FastPV in $\mu + 2\,b$ jets trigger with "z gap" and DA clustering

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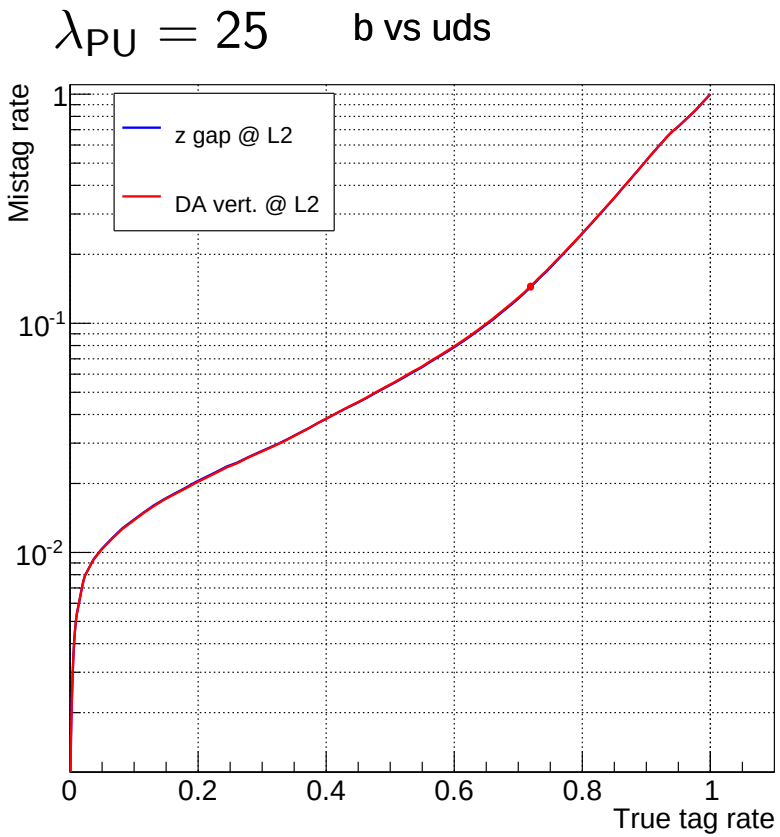
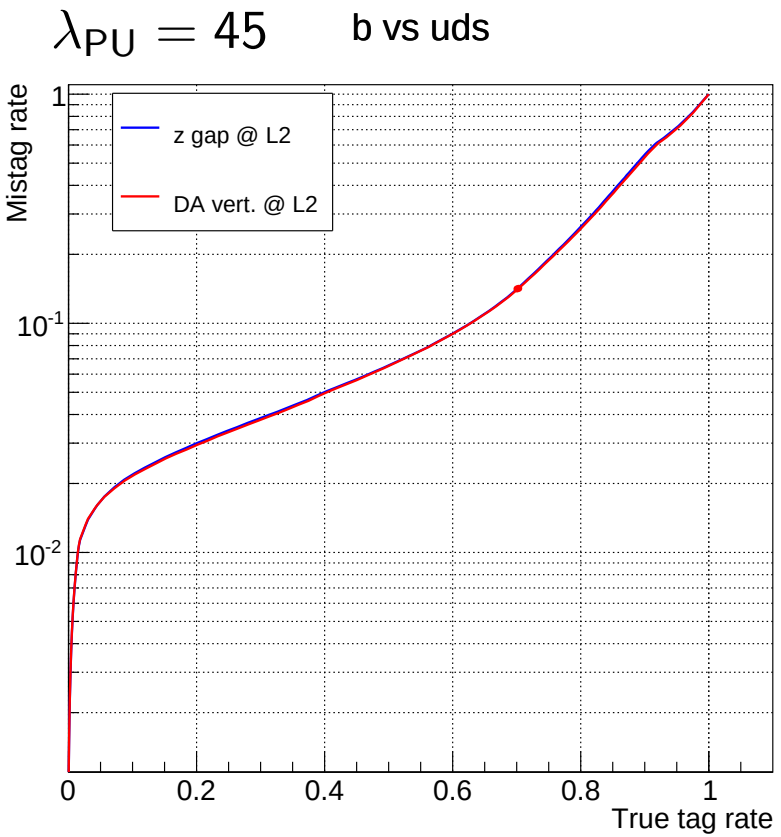
4 Dec 2013

