1 Seeds

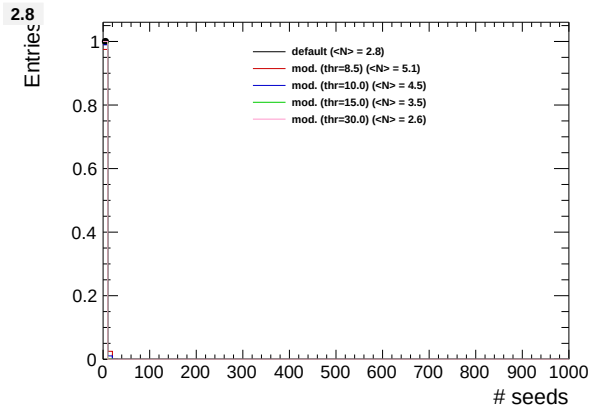
2 3D clusters

3 Efficiencies

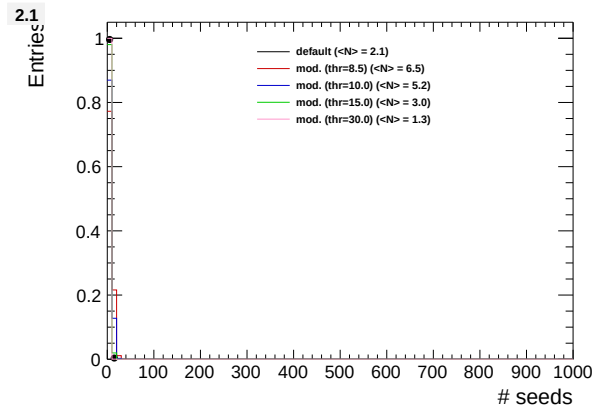
Number of seeds

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

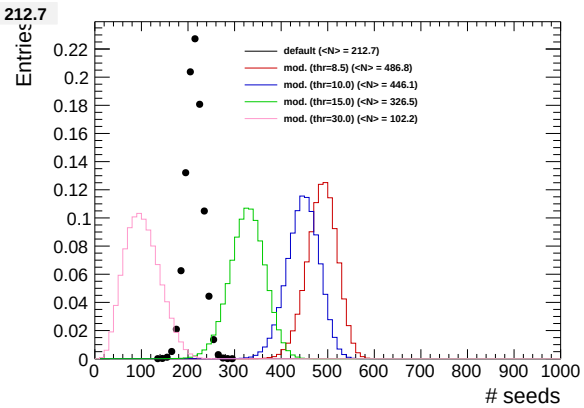
q gun, no PU



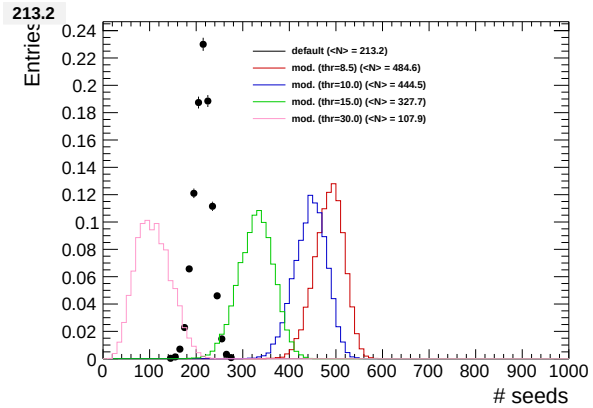
VBF Hinv, no PU



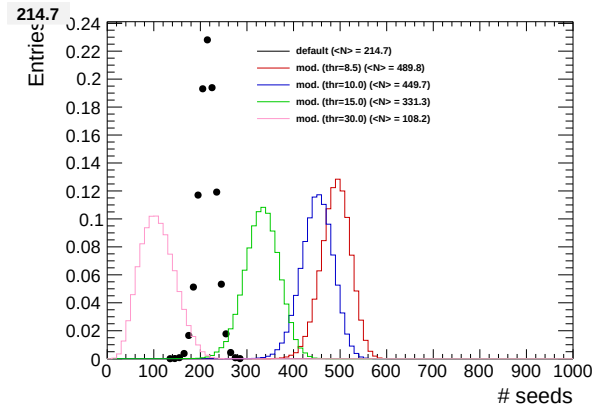
Nu gun, PU200



q gun, PU200



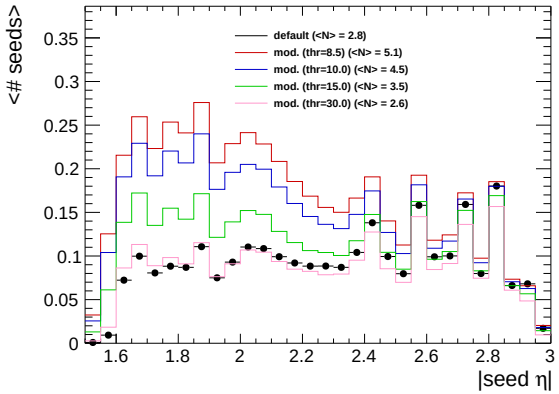
VBF Hinv, PU200



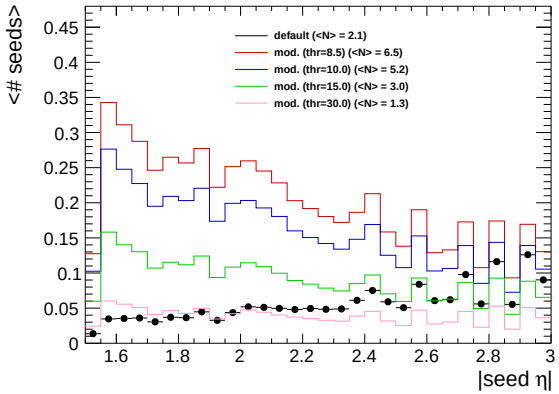
Number of seeds vs $|\eta|$

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

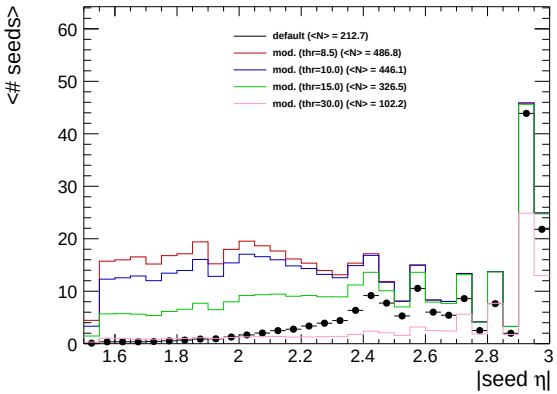
q gun, no PU



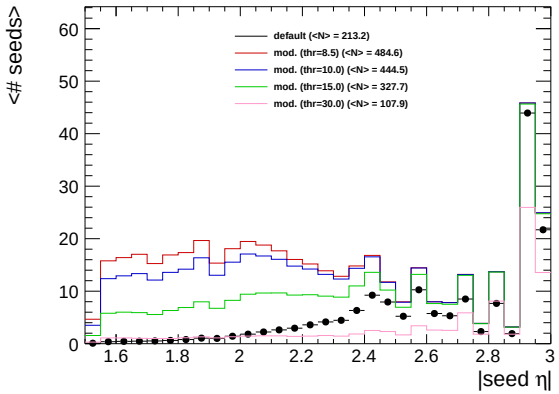
VBF Hinv, no PU



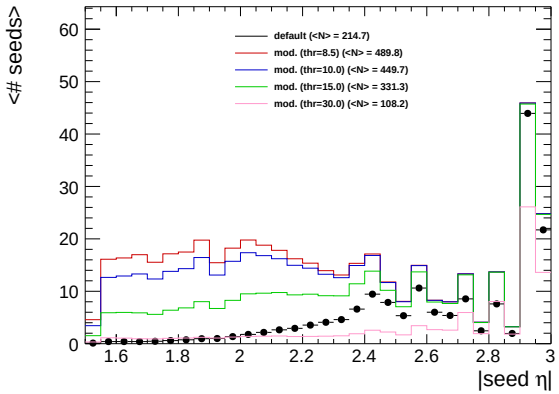
