181123_FR_MartijnMulders.txt 181123_FR_MartijnMulders.txt

> = *Type B:*
>
> *L30 and Ref [10] ==> this result is superseded by the new ATLAS combination in https://arxiv.org/abs/1810.01772 <https://arxiv.org/abs/1810.01772> submitted to EPJC, giving mtop = 172.69 +- 0.48 GeV*
> *(in the LHCTopWG summary plot CMS also claims 0.48 GeV uncertainty, btw, not 0.49 ..(?))*

Updated. I guess the LHCtopWG plot macro truncates: sqrt(.13^2+.47^2)=.4876

> *L110 is the cross-section of 832 pb fixed and used for any generated top mass in the calibration, or is it varied depending on generated top mass? This is relevant because in L168 you say that the relative normalization of the background depends on it.*

It is varied with the mass; but the normalization is only relevant for the plots (which use the default mass), not for the result.

> *Fig1 : (I may have mentioned this before) ==> it would be better to show these plots before the final cut on delta-R or Pgof*

We'd like to keep them like this.

> *Fig2 : please avoid that the error bars overlap the ttwrong label and for the right plot I wonder if a broader binning (by a factor 1.5 or 2 ?) would look better, as it is a very broad peak.*

TODO

> *L204 do the fitted values of the signal fraction and correct combination fraction agree with expectation? If so, it would be nice to mention this*

TODO

> *L209 The hybrid method is constructed ==> what does constructed mean here? Do you mean optimized in the sense that the strength of the Gaussian constraint is varied and fixed to the value that gives the smallest overall uncertainty? Please clarify.*

We mean that the method gives a smaller uncertainty than 1D and 2D "by construction".

> *Fig3 ==> Which of the 3 likelihood methods is shown in the plot? Please specify, eg in the caption.*

It's the 2D method. Added to caption.

> *L224 It would be good to explain how the statistical uncertainty on the observed shift is determined, if you can. ATLAS spend a whole paragraph on this in their latest paper.*

TODO

> *L226 Method calibration: and the residual biases ==> not clear which residual biases you mean. Eg it seems clear that the residual bias for the point at mt_gen=178.5 GeV (Fig 3) is not included in the uncertainty quoted.*

It's the offset of the calibration curve. Added this.

> *Table 1 caption: unfortunately it is completely unclear what the sign convention really is, because a) the*

definition of +1 sigma in the source is often ambiguous b) is the difference defined as (sample_sysX - sample_nominal) or the other way around c) is this the effect on the MC calibration, or on the extracted top mass (= an additional - sign) ==> please clarify if possible OR at least make sure that somewhere else it is documented (internally) without any doubt, as it will be crucial for future combinations

TODO

> L276 ME Generator ==> this way of presenting this effect is sure to attract attention of critics and invite a question from the Referee. I don t have a better suggestion, though.

TODO

> L331 ==> This is NOT the first time an NLO generator is used in the all-jets channel !! (ATLAS did it for their 8 TeV all-jets result) And if it was, I don t see why this would be relevant ==> Please remove this statement

TODO

> L392 It is odd to compare only to 7 and 8 TeV [8] and not 13 TeV [11] it would make sense to also mention the existing 13 TeV result here.

Added.

> L397 and FIG 6 ==> These are great plots for a PhD thesis, but NOT for a CMS paper. I feel strongly that they are out of place: what is the relevance of these plots? They are not using the most precise world or CMS top mass result, they don t really show the effect of including the current (or any) top mass (or not), they only serve to highlight the importance of mHiggs and mW and highlight the ATLAS mW measurement what is the point of including this in a CMS top mass paper? Unless the point is to suggest that this top mass measurement supersedes all past top mass measurements

People from the Gfitter group suggested to add these plots and the top conveners liked the idea. We don't want to sell them as a main result of this paper; that's why they only appear in the last section. ATLAS also added a Gfitter plot to their W mass paper, where they did not even change the EWK fit, but just put their new measurement line(s) in.

> = Type A:
>
> L5 mt can also be used does not sound right what about the value of mt has consequences for the stability of or the value of mt defines/set/puts limits on the stability of ..

Already rewrote this according to another comment.

> L95 an HLT ==> an HLT algorithm . Additionally, the algorithm requires

We think using just HLT is ok.

> L215 after calibration, no residual is expected, right? Maybe clarify: As expected, neither a significant residual are observed after the calibration procedure.

done

> L216 for LE: are observed or is observed ?

Topic revision: r9 - 2018-11-28 - JohannesLange