



Sprinting towards CADI

Search for Four top in Tau Final States

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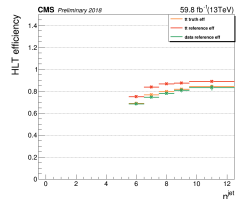
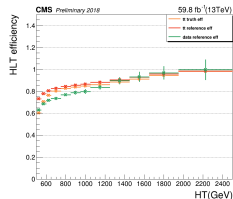
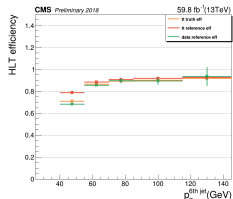
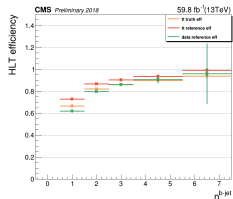
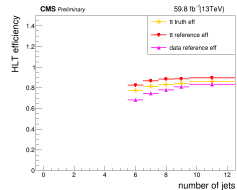
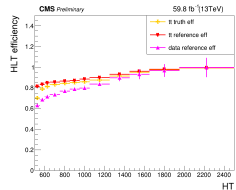
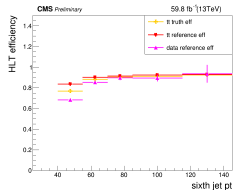
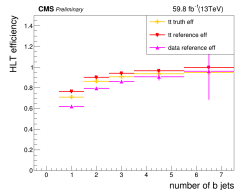
October 13, 2023



Current situation

- AN major part finished: https://gitlab.cern.ch/tdr/notes/AN-20-175/-/blob/master/temp/AN-20-175_temp.pdf?ref_type=heads
 - Samples, trigger, object definition, fake tau estimation, BDT in 1tau0l done
 - Systematics and MC correction working on them.
 - Minor things like references need to add
 - Update daily, check out commit history for more information
- Addressing problems in current analysis
 - the difference of true trigger efficiency and orthogonal efficiency in MC differs much 2017 and 2018 than that in 2016.
 - in VR an CR of 1tau0l, where some MC background present, there seems to have a trend of insufficient background compared with data, I suspect this due to trigger SF in low b-jet region.
 - in 1tau1l, data/mc agreement not good in low jet pt and some b-jet related variables
 - All this could be addressed by re-measuring trigger efficiency with b-tag WP correction

Trigger efficiency remeasured in 2018



- Up: with b-tag shape SF; down: with b-tag WP SF
- Big divergence from truth efficiency close to turn on in 1 bjet and low 6th jet pt region
- We might have to raise 6th jet pt a bit if we could allow.

Planning and timeline

- Short term goals
 - Complete analysis with all systematics, presentation to TTX at 10.25th.
 - Representable AN by 10.31th, with no serious problems
- Timeline
 - Finish trigger SF re-measuring for run2 in 2 days(10.15th)
 - All systematics for run2, by 10.18th
 - AN first complete version: 10. 20th
 - Internal discussion of AN: 10.21th

Section 1

Back up