Nu gun, PU200



q gun, PU200



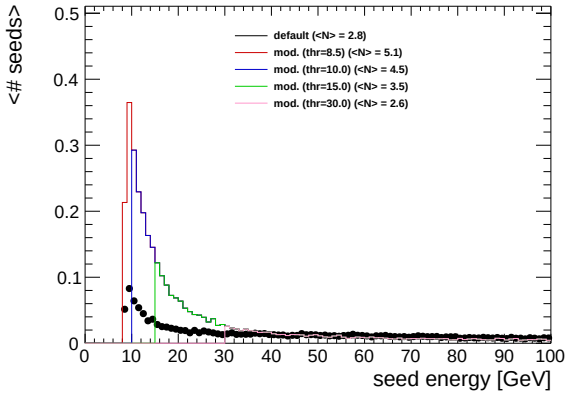
VBF Hinv, PU200



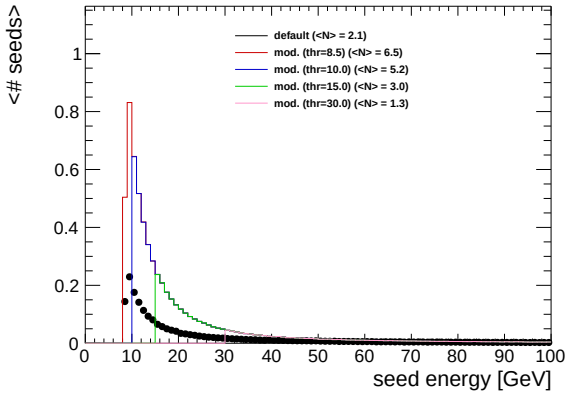
Number of seeds vs E

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

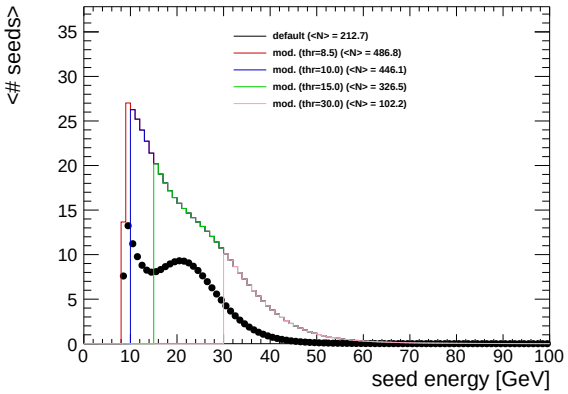
q gun, no PU



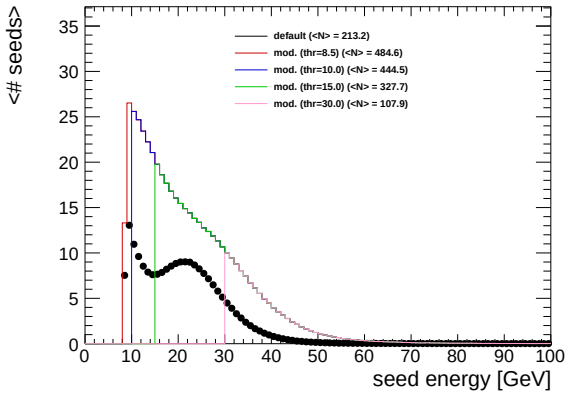
VBF Hinv, no PU



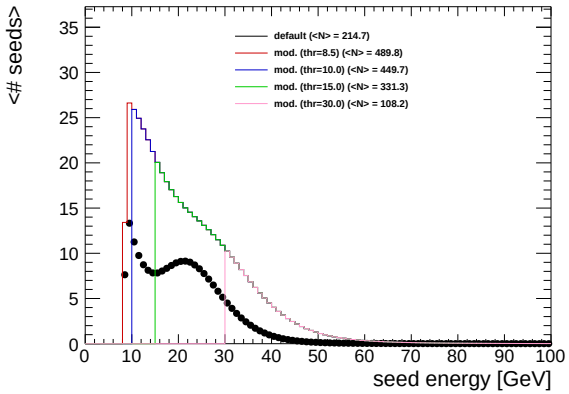
Nu gun, PU200



q gun, PU200



VBF Hinv, PU200



1 Seeds

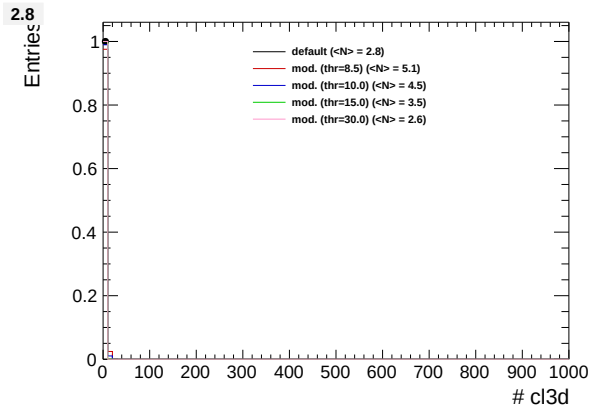
2 3D clusters

3 Efficiencies

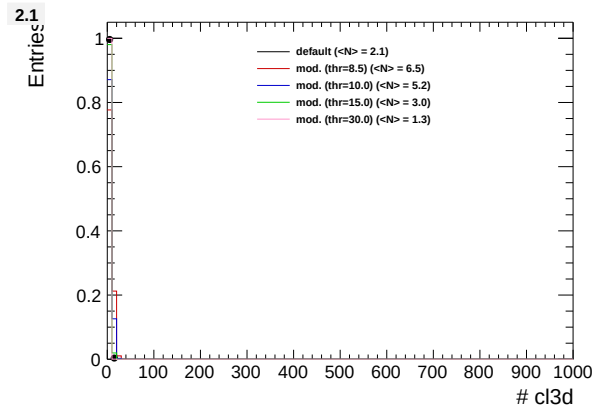
Number of 3D clusters

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

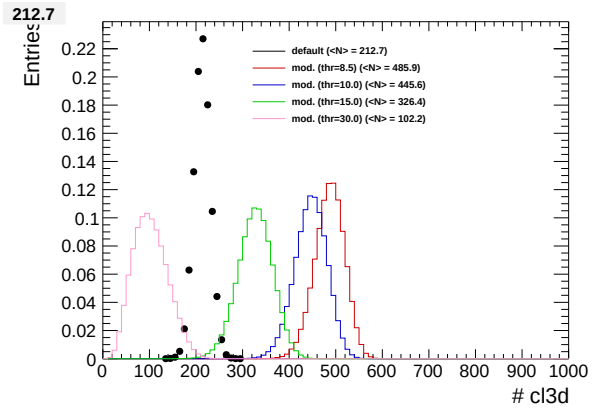
q gun, no PU



