

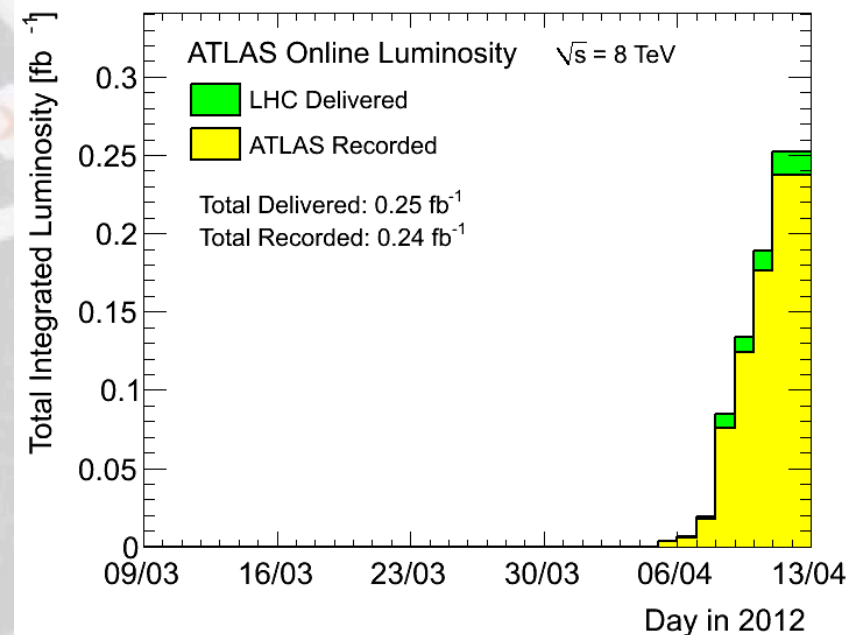
Introduction



Ricardo Gonalo (RHUL)
Higgs Weekly Meeting – 12 April 2012

News! News! News!

- LHC 2012 8TeV run has started!
 - Peak $\langle \text{events} \rangle / \text{bunch crossing}$ 27 (37 seen!!)
 - Peak stable lumi $2.5 \times 10^{33} \text{cm}^{-2} \text{s}^{-1}$
- From Lumi talk at Open EB:
 - Final lumi scale error for 2011 likely to be close to 2%. Small change to central value possible
- And also... for initial 2012 running:
 - New CMS lumi scale implies significant luminosity imbalance between points 1 and 5 (6-8%)



News! News! News!

- H→bb analysis approved by Higgs group
- Circulated today (1/2h ago)!
<https://cdsweb.cern.ch/record/1440266>
- Congratulations everyone! 😊
- What next:
 - One week of comments
 - First reading
 - Second period of comments by collaboration and management
 - Second reading
 - Send to journal
 - More comments...
 - Publication!

ATLAS Draft

Search for the Standard Model Higgs boson produced in association with a vector boson and decaying to a b -quark pair with the ATLAS detector at the LHC

HIGG-2012-08-001

Version: 1.1

To be submitted to: Phys. Lett. B.

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A list of supporting internal notes and their authors can be found at:
<https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/Higgsbb>

Supporting internal notes


ATL-COM-PHYS-2011-1648 <https://cdsweb.cern.ch/record/1444176/>
ATL-COM-PHYS-2012-062 <https://cdsweb.cern.ch/record/1418238>

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Comments are due by: April 19, 2012

