PhD thesis: List of corrections

Thomas CHARMAN

“Measurements of H to b b-bar decays and VH production with the ATLAS detector at the Large Hadron Collider in proton-proton collisions at √s = 13 TeV”

1. There are several typographical and grammatical errors in the thesis, these should be corrected.
2. ~~In Chapter 1, please add a comment about the incompleteness of the standard model here, as we know that it cannot be the final theory. You could also add strains on SM fits.~~
3. ~~In Chapter 2, please add a short comment on the non-Abelian character of QCD~~
4. In Chapter 3 please add some technical information on the performance of each of the sub-detectors (ECAL, HCAL, tracker etc.) so that the reader can appreciate important aspects such as the energy and momentum resolution, the missing ET resolution, impact parameter resolution etc. Improve the description of the SCT, in particular the polysilicon resistors and the stereo angle.
5. ~~In Chapter 4. It would be appropriate to quote the general form of the Gini index in equation 4.2. We would like you to add a paragraph on the possibility of using a neural network in your analysis.~~
6. ~~In Chapter 6 figure 6.1 has a colour scale which should be explained. Please add a comment on how the selection criteria have been chosen or optimised. In section 6.3 please explain why a 50/50 split of the data into training and validation was used. Was a k-fold approach to the train/validate data sets considered?~~
7. In Chapter 7, section 2.1, please give a brief description how the combined luminosity uncertainty is calculated. Ref [120] does not combine different years.

TC: Find out how this was calculated

1. ~~In Chapter 8 a brief mention of relevant CMS observations of the process discussed in this thesis should be added.~~
2. Bibliography
   1. Some references are incomplete (give a URL or DOI); for example [54], [56], [63], [67], [68], [115], [118], [162]
   2. Some, important, references are unavailable to any reader who is not a current member of the ATLAS collaboration: [72], [91], [92], [93], [95], [98], [99], [110], [124]. Where these are first references in the text please add one or two sentences so that the non-ATLAS reader can understand why they are being quoted (i.e. what is the relevance of the reference to the point being made in the text)