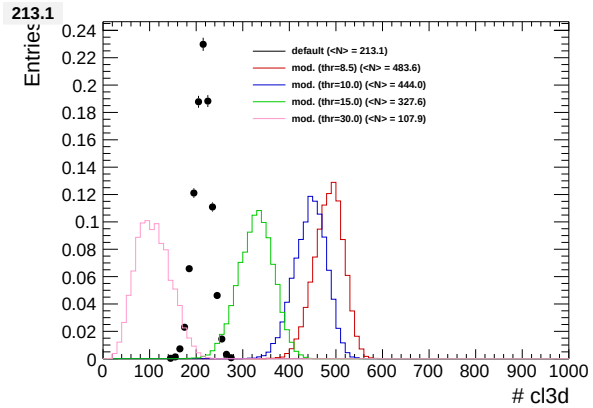
VBF Hinv, no PU



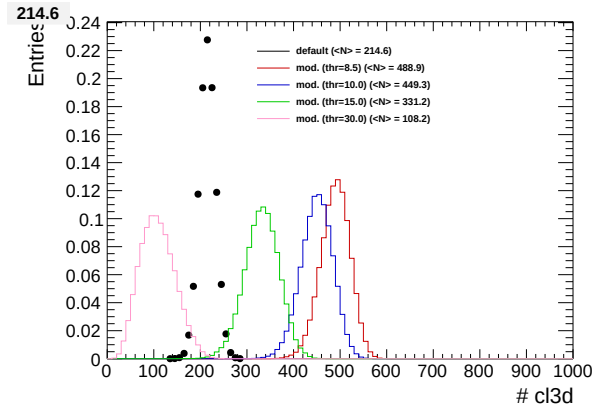
Nu gun, PU200



q gun, PU200



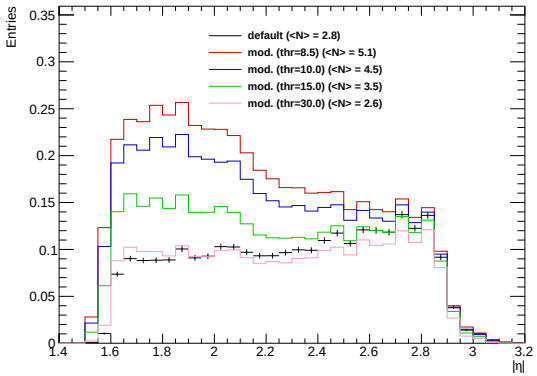
VBF Hinv, PU200



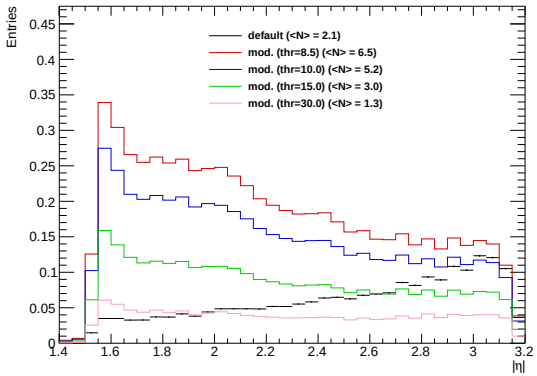
Number of 3D clusters vs $|\eta|$

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

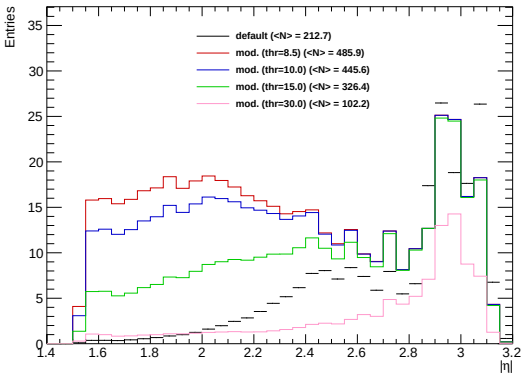
q gun, no PU



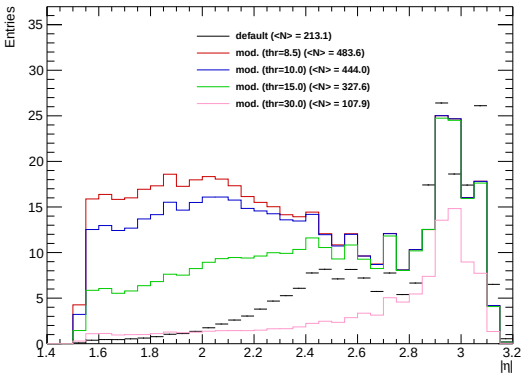
VBF Hinv, no PU



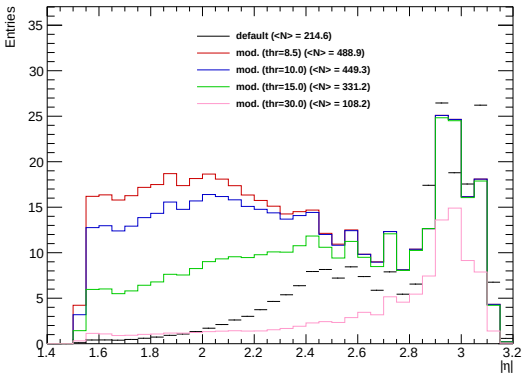
Nu gun, PU200



q gun, PU200



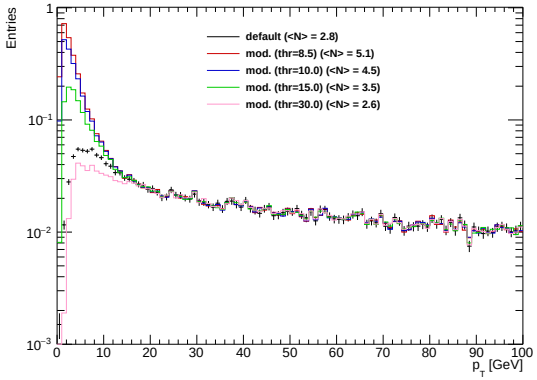
VBF Hinv, PU200



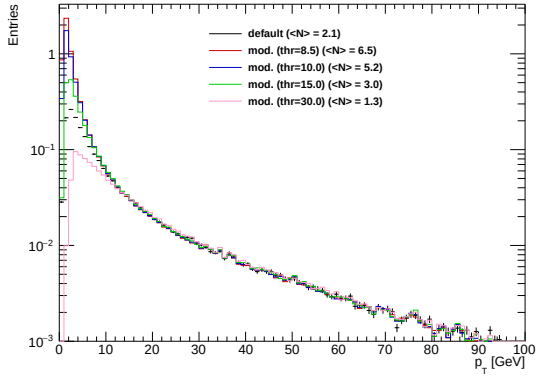
Number of 3D clusters vs p_T

default
mod. (thr=8.5)
mod. (thr=10.0)
mod. (thr=15.0)
mod. (thr=30.0)

