

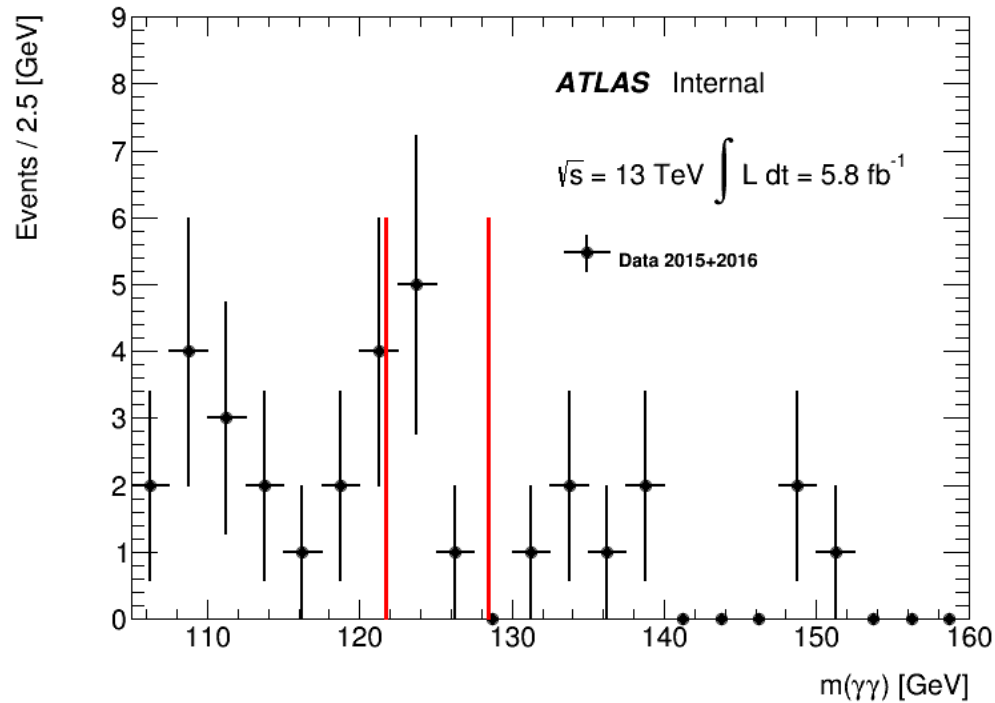
Un-blinded Results for $hh \rightarrow WW\gamma\gamma$

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Yields



	SM Higgs bkg	Continuum bkg	data
Yields	0.269	4.25	6

Kinematics of Events

	$p_T(\gamma 1)$ / $\eta(\gamma 1)$ / $\phi(\gamma 1)$	$p_T(\gamma 2)$ / $\eta(\gamma 2)$ / $\phi(\gamma 2)$	$m(\gamma\gamma)$	Number of jets	Number of leptons	$p_T(j1)$ / $\eta(j1)$ / $\phi(j1)$	$p_T(j2)$ / $\eta(j2)$ / $\phi(j2)$	$m(jj)$
1	121.723/ 0.279555/ -0.926219	34.7464/ - 0.765049/0.9 64295	127.153	2	1	63.8805/ 1.05627/ 2.75111	32.1047/ - 0.870659/ 2.59109	102.72
2	63.0193/ 0.100606/ - 0.0066488 8	52.9715/ 0.869405/ -2.89059	123.307	2	1	28.0048/ -1.03908/ -0.210859	27.5751/ -0.928905/ 2.71203	56.2926
3	72.1837/ - 0.0634331 / 1.25107	46.7396/ 0.706909/ -1.66376	124.2	2	1	78.1811/0. 300531/- 1.8386	25.6211/ -2.3687/ 1.58944	182.41

Kinematics of Events

	$p_T(\gamma 1)$ $/\eta(\gamma 1)$ $/\phi(\gamma 1)$	$p_T(\gamma 2)$ $/\eta(\gamma 2)$ $/\phi(\gamma 2)$	$m(\gamma\gamma)$	Number of jets	Number of leptons	$p_T(j1)$ $/\eta(j1)$ $/\phi(j1)$	$p_T(j2)$ $/\eta(j2)$ $/\phi(j2)$	$m(jj)$
4	131.394/ 0.638796 /2.62125	34.5399/ 1.16888/ 0.475014	123.781	2	1	90.5298/ 1.71602/ -0.541095	67.0253/ -1.89114/ -1.13206	462.612
5	97.5182/ - 1.71725/ 1.54276	46.4089/ -1.33857/ -2.50263	123.724	2	1	155.41/ - 0.539534 / -0.654336	44.4094/ 0.599667 / -2.32144	161.536
6	44.8834/ 0.11839/ 0.63036	42.5799/ -1.74791/ -1.7094	123.724	4	1	58.7266/ -1.58931/ -2.35648	43.9541/ - 0.458745 / 1.30289	117.399