Outline

- Checked two FastPV versions of `HLT_Mu12_eta2p1_DiCentral_40_20_DiBTagIP3D1stTrack_v8` (details in this talk)
  - One constructs primary vertices with the "z gap" clustering
  - Another performs (vectorised) DA clusteing
  - Both paths exploit FastPV vertices at both L2 and L3
- Two 25 ns pile-up scenarii considered using datasets
  - `/TTbar_TuneZ2star_13TeV-pythia6-tauola/Summer13dr53X-PU25bx25_START53_V19D-v1/GEN-SIM-RAW`
  - `/TTbar_TuneZ2star_13TeV-pythia6-tauola/Summer13dr53X-PU45bx25_START53_V19D-v1/GEN-SIM-RAW`

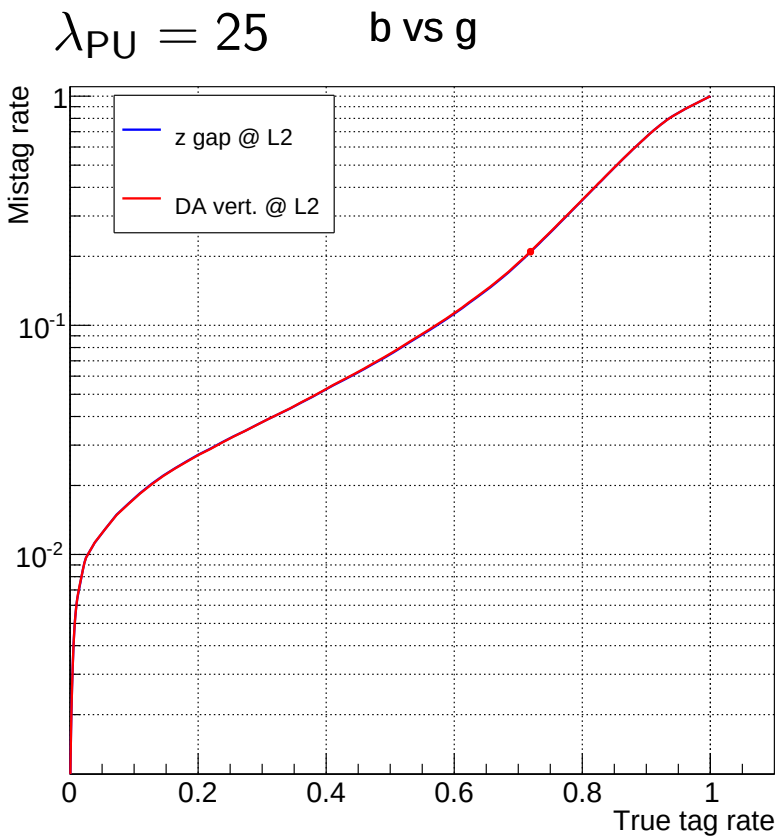
b vs *uds* at L2

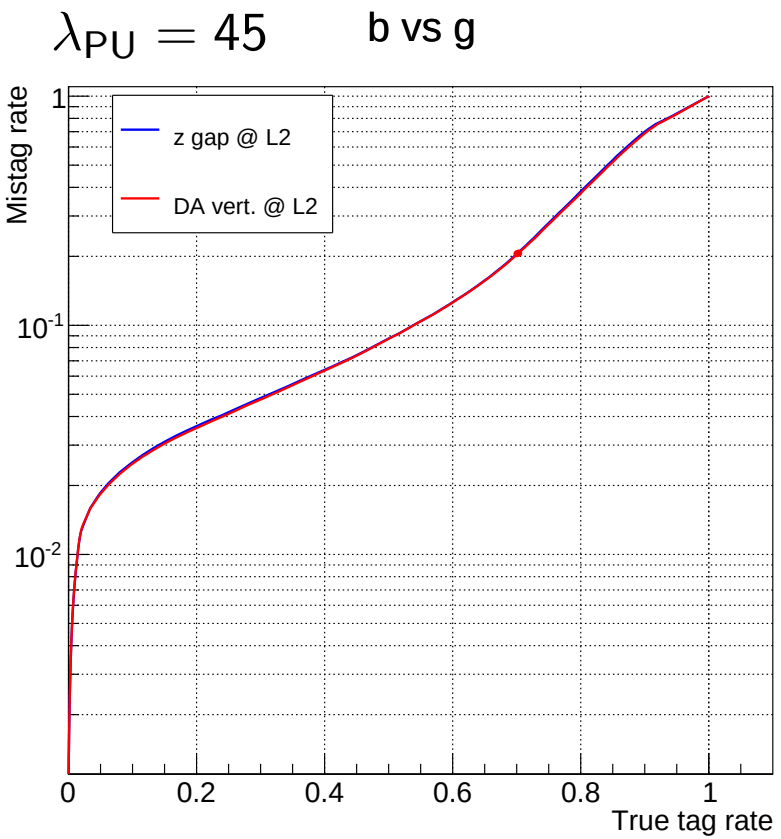