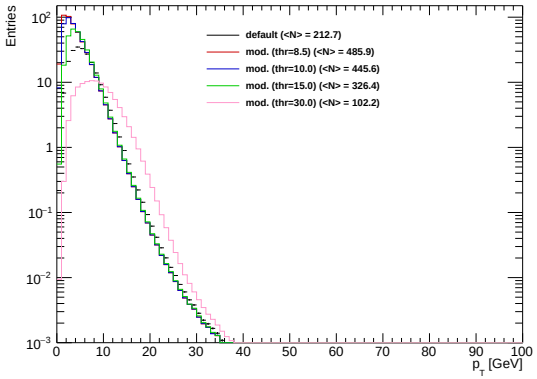
q gun, no PU



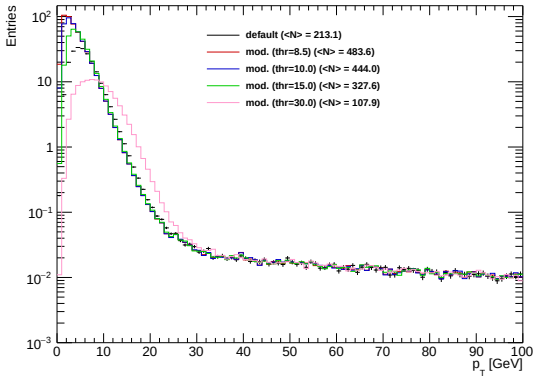
VBF Hinv, no PU



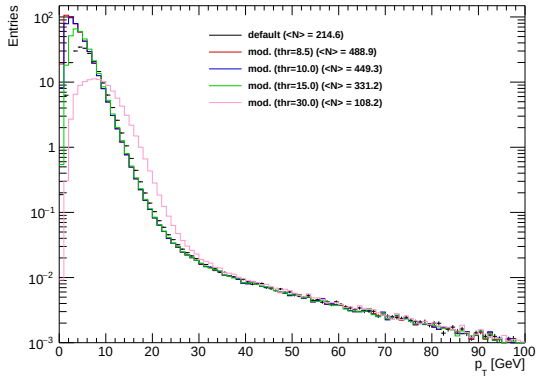
Nu gun, PU200



q gun, PU200



VBF Hinv, PU200



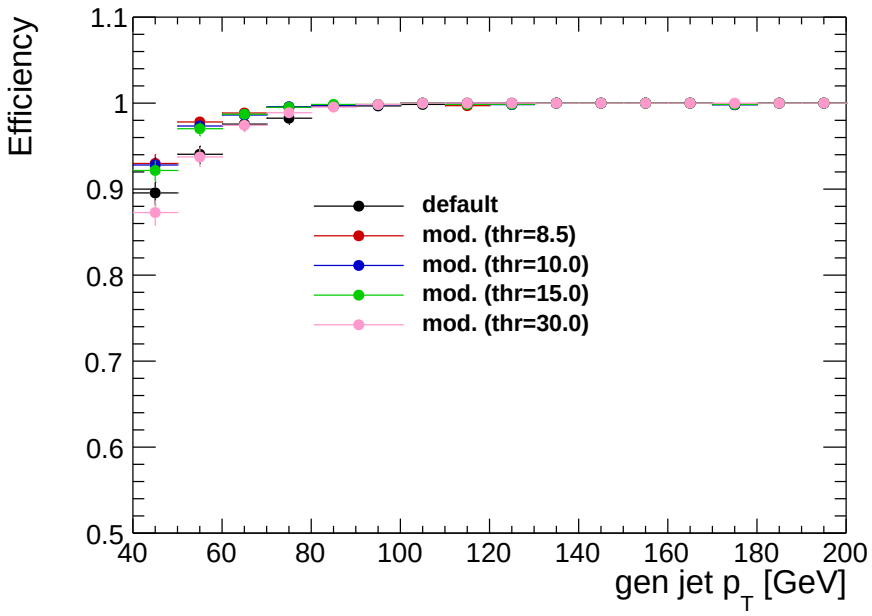
1 Seeds

