

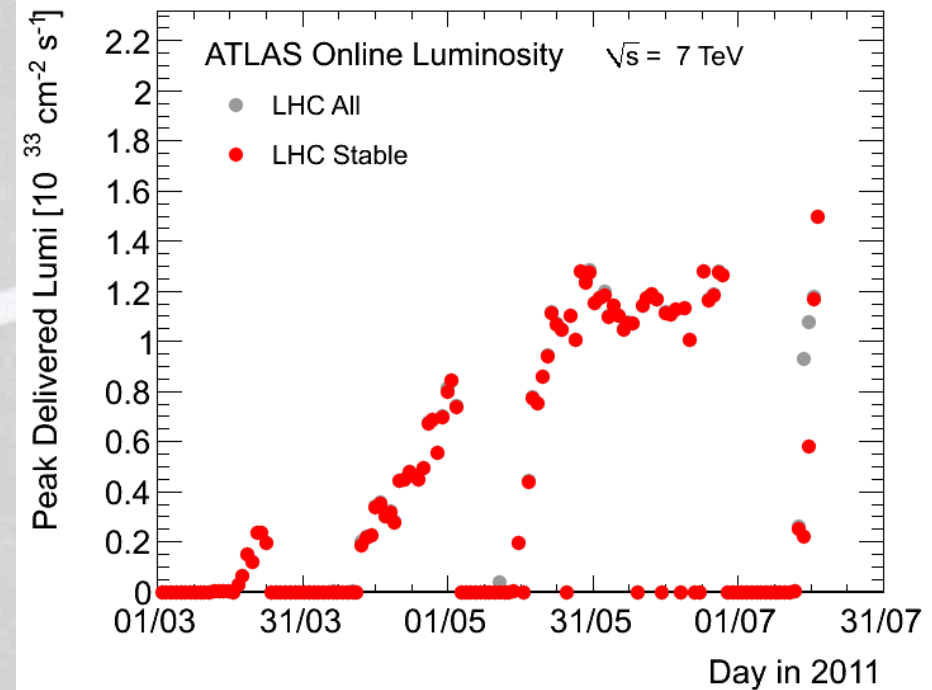
H- \rightarrow bb Weekly Meeting: Introduction



Ricardo Gonalo (RHUL)
HSG5 H- \rightarrow bb weekly meeting, 19 July 2011

News! News! News!

- Re-started operation after the technical stop
- Total of 1.3 fb^{-1} so far
- Peak stable lumi of $1.5 \times 10^{33} \text{ cm}^{-2} \text{ s}^{-1}$
- Running with 50ns bunch crossing and 1380 filled bunches



