

HSG5 Status

Paper/note circulation:

- The 3 analyses were re-run:
 - Newest b-tagging scale factors
 - Jet pileup correction
 - Changes to sideband fit
 - $v\bar{v}b\bar{b}$ trigger treatment changed (error 1%)
 - $v\bar{v}b\bar{b}$ re-evaluated QCD background (negligible)
- Small changes in the number of data events from the use of the jet pileup correction
- Small changes on total backgrounds, mostly from small changes to the top and W+jets
- Differences in the Z+jets yield in WH because of bug in previous version:
 - Flavour content treatment was intended for a Sherpa sample, but an Alpgen sample was used instead, without changing the code

Other issues

- ttH working for 2011 analysis in mid May
 - In parallel to vector-like quarks
- Boosted H→bb ? CMS will have analysis for ICHEP
- Walking technicolor analysis could be done quickly from ZH analysis

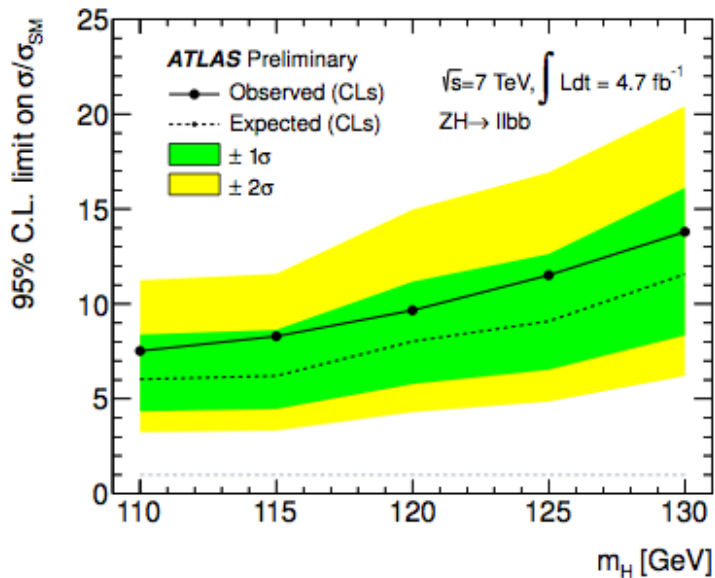
NEW:

mass [GeV]	$ZH \rightarrow \ell^+ \ell^- b\bar{b}$		$WH \rightarrow \ell v b\bar{b}$		$ZH \rightarrow \nu\bar{\nu} b\bar{b}$		Combined	
	Obs.	Exp.	Obs.	Exp.	Obs.	Exp.	Obs.	Exp.
110	7.5	6.0	4.4	4.5	3.7	4.0	2.9	2.6
115	8.3	6.2	4.7	5.0	3.5	4.2	3.0	2.8
120	9.7	8.0	5.6	6.0	4.8	5.0	3.7	3.4
125	11.5	9.1	6.4	7.5	7.3	6.0	5.1	4.2
130	13.8	11.6	6.7	9.1	10.3	7.6	6.0	5.1

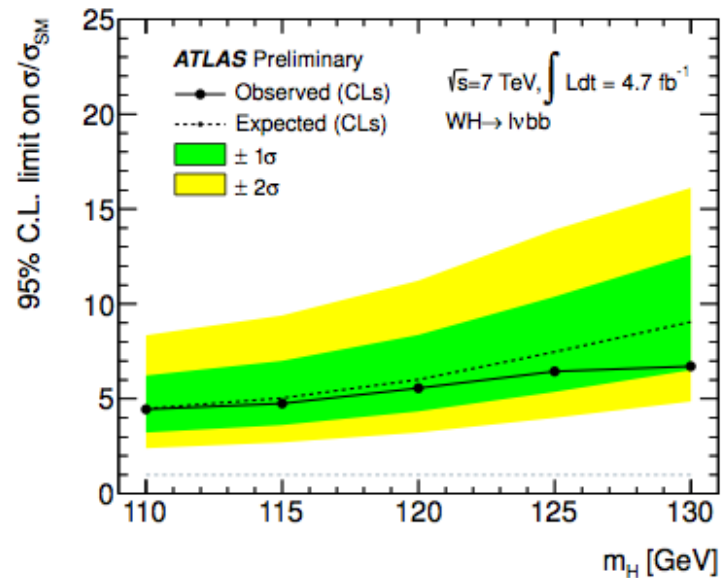
OLD:

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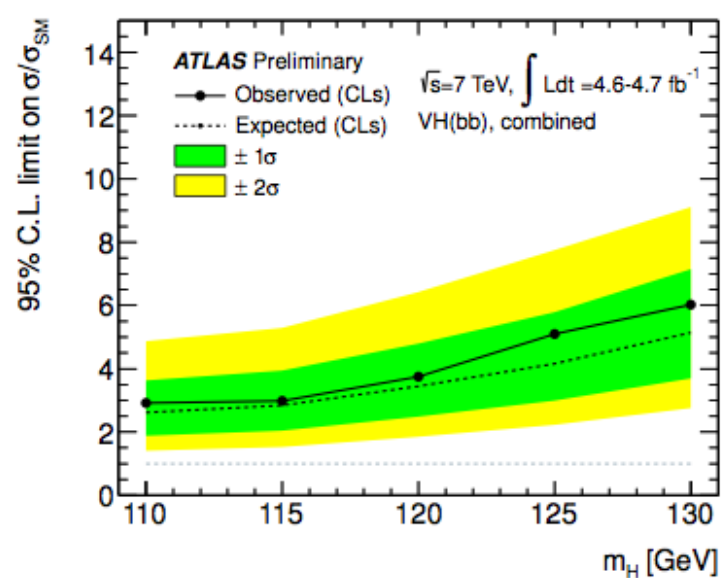
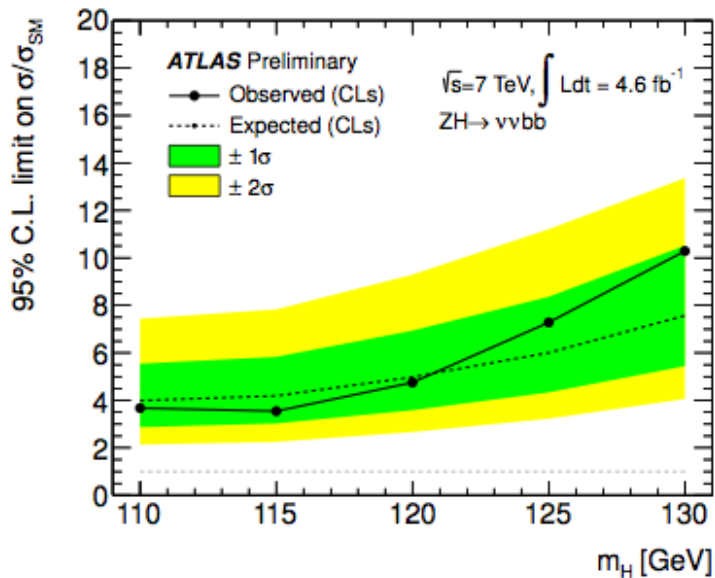
New



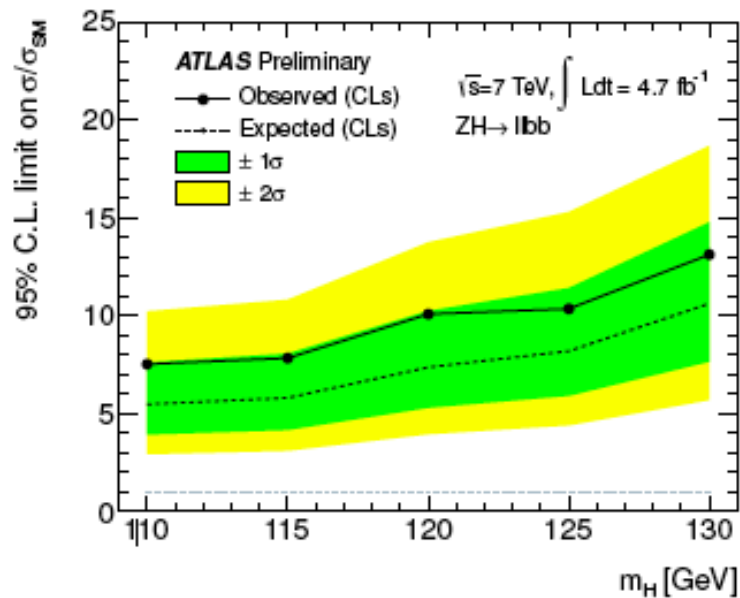
(a)



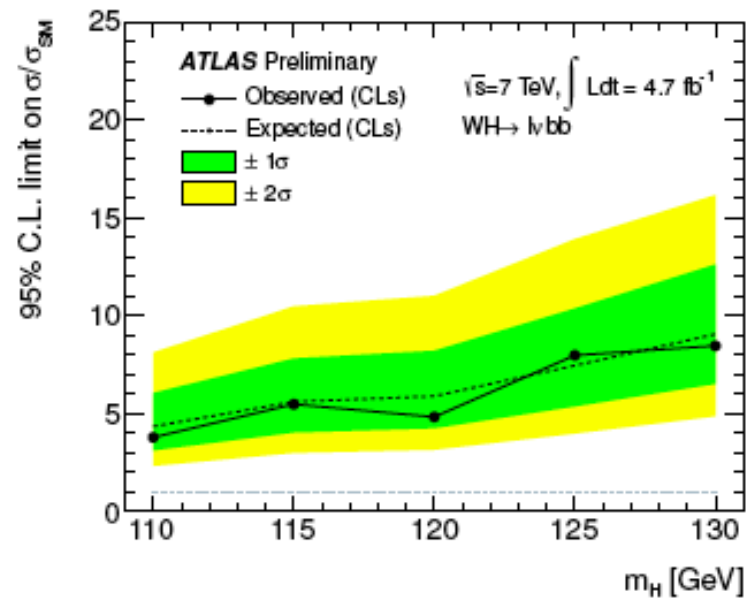
(b)



Old



(a)



(b)