2 3D clusters

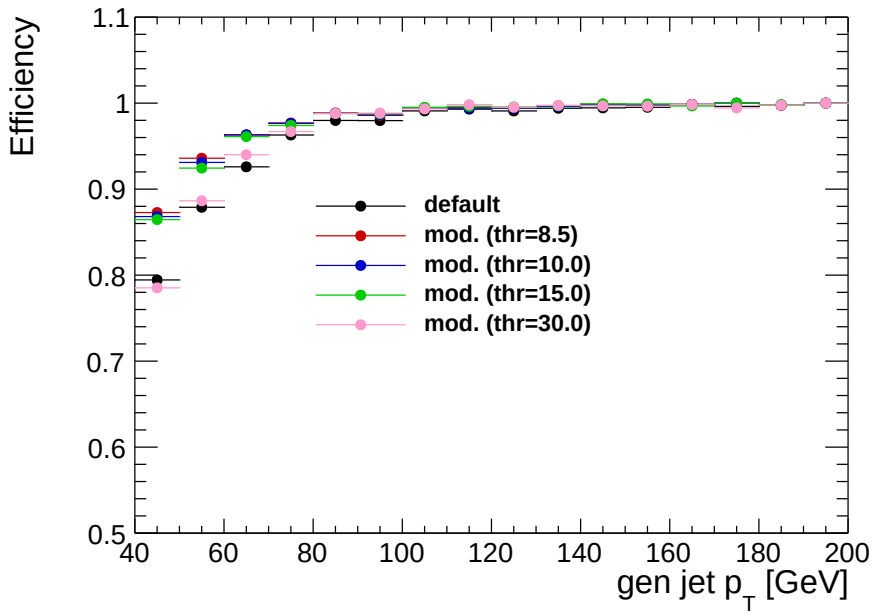
3 Efficiencies

Efficiency vs p_T

q gun, PU 200

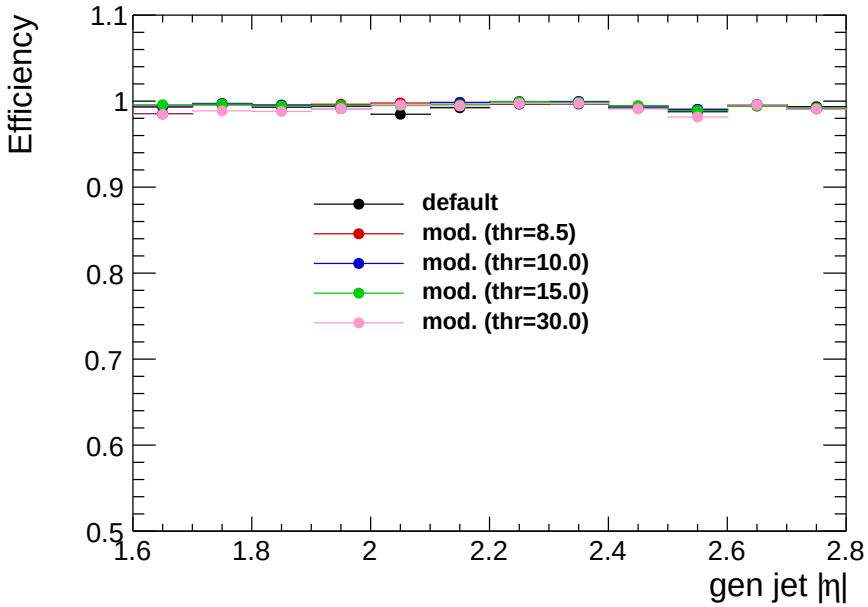


VBF Hinv, PU 200

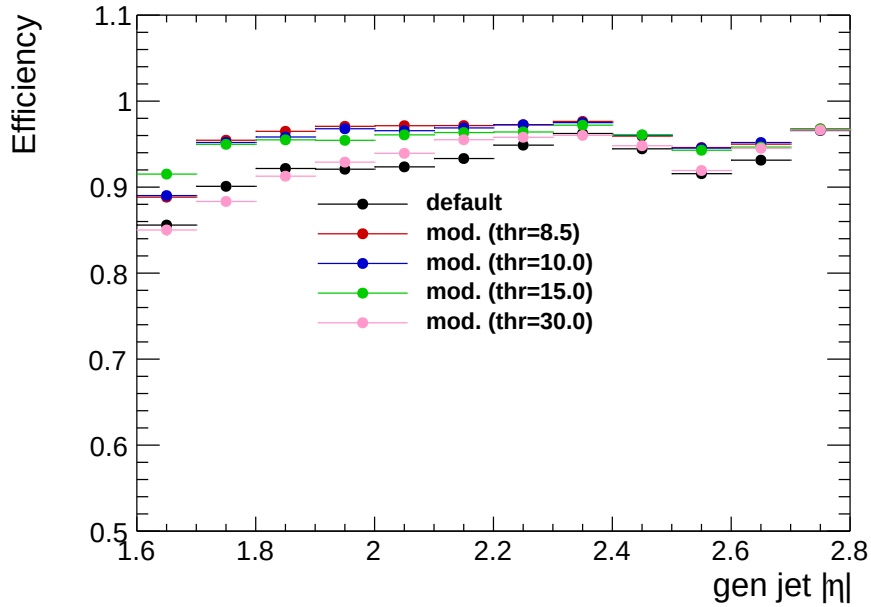


Efficiency vs $|\eta|$ (gen jet $p_T > 40$ GeV)