Marked working point corresponds to discriminator value of 2.5

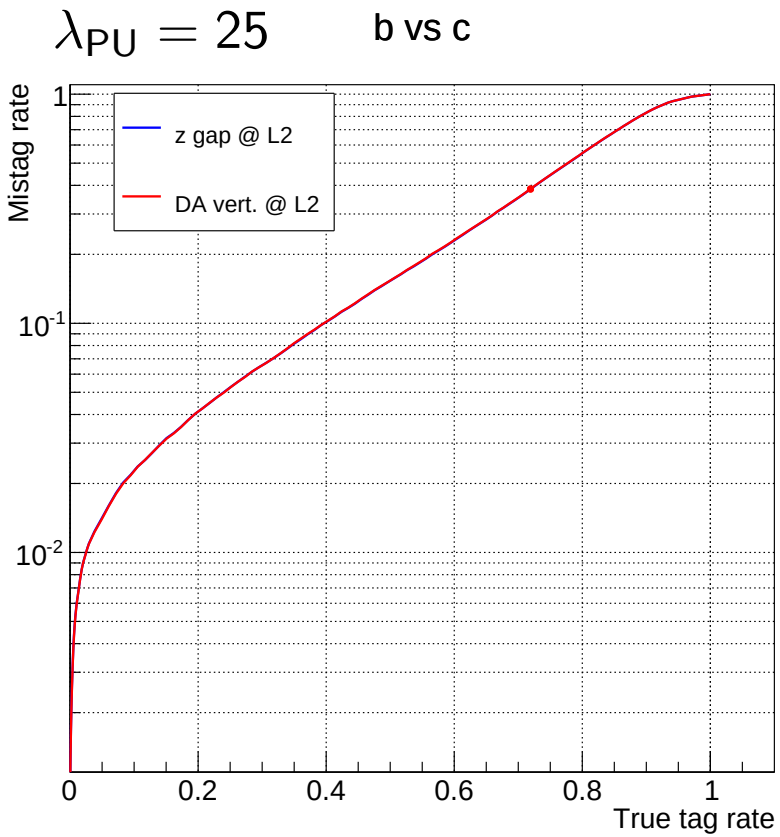
b vs g at L2

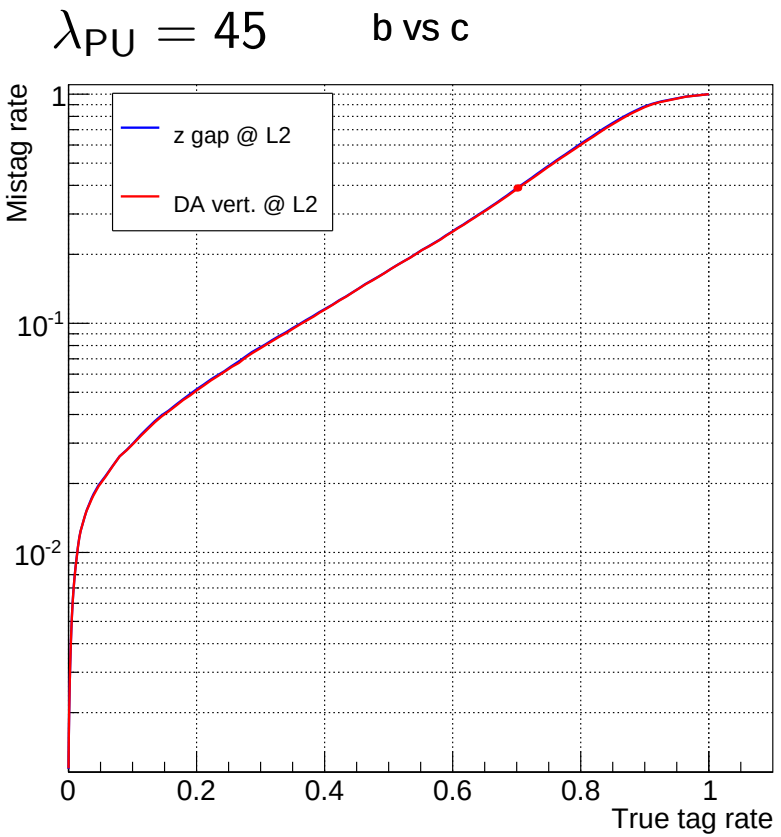




Marked working point corresponds to discriminator value of 2.5

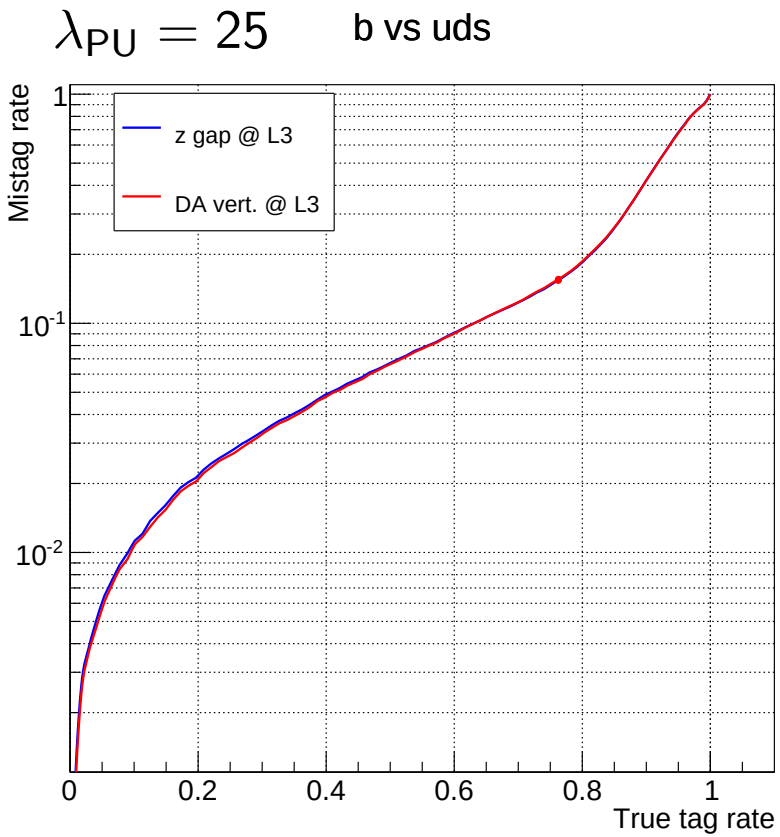
b vs c at L2

