

HiggsCombine + Plotter tutorial update

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KU Group meeting
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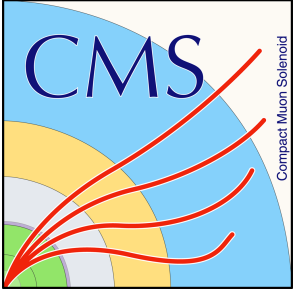
This time

- How to get fitDiagnostics file from HiggsCombine
- How to plot pre+post fit distributions

How to make pre/post fit distributions

1. Follow KUEWkino workflow until datacards (BFI -> BFShapes -> BF)
2. Convert datacard to workspace
 - `combineTool -M T2W -i datacard.txt -o ws.root`
3. Run FitDiagnostics ****with shapes****
 - `combineTool -M FitDiagnostics -d ws.root -m [mass point] --saveShapes --saveWithUncertainties`
 - This takes a long time, recommend running on condor (`--job-mode condor`) with `--sub-opts='request_memory = 12 GB'` (at least)
 - Also, run with `-v 3` to check fit status (some info saved in output root file)

How to make pre/post fit distributions



4. Plot using FitPlotter class (Plot1Dstack)

- Example macro at: `/home/t3-ku/mlazarov/Ewkinos/CMSSW_10_6_5/src/KUEWKinoAnalysis/macros/PlotFits.C` (run with `.C+`)
- Need to give constructor original BFI file, fitDiagnostics file, and directory name where pre/post distributions are

How to make s-jets pull plots

1. Go through KUEwkino workflow (BFI -> BFShapes -> BF)
2. Convert datacard to workspace
 - `combineTool -M T2W -i datacard.txt -o ws.root`
3. Run Impacts (see slides) to get .json file
4. `python macros/plotImpacts_sJets.py -i [impacts.json] -o [output directory] -sys [systematic name] -u [prior uncertainty]`

Backup