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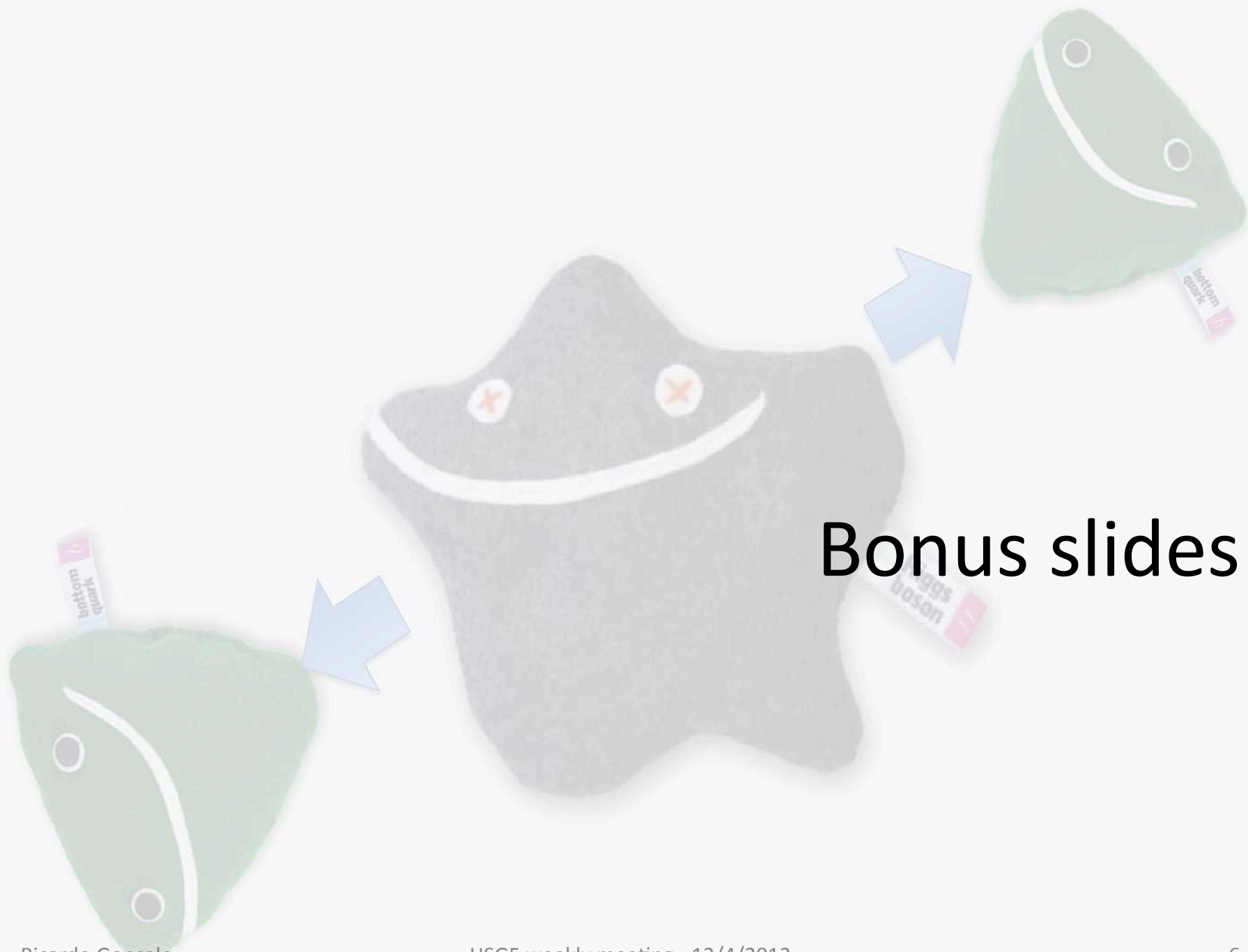


Planning for 2012 analyses

- No rest for the weary!...
- Next issue for the whole group is an internal note on plans for 2012 analyses
 - The plan is not completely clear to me yet (e.g. which MC to use)
 - But main goal is to make unbiased decisions:
 - Decide on cuts and strategy before looking at new data
- Should take this as an opportunity to think ahead:
 - Boosted VH analyses and how to merge with inclusive
 - ttH, VBF, BSM analyses (see e.g. Javier and Merlin's talk today)
 - Use of MVAs (see e.g. Jan's talk today)
 - Study trigger constraints and where we can gain signal (ongoing)
 - Needs from MC: generators, where MC improvements can help most – e.g. W+jets background, N_{jets} and p_{T}^{W} description, where can theory help?
 - CP performance gains needed: b-tagging, bJES, MET (see e.g. Jake's and David's talk)
 - Remember WH/ZH analyses are now systematics limited!
 - How to optimize analyses to prepare for 125GeV Higgs property measurements?

Minimal walking technicolor analysis

- Proposed by Georges Azuelos, Koji Terashi and Else Lytken
- Idea is to do combined work between HSG5 and Exotics diboson group
- Should be very readily applicable to the $ZH \rightarrow llbb$ analysis, and other possibilities exist
- See Merlin's talk



Bonus slides