q gun, PU 200



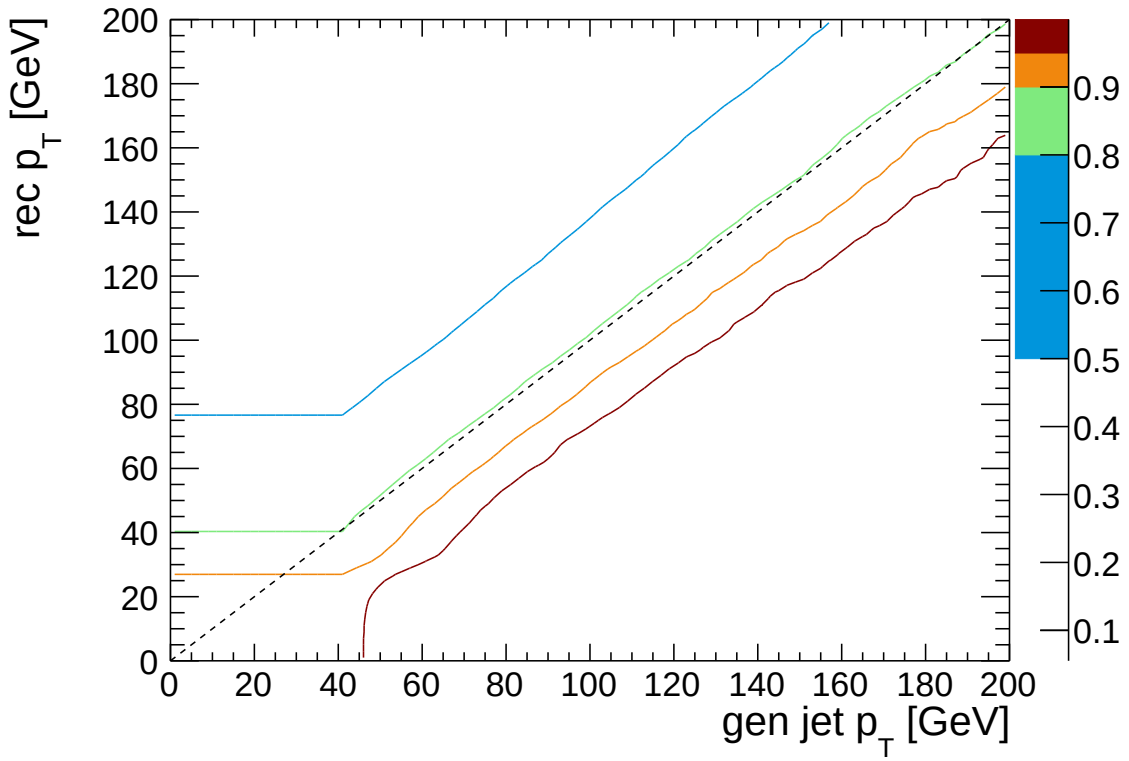
VBF Hinv, PU 200



1. Seeds
2. 3D clusters
3. Efficiencies

Turn-on: how to read the plot

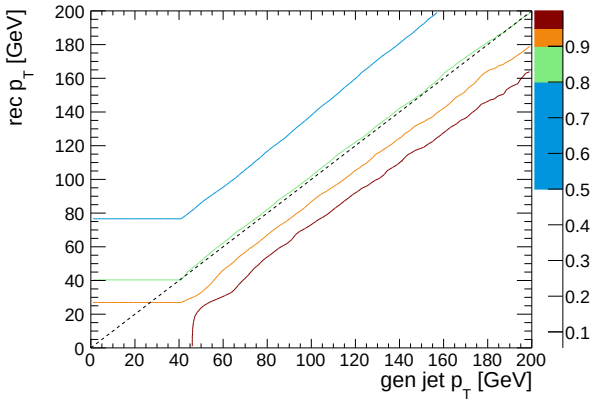
Turn-on curves answer the following question: given generated jets with a p_T X, what should be the online cut Y on the (corrected) jet p_T such that the efficiency is at least Z%?



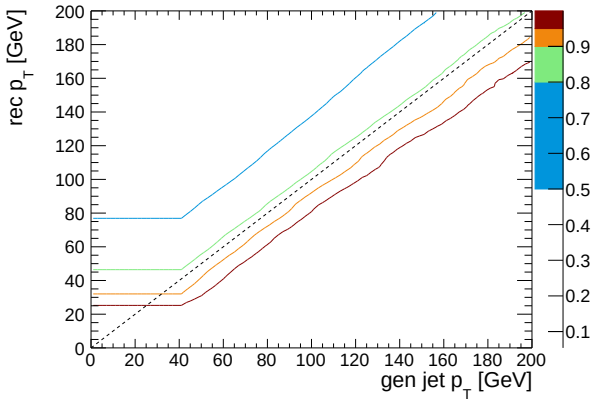
- There are 4 curves, corresponding to $Z\% = 50, 80, 90, 95\%$
- The generated p_T "X" is found on the x axis
- The required cut Y on the (corrected) jet p_T can be read on the y axis

Turn-on curves for cluster jets with different settings

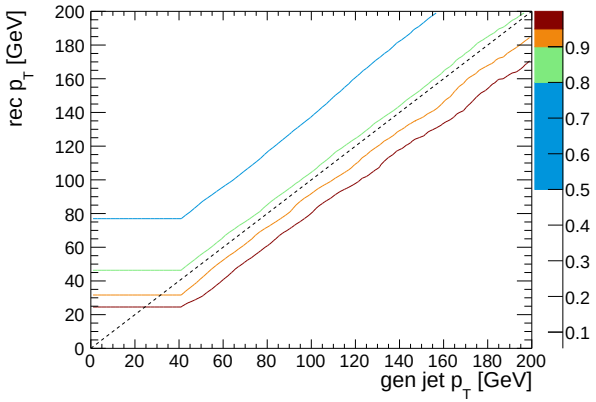
default



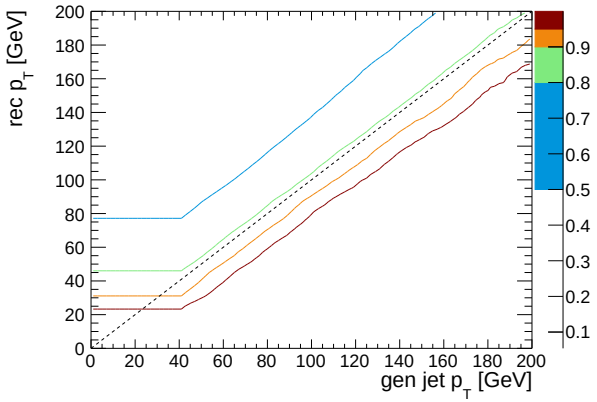
mod. (thr=8.5)



