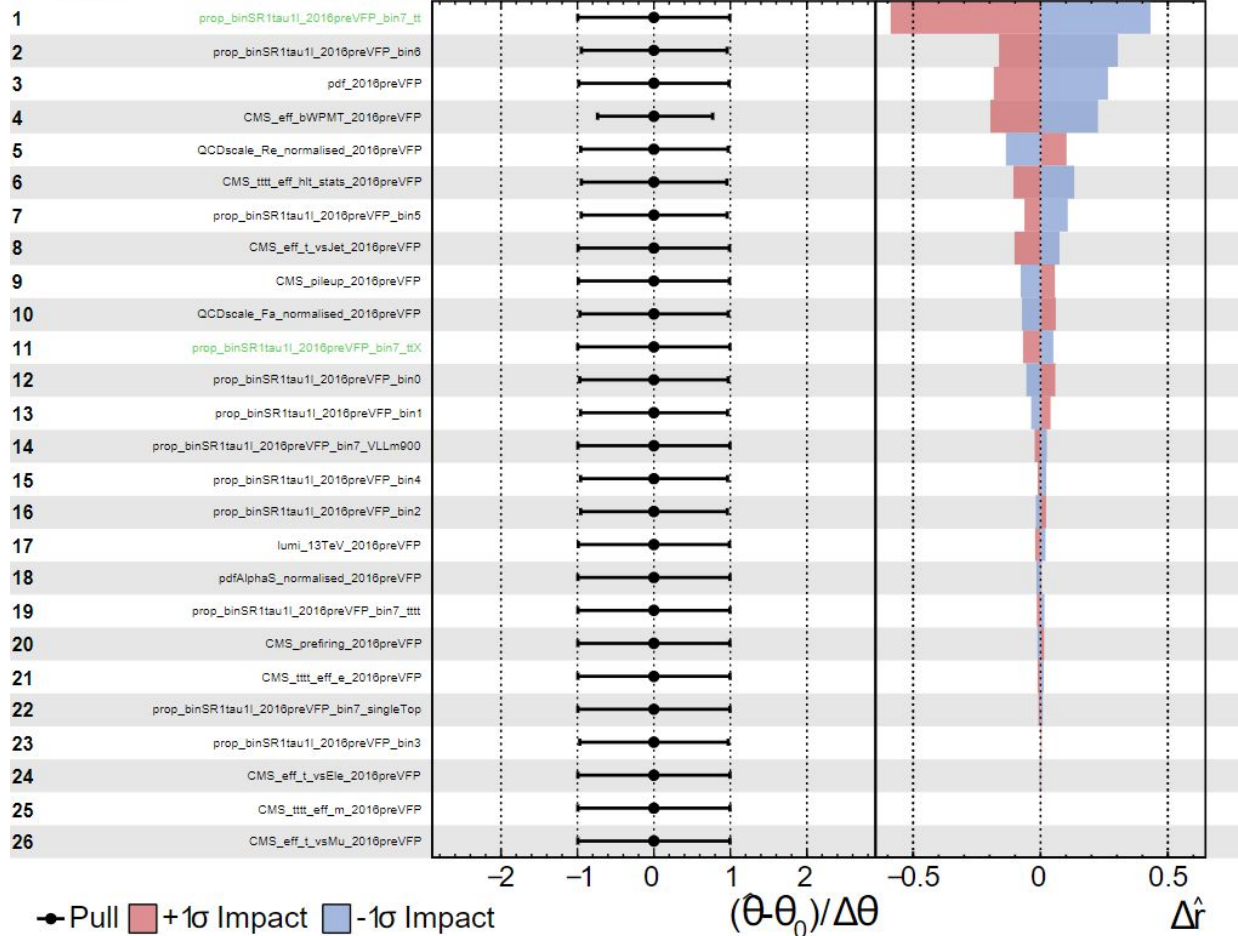


CR2

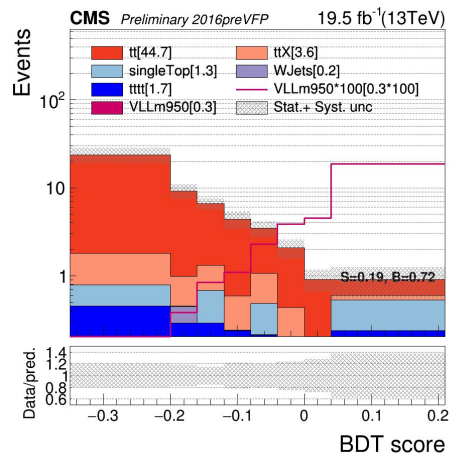
Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+4.7}_{-1.0}$



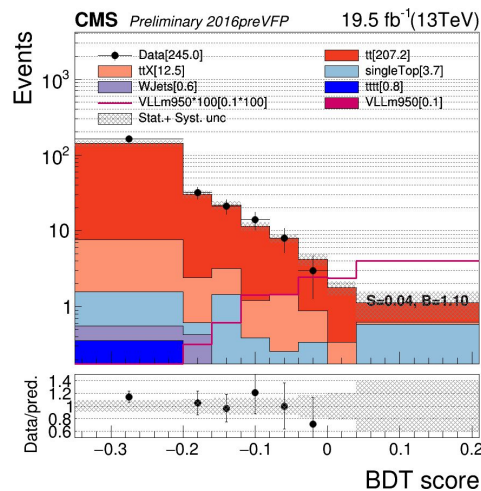
VLLm950 **best bin**(last bin: 0.04-0.2)