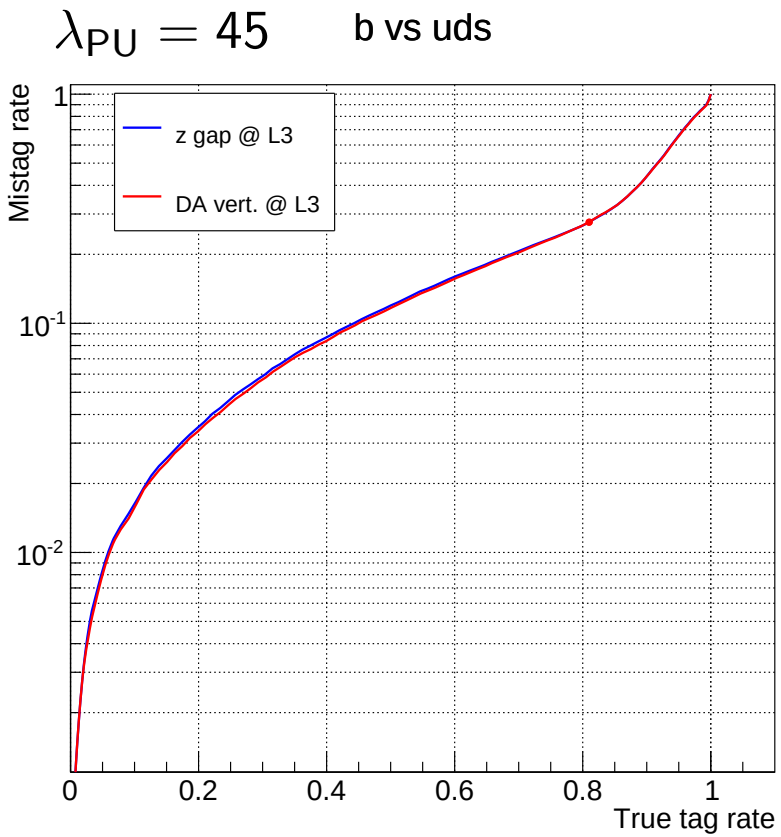




Marked working point corresponds to discriminator value of 2.5

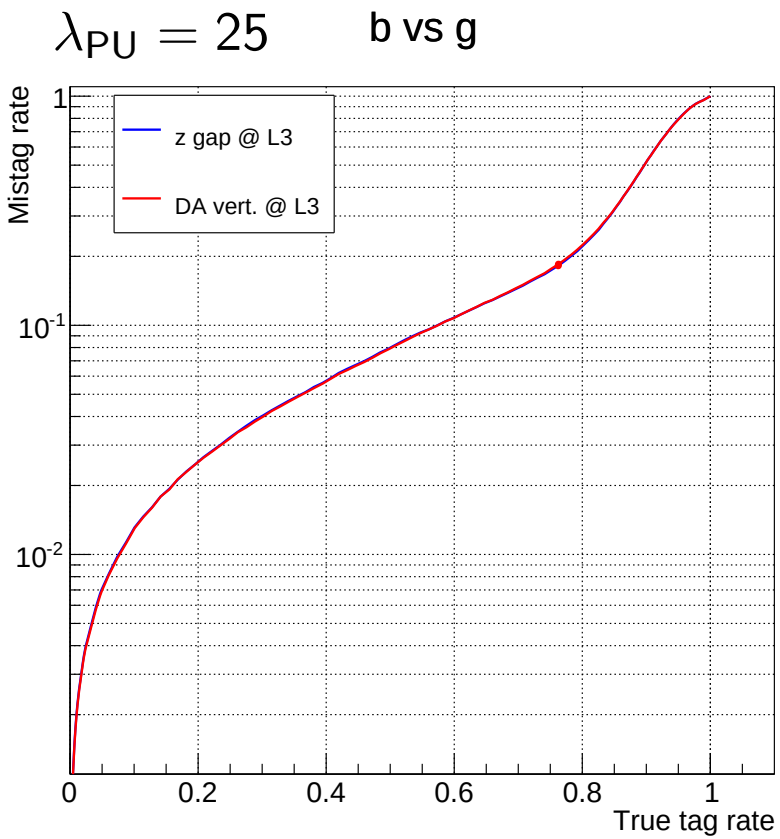
b vs *uds* at L3

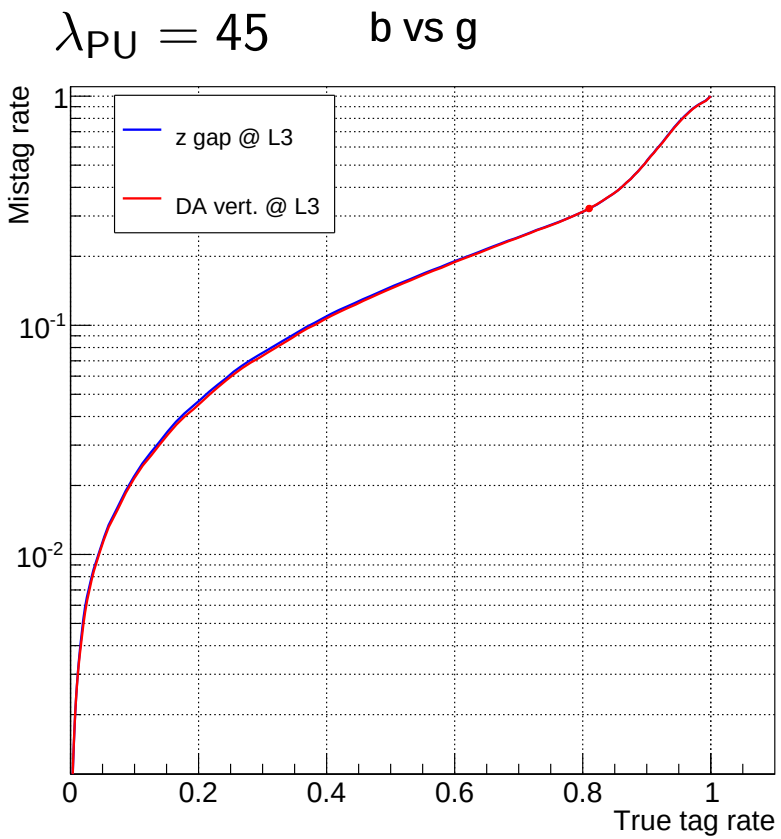




Marked working point corresponds to discriminator value of 3.5

b vs g at L3

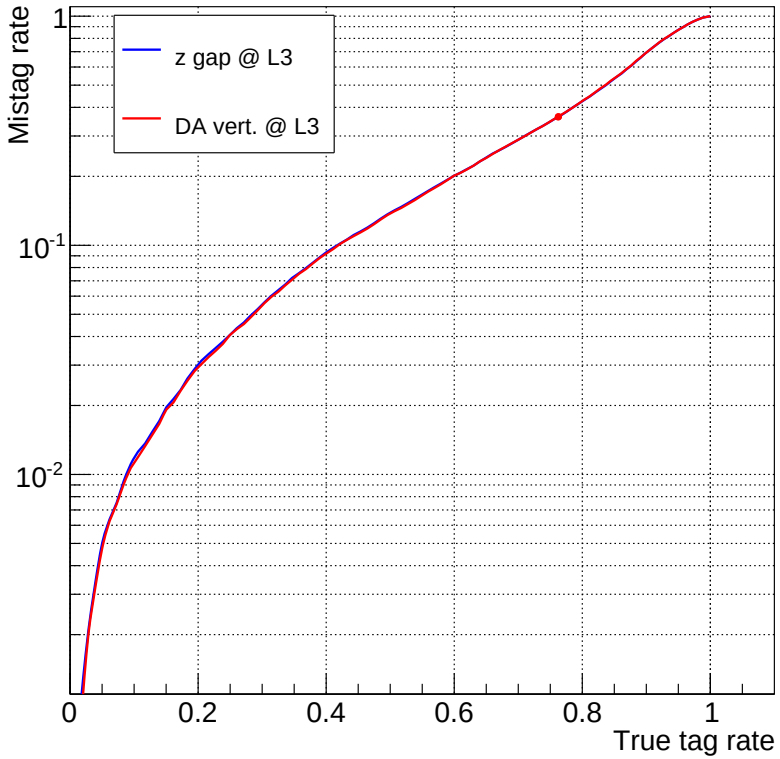




