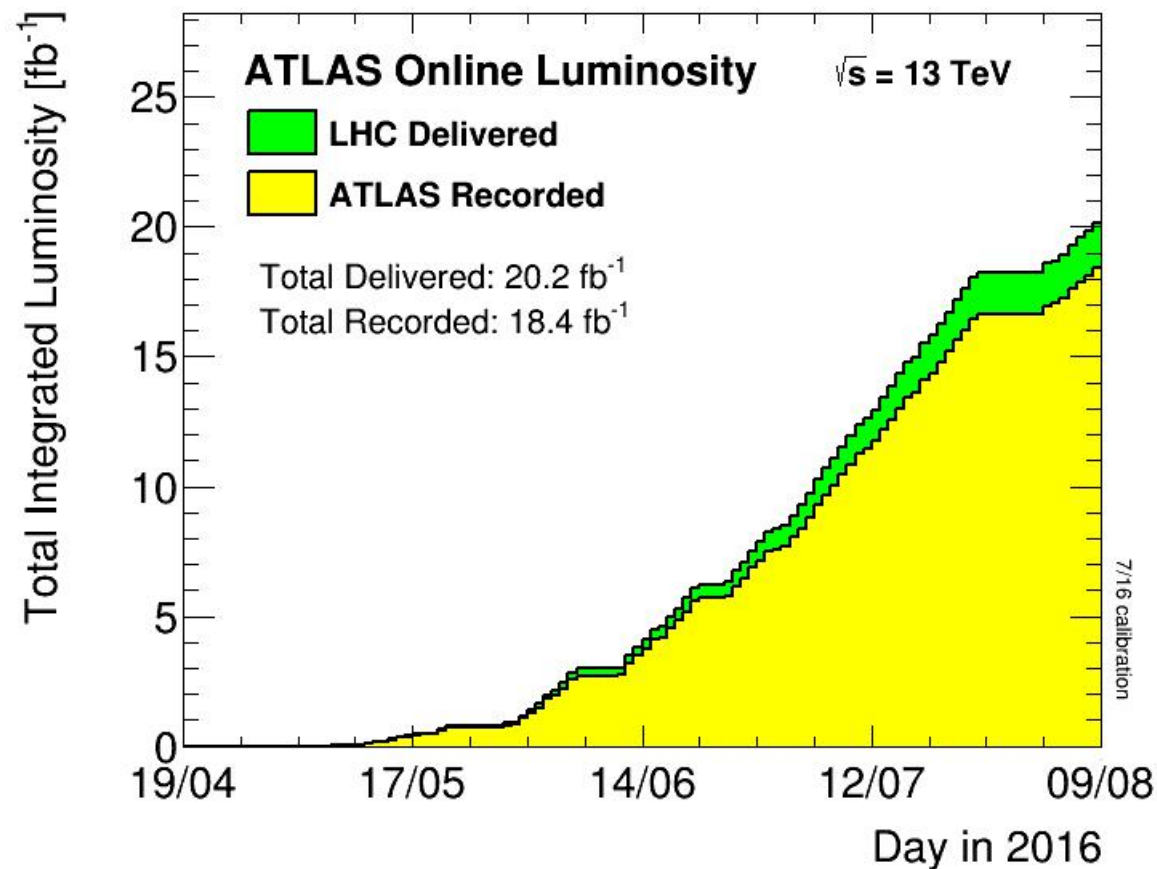


weekly report

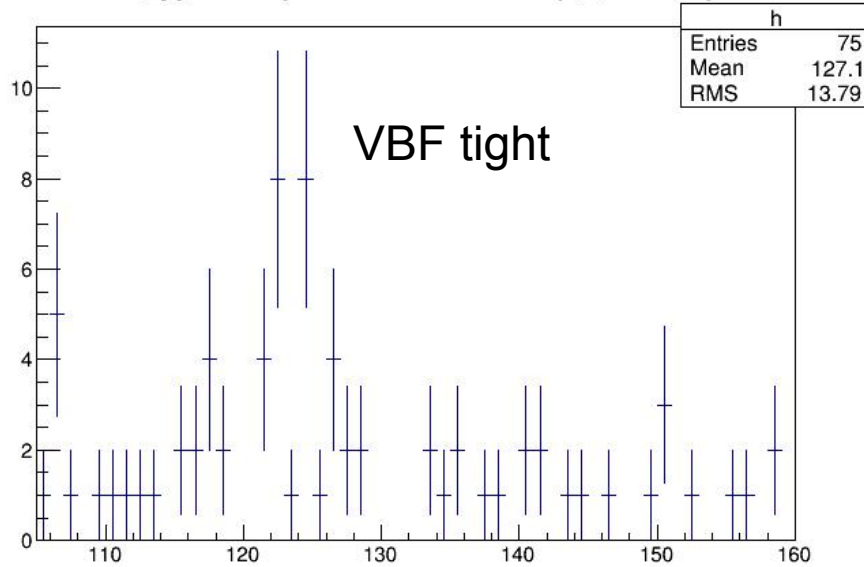


15/fb in GRL
DS 2.1
11.6 available in HGam

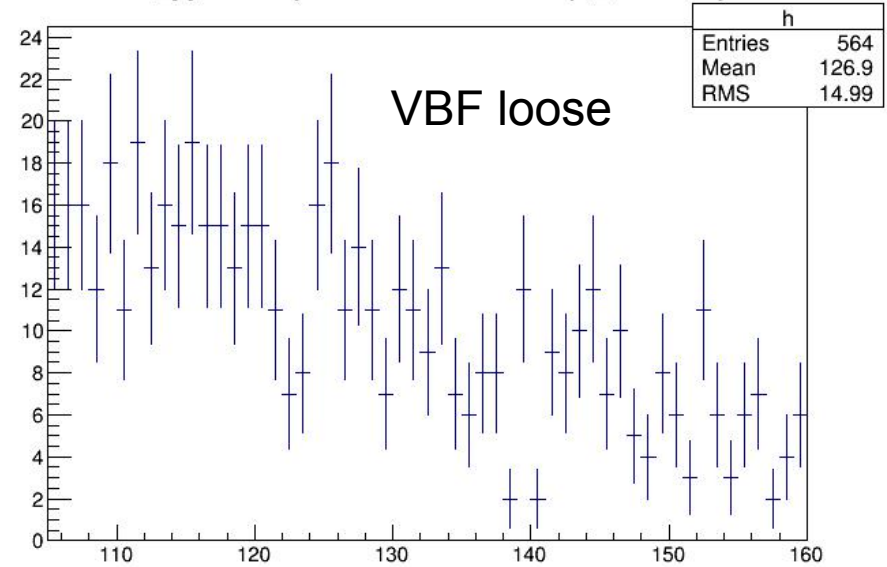
quich check on myy

2

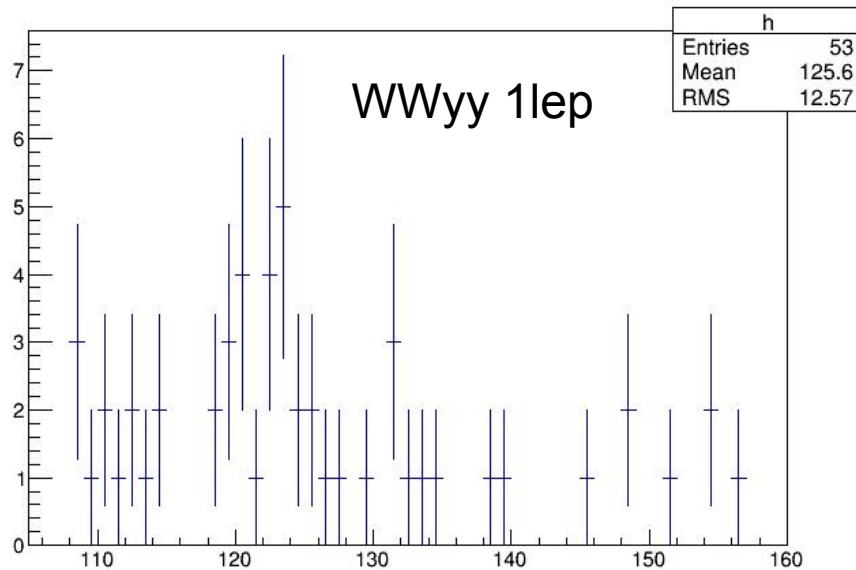
m_yy/1000 {isPassed&&catCoupt_dev==6}



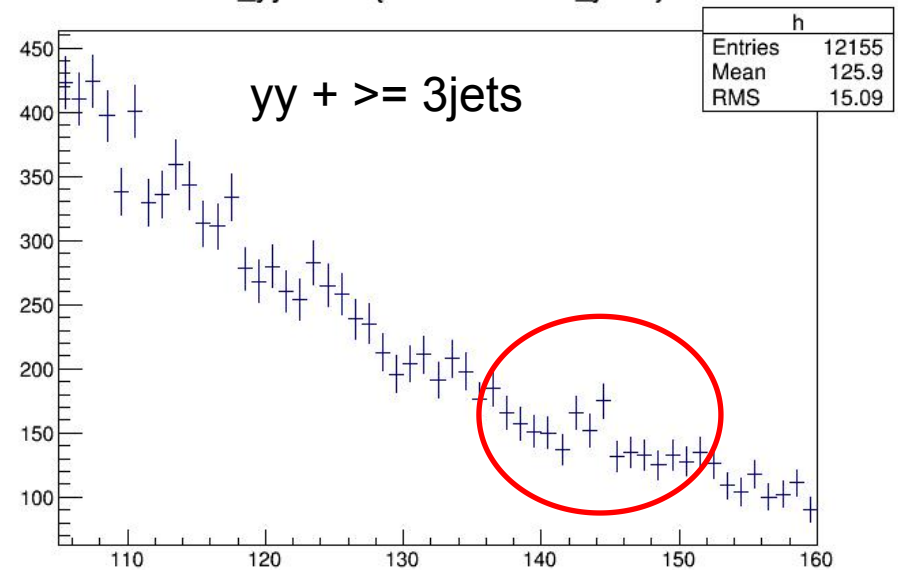
m_yy/1000 {isPassed&&catCoupt_dev==5}



m_yy/1000 {isPassed&&(N_e+N_mu)>=1&&N_j_central>=2&&N_j_btag==0}



m_yy/1000 {isPassed&&N_j>=3}



review the spin measurement 3

- EFT spin2 model

- k_V, k_f is coupling constant, X is tensor field. T is energy-momentum field

- need $pT_{\gamma\gamma}$ cut off in EFT

$$L = \frac{1}{\Lambda} \left[\sum_V \kappa_V X^{\mu\nu} \mathcal{T}_{\mu\nu}^V + \sum_f \kappa_f X^{\mu\nu} \mathcal{T}_{\mu\nu}^f \right]$$

- universal coupling(UC) : all couplings are equal