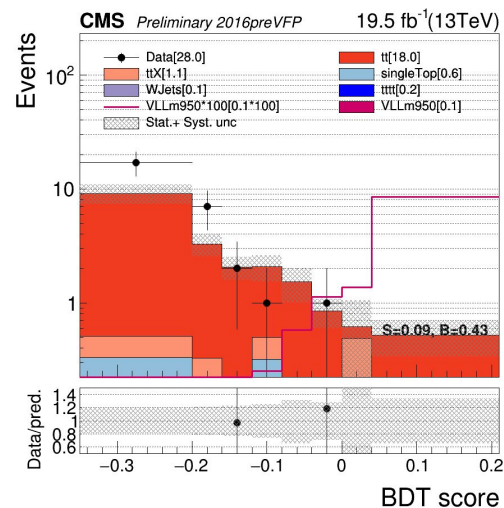
SR

limit: 16.31

significance: 0.20



CR1

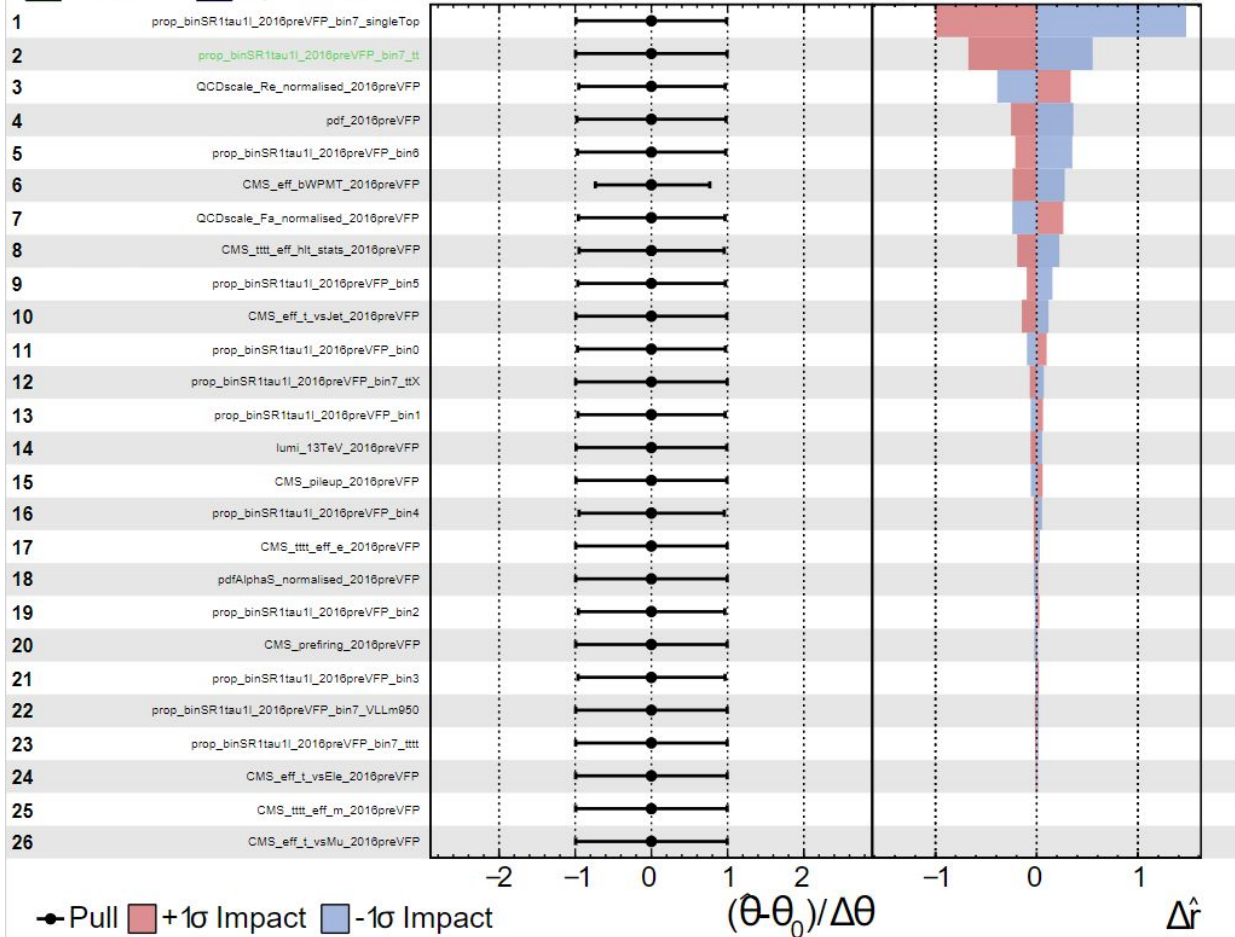


CR2

Unconstrained Gaussian
 Poisson AsymmetricGaussian