Trigger News

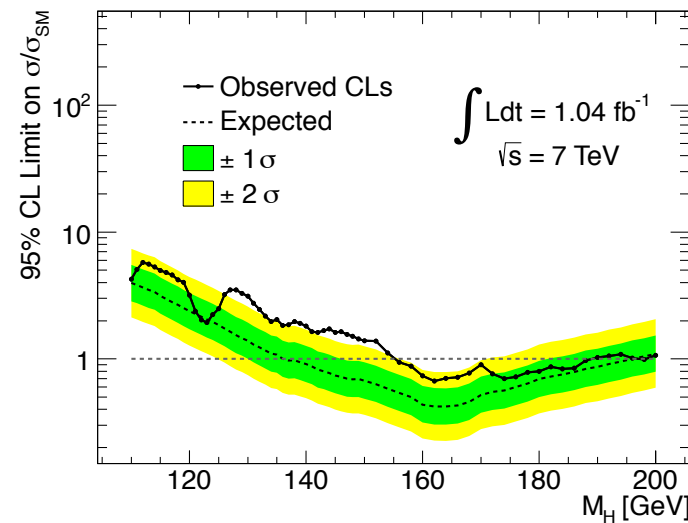
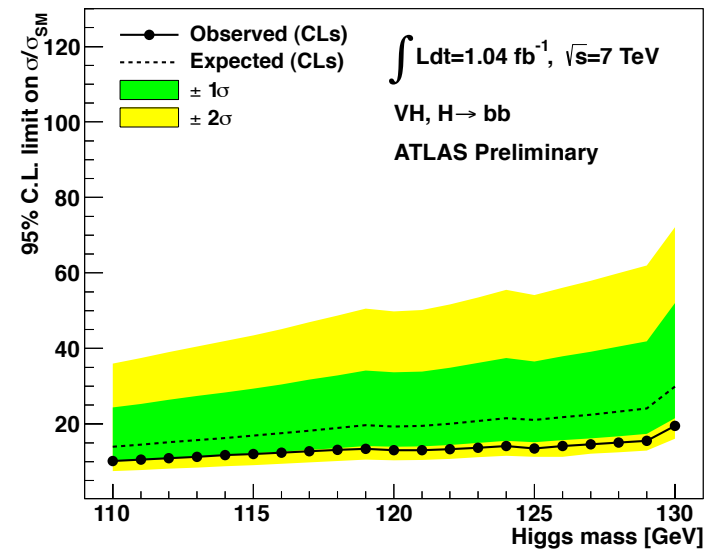
- Indico page to collate information on trigger in Higgs channels
<https://indico.cern.ch:443/conferenceDisplay.py?confId=142271>
- Menus for after technical stop:
<http://olya.home.cern.ch/olya/menu2/more/>
- Menu for 3×10^{33} attached to meeting agenda; see also “EPS menu”

<u>Name</u>	<u>Last modified</u>	<u>Size</u>
 Parent Directory		-
 testRatesNew_390/	07-Jul-2011 23:20	-
 testRatesNew_770/	07-Jul-2011 23:29	-
 testRatesNew_960/	07-Jul-2011 23:37	-
 testRatesNew_1200/	07-Jul-2011 23:45	-
 testRatesNew_1500/	07-Jul-2011 23:10	-
 testRatesNew_2000/	07-Jul-2011 23:54	-
 testRatesNew_3000/	08-Jul-2011 00:02	-

<input type="text"/> Chain	PS	Total PS
EF_mu22_MG_medium	1	1
EF_mu22_medium	1	1
EF_e22_medium1	1	1
EF_mu24_MG_medium	1	1
EF_mu24_medium	1	1
EF_mu24_MG_tight	1	1
EF_mu24_tight	1	1
EF_mu4mu6_DiMu	1	1
EF_mu30_MG_medium	1	1
EF_mu20i_medium	1	1
EF_mu30_MG_tight	1	1
EF_mu30_medium	1	1
EF_mu30_tight	1	1

WH/ZH, H->bb Note

- WH/ZH note approved at open meeting yesterday!
<https://indico.cern.ch/conferenceDisplay.py?confId=146543>
- Very close to completion:
 - Need final signoff by Ed.Board and by Phys.Coord.
 - Last draft available for Ed.Board
- Results included in ATLAS SM Higgs combination
- Many thanks everyone for all the work! This is a great first step... and there will be more to follow!