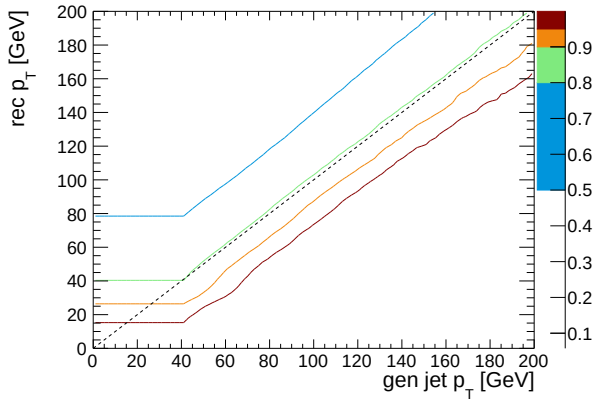
mod. (thr=10.0)



mod. (thr=15.0)



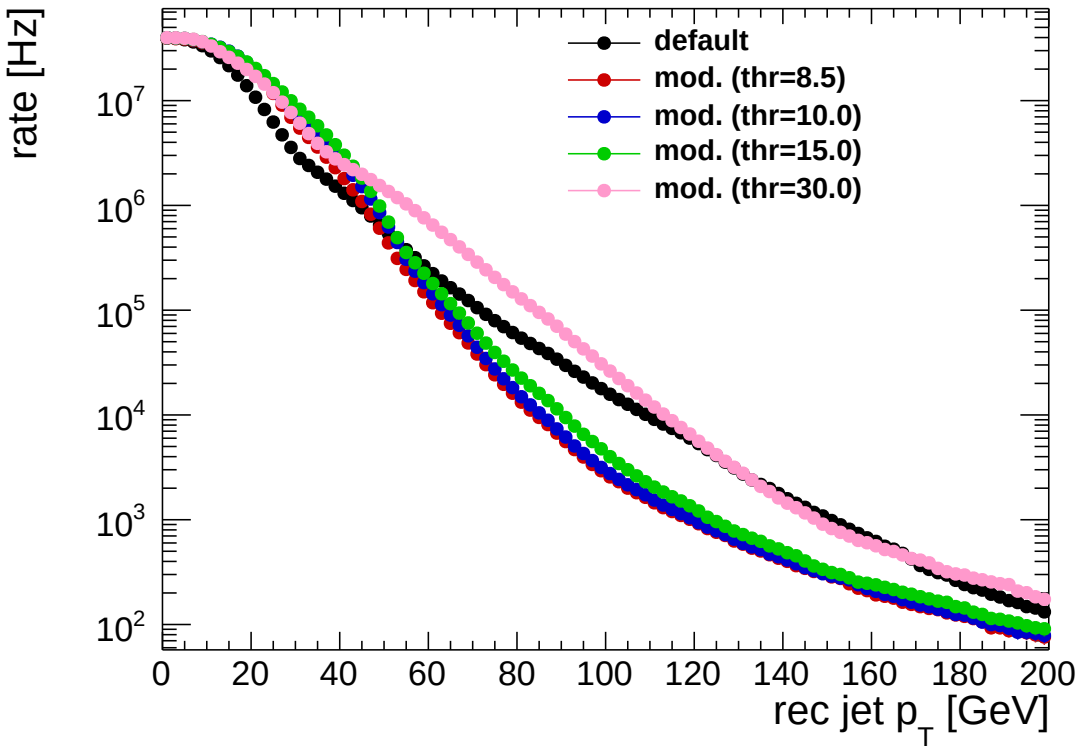
mod. (thr=30.0)



1. Seeds
2. 3D clusters
3. Efficiencies

Rate

Expected run for PU=200, for $p_T > 40\,\text{GeV}$, from a neutrino gun sample, for cluster jets

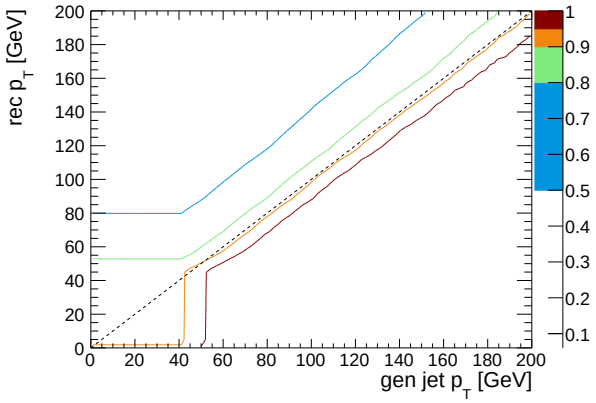


Modified seeding bring a smaller rate of jets above $p_T \sim 40$–$60\,\text{GeV}$.

