## Update

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**IHEP** 

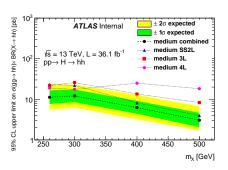
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#### Outline

- combination of 4W
- $\bullet$  PDF uncertainty of  $WW\gamma\gamma$
- Upgrade



### **Upper Limit**



- Thanks Maosen for the input
- More details will be coming.

Upper Limit(pb)	non-resonant	$m_X = 260 \text{ GeV}$	$m_X = 300 \text{ GeV}$	$m_X = 400 \text{ GeV}$	$m_X = 500 \text{ GeV}$
SS 2L	5.1	23.3	22.1	8.2	4.0
3L	94.3	21.9	25.9	13.5	8.3
4L	784.3	18.9	17.6	25.0	18.3
combined	5.1	11.2	12.1	6.3	3.1

# PDF uncertainty of $WW\gamma\gamma$

- The twiki page is hard to follow.
- Contact with Huijun for help
- " the theoretical uncertainties that you mention are on the normalisation on the single-Higgs bkg, and on the theory prediction for the double-Higgs production in SM, but what about the impact on the signal acceptance?"
- ullet theorectical uncertainty for signal, QCD,  $lpha_{\mathcal{S}}$ , PDF and PS

### Upgrade

- VBF and ggH signal are ready.
- $WW\gamma\gamma$  samples are ongoing. Help is needed to produce NLO LHE files.
- @Yi, @Kaili and @Fangyi, what about starting to look at the smearing function?