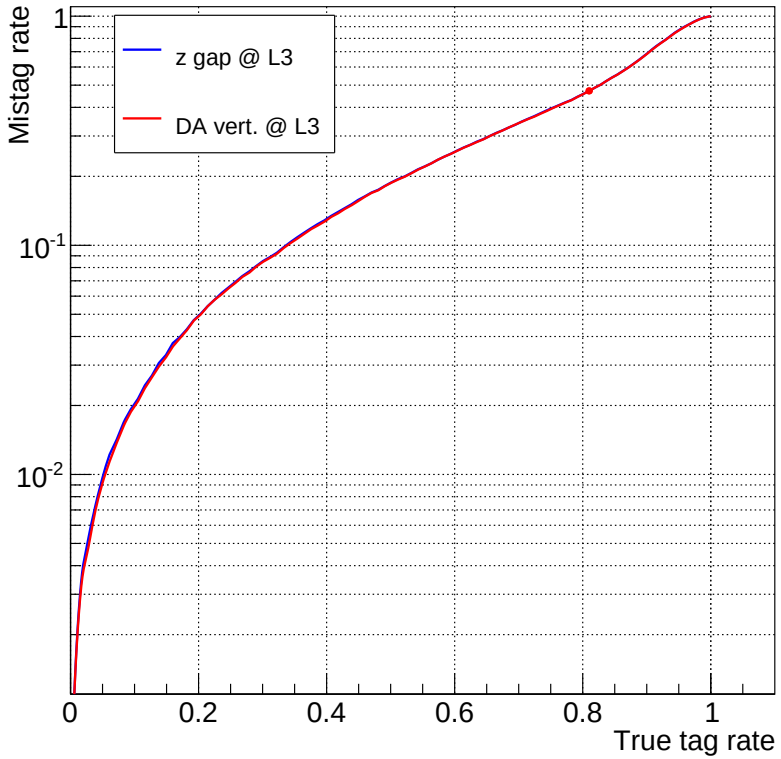
Marked working point corresponds to discriminator value of 3.5

b vs c at L3

$\lambda_{PU} = 25$ b vs c



$\lambda_{PU} = 45$ b vs c



Marked working point corresponds to discriminator value of 3.5

Summary

- There is no difference in online performance