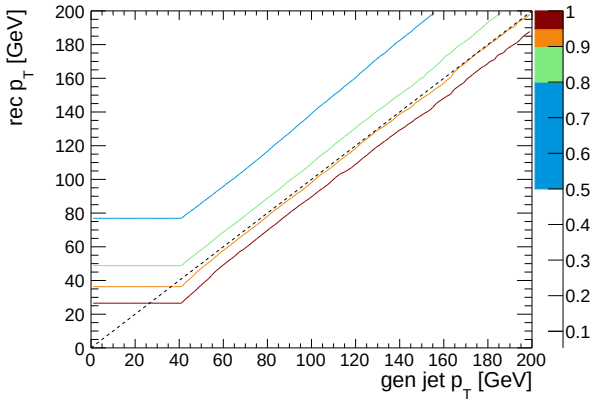
Backup slides

Turn-on curves for clu and tow (unclustered) jets

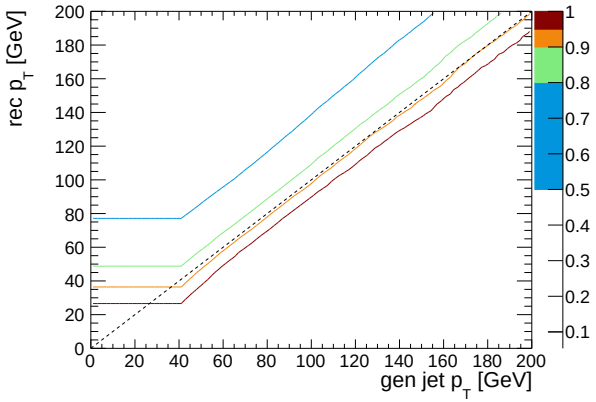
default



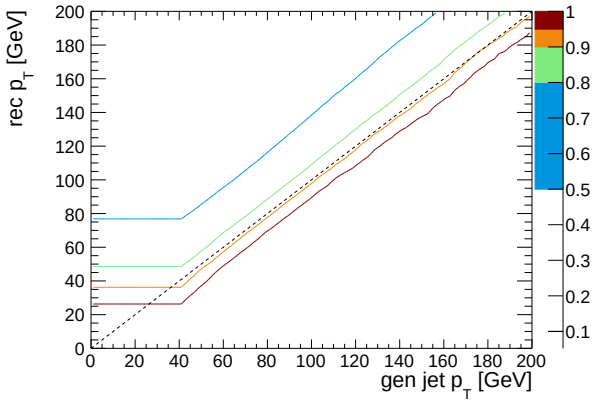
mod. (thr=8.5)



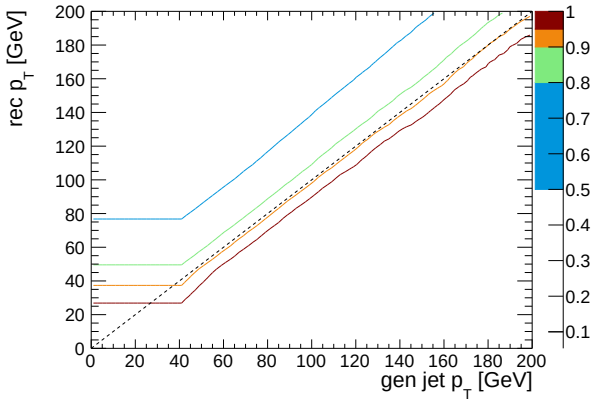
mod. (thr=10.0)



mod. (thr=15.0)

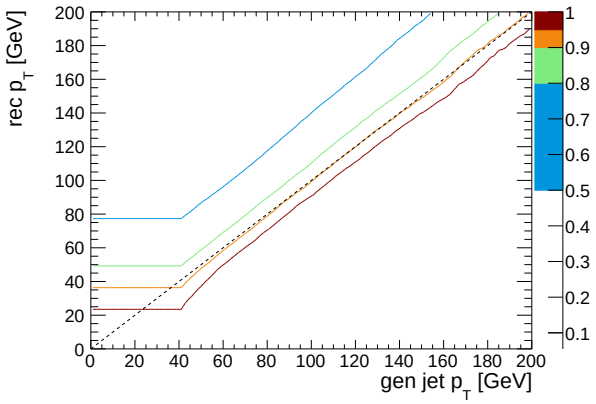


mod. (thr=30.0)

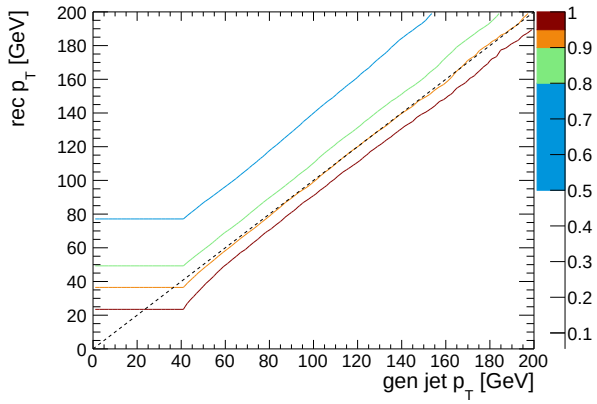


Turn-on curves for full tower jets

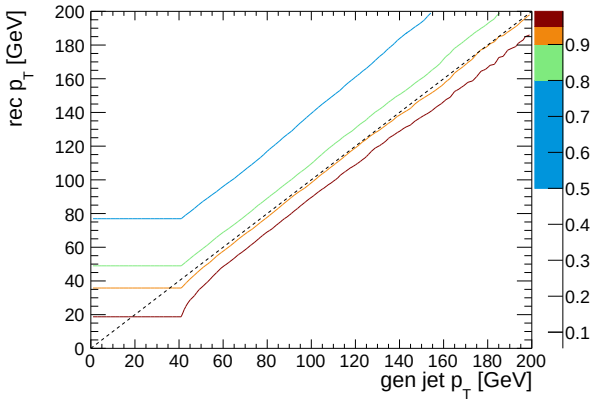
default



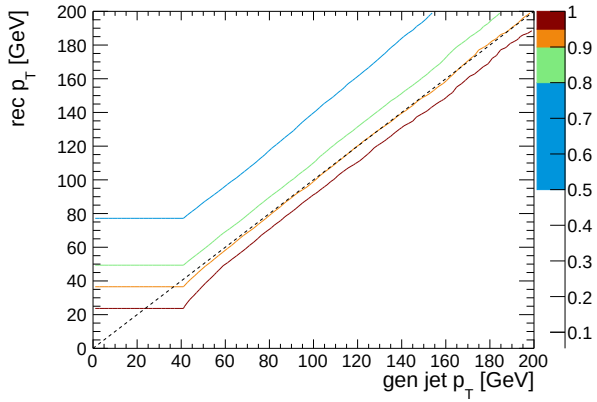
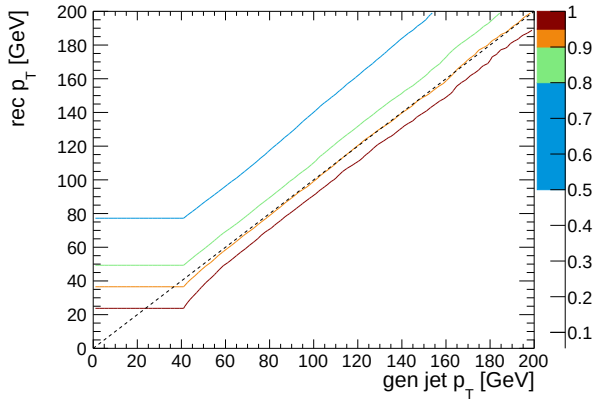
mod. (thr=8.5)



mod. (thr=10.0)



mod. (thr=15.0)



mod. (thr=30.0)