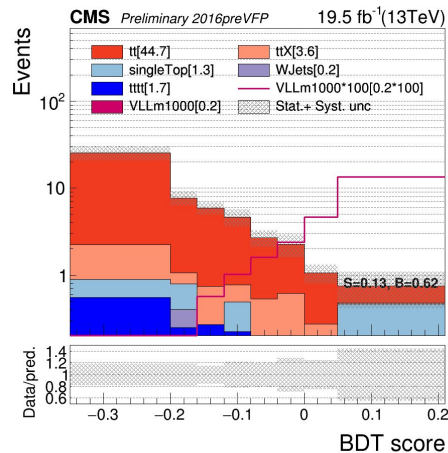
CMS Internal

$\hat{r} = 1.0^{+6.9}_{-1.0}$



VLLm1000

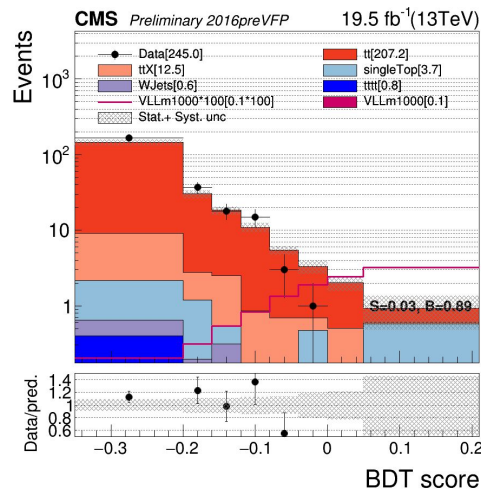
best bin (last bin: 0.05-0.2)