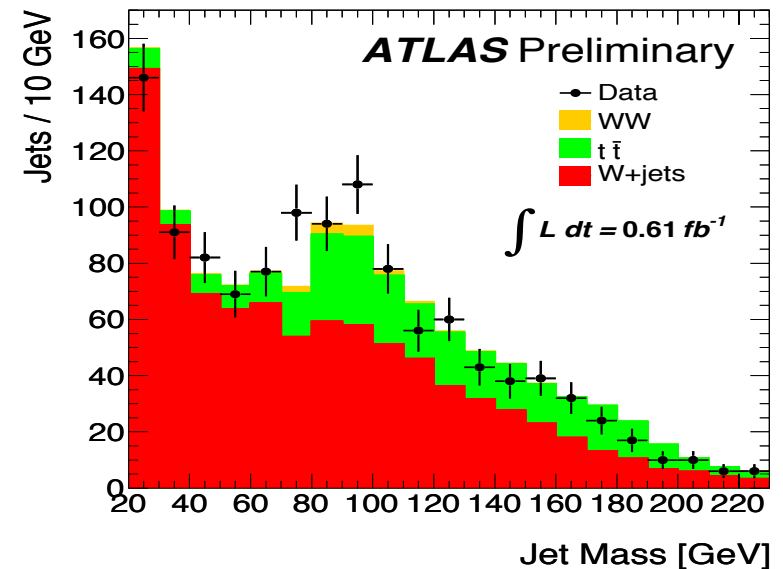
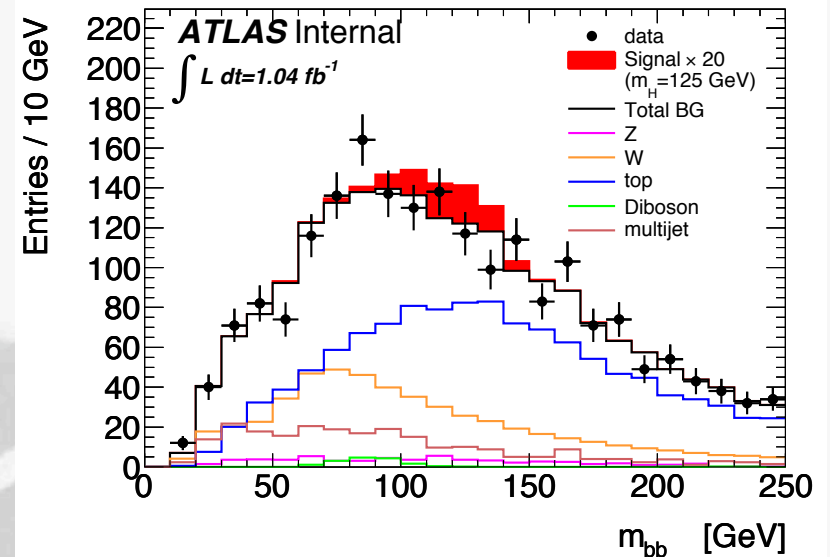
Next Steps...

WH/ZH:

- Room for improvements:
 - Multivariate analysis?
 - Reduce b-tagging uncertainty? – $O(20\%)$ systematic uncertainty
 - improve b-jet energy scale to improve m_{bb} ?
 - Exploit correlations: e.g. combined fit to JES, top background and W+jets background
 - Is ZH→vvbb (inclusive) feasible?

