

Task 4, Higgs to $\gamma\mu\tau\tau$

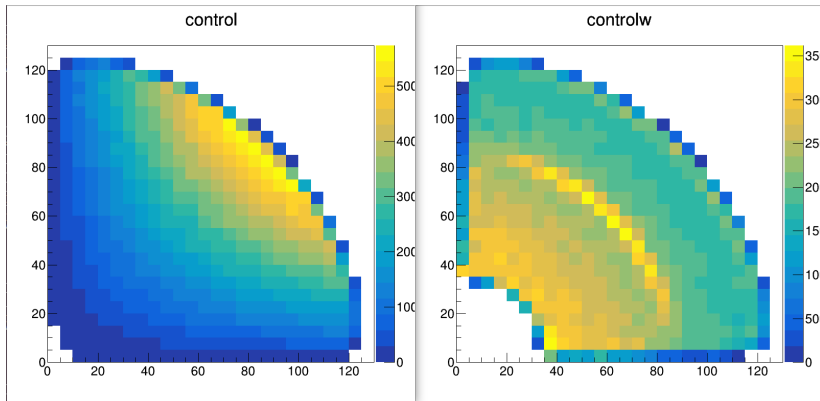
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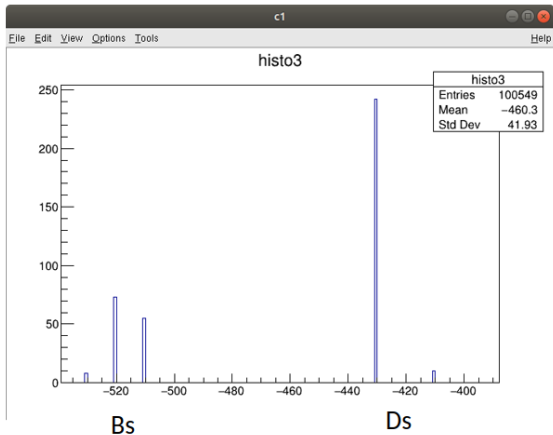


- New ntuples production almost complete
- Correct beam energy, $\Delta R = 0.5$ objects in Delphes
- Will attach to agenda when complete
- Tried adding true pions to the ntuples – still debugging...
- Some optimization – at truth level, we have 0.5% events with 3 taus
- Doing some additional matching, the taus we use should be the ones coming from h
- Issue with photons: 2 – 3% events don't have a photon associated to h
- Maybe more correct to ignore such events...





- Seems to work, see the correct distributions after reweighting.
- Problem – before reweighting our samples seem to have some asymmetry.
- On the level of 0.5%, this is obviously not what we want...
- Investigating the source of this.
- Tried different weights naively, get a difference of 0.2% asymmetry between b_0 and b_4 samples, not sure if expected or too little.



Also get $\gamma \rightarrow \tau\tau$