MC Matching and Event Composition for Soft Muons

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May 3, 2020

Summary

1. Finalized MC matching and defined labeling
2. Defined gen flavor for both muons/ non muons
3. Looked at the composition of several processes w.r.t labels and gen flavor

MINIAODSIM:
/SingleMuon/Run2018D-PromptReco-v2/AOD

/DYJetsToLL_M-50_TuneCP5_13TeV-madgraphMLM-pythia8/
RunIIAutumn18DRPremix-102X_upgrade2018_realistic_v15-v1/
AODSIM
/SingleMuon/Run2018C-12Nov2019_UL2018-v2/AOD

Previous X-Y plots (1mm^2 cells)

Old cuts: $\sigma_R < 0.25$ cm, $|z_{\text{vtx}}| < 25$ cm, $|\cos\theta_\gamma| < 0.85$, $p_{\text{fit}} > 0.01$

Data (2018C Single Muon)
W/ Old Cuts

Newly added quality criteria:

Require nHits before vertex for each conversion track $== 0$