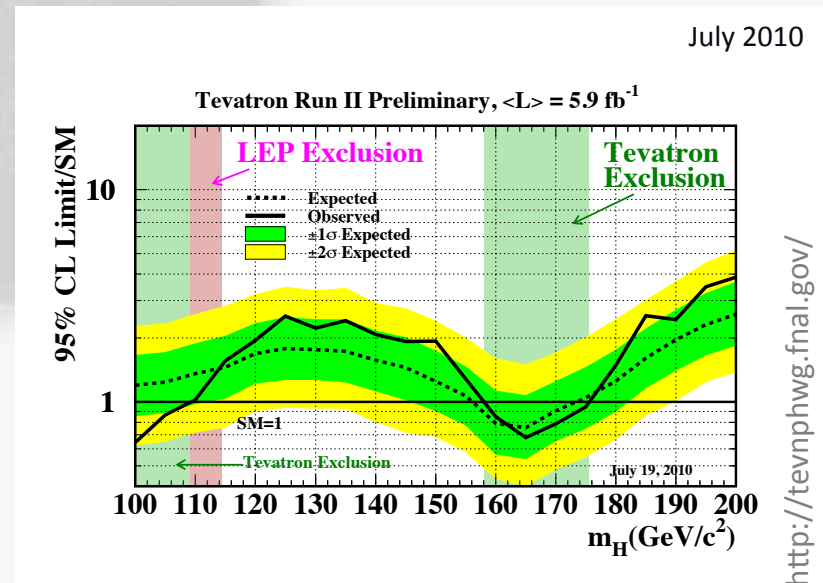
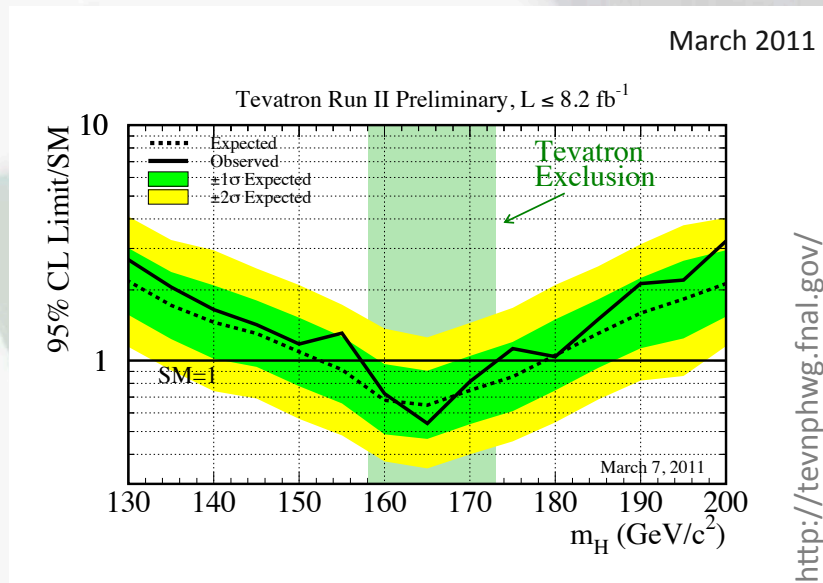
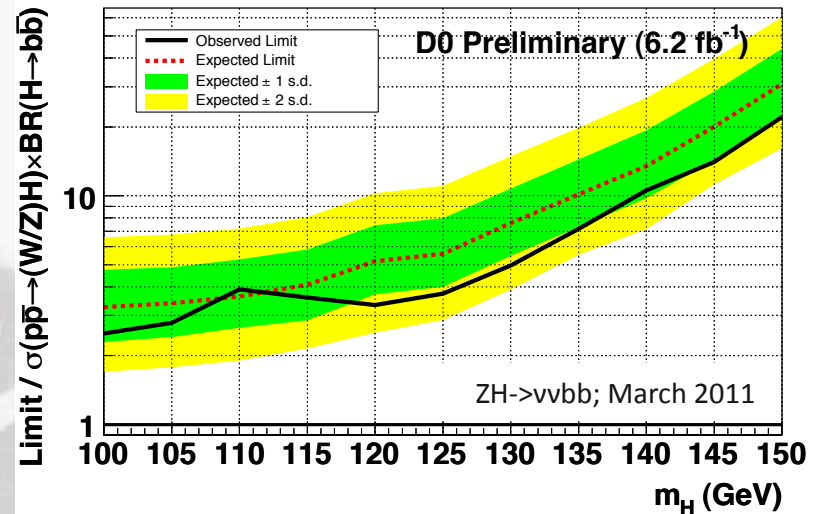
“New” channels:

- Boosted VH:
 - WH→lvbb, ZH→llbb, ZH→vvbb
 - First result with data in note
 - Build up effort on these channels! UCL and Edinburgh at present and much to do
- ttH: needs to be in next batch of results!
- MSSM H→bb? In principle one interested group so far. More?



Guessing the Tevatron sensitivity

- Probably close to excluding (or not) the Higgs at low mass
- At $\approx 4x$ SM with $ZH \rightarrow \nu\nu b\bar{b}$ last year and new channel added in Moriond: $ZH \rightarrow \nu\nu b\bar{b}$
- Several factors of 2 wrt now:
 - 2 experiments
 - adding lepton channels
 - increased luminosity
- **H \rightarrow bb may become un-interesting or very interesting indeed!! More news after EPS!**



AOB...

- Koloina can't make it to Lepton Photon to present our poster.
- Any candidates?
- Holidays & next meetings?



Backup

