

Minutes of CEPC HZZ Meeting

Online, 2020-04-15

Meeting indico link: <https://indico.ihep.ac.cn/event/11459>

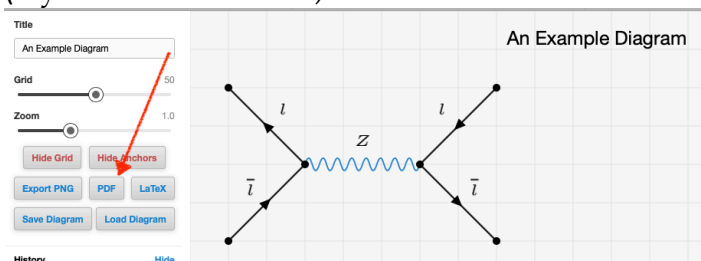
Memo Update

- V1.1: unified some cuts (Yanxi)
 - o Discussion about the statistical uncertainties, if reasonable to apply weight ...
- V1.3: BDT study on two channels (Min)

Draft Update

- Updated table I and table II (Ryuta)
- Feynman diagram failed to export as PDF (Ryuta)

Xin tried later, and found the PDF button worked for him.
(feynman.aivazis.com)



Actions

1. Memo v1.0
 - 1.1. Update Changelog (Min, Yanxi)
 - 1.2. Release tag v1.0 for memo and code (Xin)
2. Draft v1.0
 - 2.1. Update table 2 according to the numbers from memo v1.0 (Ryuta)
 - 2.2. Release tag v1.0 for draft source code (Xin)
3. Memo v1.1
 - 3.1. Add standalone section with these new set of cuts for the final BRs with stat. uncert. (Yanxi)
 - 3.2. Add section to compare the results of v1.0 and v1.1, check if they agree within 1- sigma (Yanxi)
4. Memo v1.2
 - 4.1. Need to be done once the v1.1 is fixed

5. Memo v1.3
 - 5.1. Continue the rest 4 channels with BDT (Min)
 - 5.2. Compare BDT with v1.2 results (Min)
6. Memo v2.0
 - 6.1. Summarize the EFT study, compare with ATLAS results (Ryuta)

Decision will be made upon the summarized info:

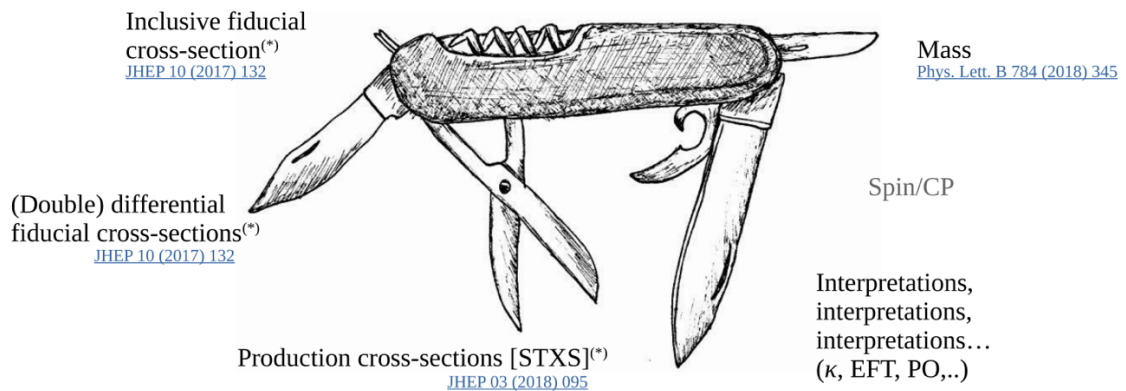
 - 6.1.1. Not to mention at all: the easiest solution for paper writing, but the drawback will be twofold: a) Ryuta's effort will be wasted b) There is high chance the journal reviewer to raise this question (as we already did for the Hig2Inv case, they wanted us to compare with LHC/FCC results)
 - 6.1.2. One or two long sentences in the summary section, gave a rough estimation compared with LHC and FCCee
 - 6.1.3. Carry out concrete study, starting from the generator and go through the procedure to get the final number to compare with LHC
 - 6.2. Explore other possible physics case to be extracted from the HZZ* channel (Ryuta)

Cf: <https://indico.cern.ch/event/904420/>



The “Swiss army knife”: $H \rightarrow ZZ^*$

(*) [ATLAS-CONF-2019-025](#)



Baseline/reference: previously published results