- gg, gq and qq production mode, EW is negligible

BR (%)	$\gamma\gamma$	$\tau^+\tau^-$	$b\bar{b}$	gg	ZZ^*	WW^*	$e^+e^-, \mu^+\mu^-$	$\nu\bar{\nu} (\times 3)$	$c\bar{c}$	light $q\bar{q}$
spin-2, UC	5.1	2.6	7.7	41.0	~ 0	~ 0	2.6	2.6	7.7	7.7
SM Higgs	0.23	6.3	57.7	8.6	2.8	22.3	~ 0	~ 0	2.9	~ 0

- non-universal coupling : QCD production

- driven by k_g and k_q (q is light quack)

- ratio is not constrained

- EW prod

- VBF

- VH

choice of QCD couplings

$\kappa_q = \kappa_g$	(QCD universal couplings)
$\kappa_q = 0$	(negligible couplings with light quarks, SM-like)
$\kappa_q = 2\kappa_g$	(large couplings with light quarks)

sample used in Run1

4

- MC samples
 - mc12_8TeV:mc12_8TeV.189380.MadgraphPythia_Perugia2011C_X1255gamgamKG10KQ10.merge.AOD.e2630_s1831_s1741_r4829_r4540/
 - mc12_8TeV:mc12_8TeV.189381.MadgraphPythia_Perugia2011C_X1255gamgamKG10KQ00.merge.AOD.e2630_s1831_s1741_r4829_r4540/
 - mc12_8TeV:mc12_8TeV.189382.MadgraphPythia_Perugia2011C_X1255gamgamKG05KQ10.merge.AOD.e2630_s1831_s1741_r4829_r4540/
- job option
 - https://svnweb.cern.ch/trac/atlasoff/browser/Generators/MC12JobOptions/trunk/share/DSID189xxx/MC12.189381.MadgraphPythia_Perugia2011C_X1255gamgamKG10KQ00.py
 - https://svnweb.cern.ch/trac/atlasoff/browser/Generators/MC12JobOptions/trunk/share/DSID189xxx/MC12.189380.MadgraphPythia_Perugia2011C_X1255gamgamKG10KQ10.py
 - https://svnweb.cern.ch/trac/atlasoff/browser/Generators/MC12JobOptions/trunk/share/DSID189xxx/MC12.189382.MadgraphPythia_Perugia2011C_X1255gamgamKG05KQ10.py
- not straightforward for me to modify it to 13TeV ! which PDF ?

signature

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