Upper limits (asymptotic)

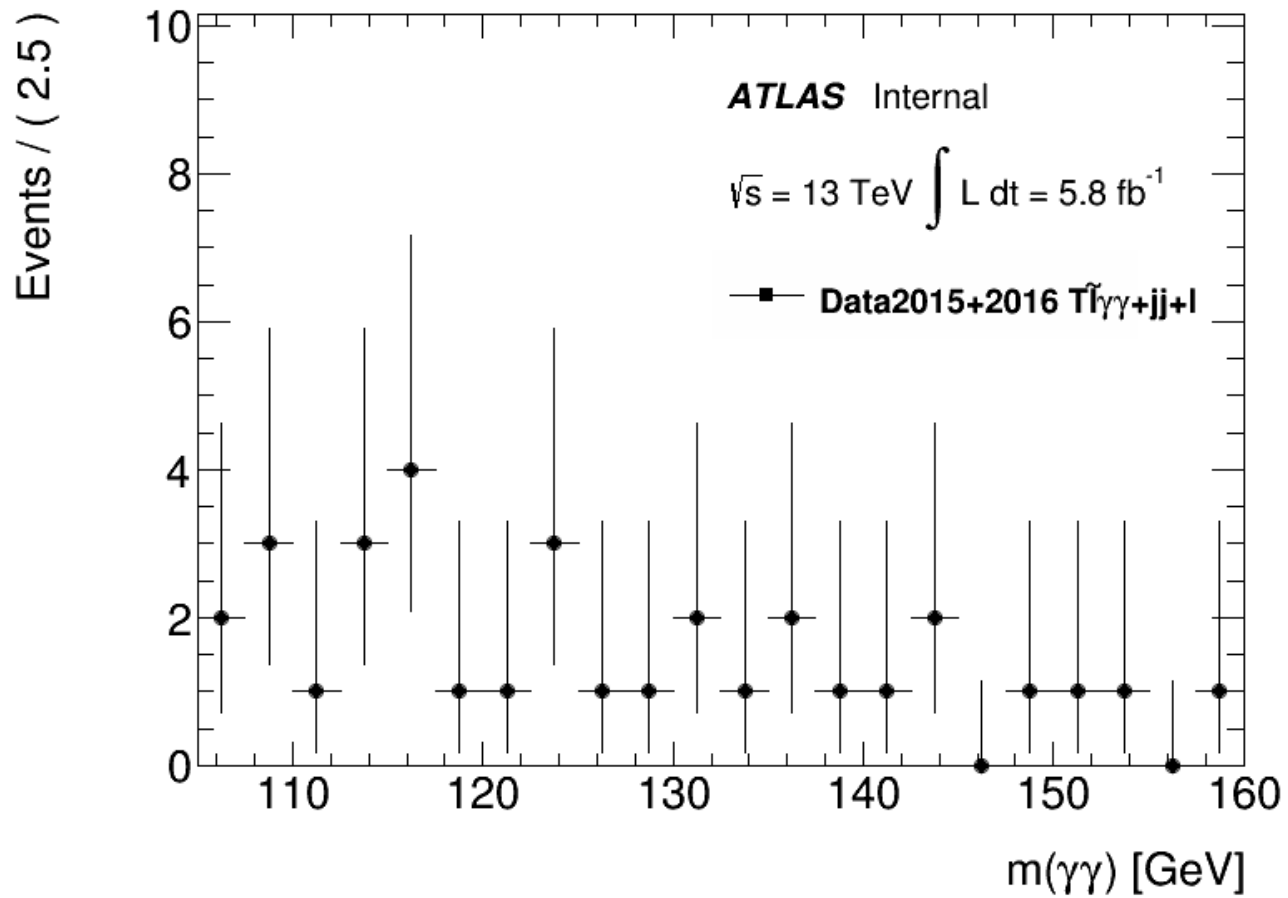
- +2sigma: 46.9054
- +1sigma: 31.6084
- -1sigma: 15.4146
- -2sigma: 11.482
- **Median:** 21.3927



UNBLINDING

- +2sigma: 48.605
- +1sigma: 32.7417
- -1sigma: 15.9586
- -2sigma: 11.8872
- Median: 22.1476
- Observed: 27.6868

Grey Photons



Checks

The GRL and the PRW configuration file are obsolete

27 sideband and 6 SR

Updated them to the correct one

27 sideband and 6 SR

Summary

- no significant data excess is found; More systematic uncertainties will be added soon (mainly on single Higgs), but they essentially do not affect too much