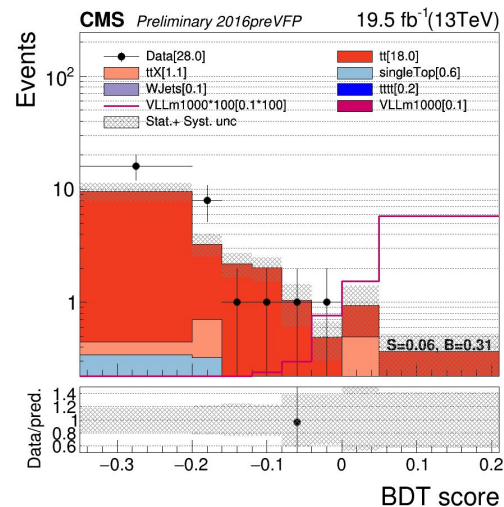
SR

limit: 21.69

significance: 0.16



CR1

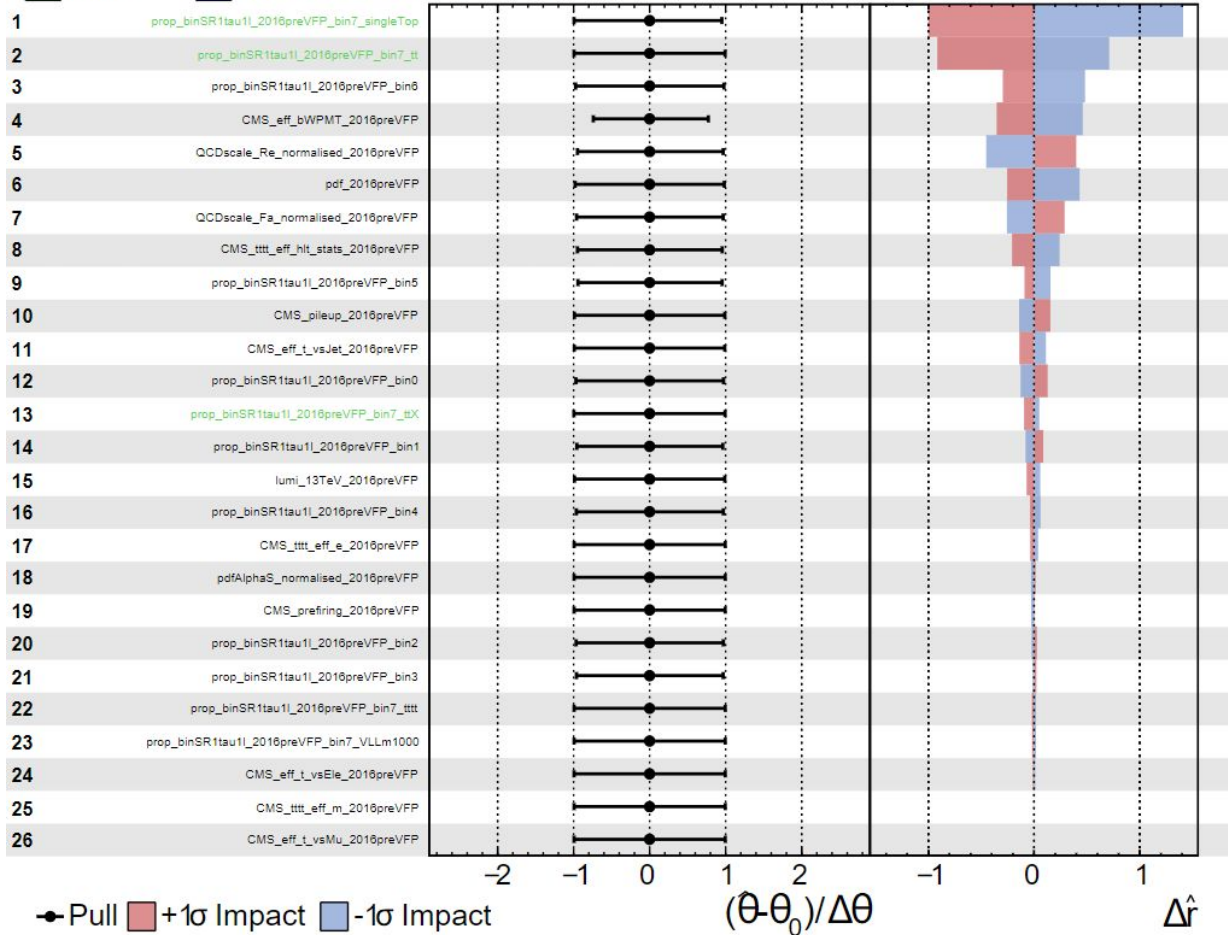


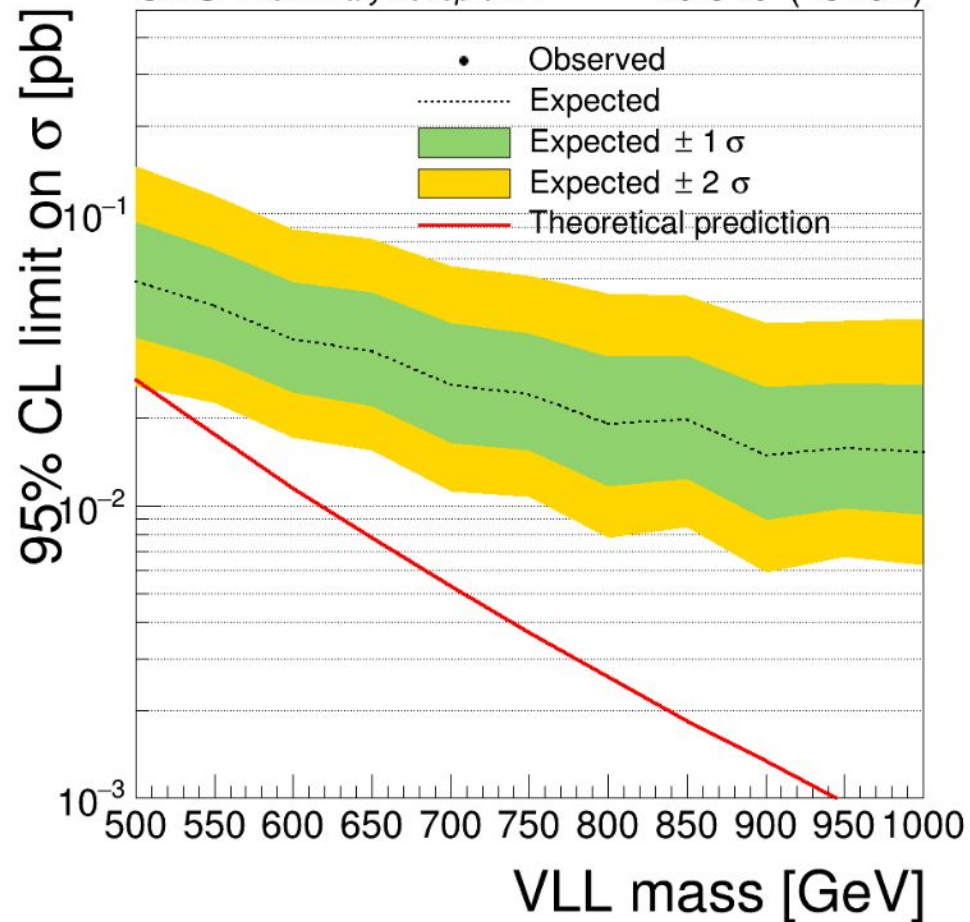
CR2

Unconstrained
 Gaussian
 Poisson
 AsymmetricGaussian

CMS Internal

$\hat{r} = 1.0^{+8.8}_{-1.0}$





To do list:

- ❑ Samples list with VLL
- ❑ VLL sample validation: event entries...