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