

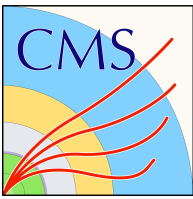
AOD vs miniAOD Rec Hits



- Compare miniAOD to AOD rec hit collections using:
- 2017F single muon and single electron
 - reproduced with CMSSW_11_2_0_pre7
 - rec hit collections have been updated to include more since CMSSW 9_4
 - Each dataset is ~200,000 events
- Apply full disappearing tracks selection w/o ecalo and lepton cut
- miniAOD ecalo uses reducedEGamma ECAL and HBHE rec hits

Full Selection:

- $\text{abs}(\text{Track } \eta) < 2.1$
- Track pt > 55 GeV
- Track not in gap
- dR to min jet ≥ 0.5
- dR to leptons ≥ 0.15
- Min dR to bad ecal channel > 0.5
- # valid (pixel) hits > 4
- No missing inner/middle hits
- Track iso / track pt < 0.05
- Track d0 < 0.02
- Track dz < 0.5
- Ecalo < 10 GeV
- ≥ 3 missing outer hits

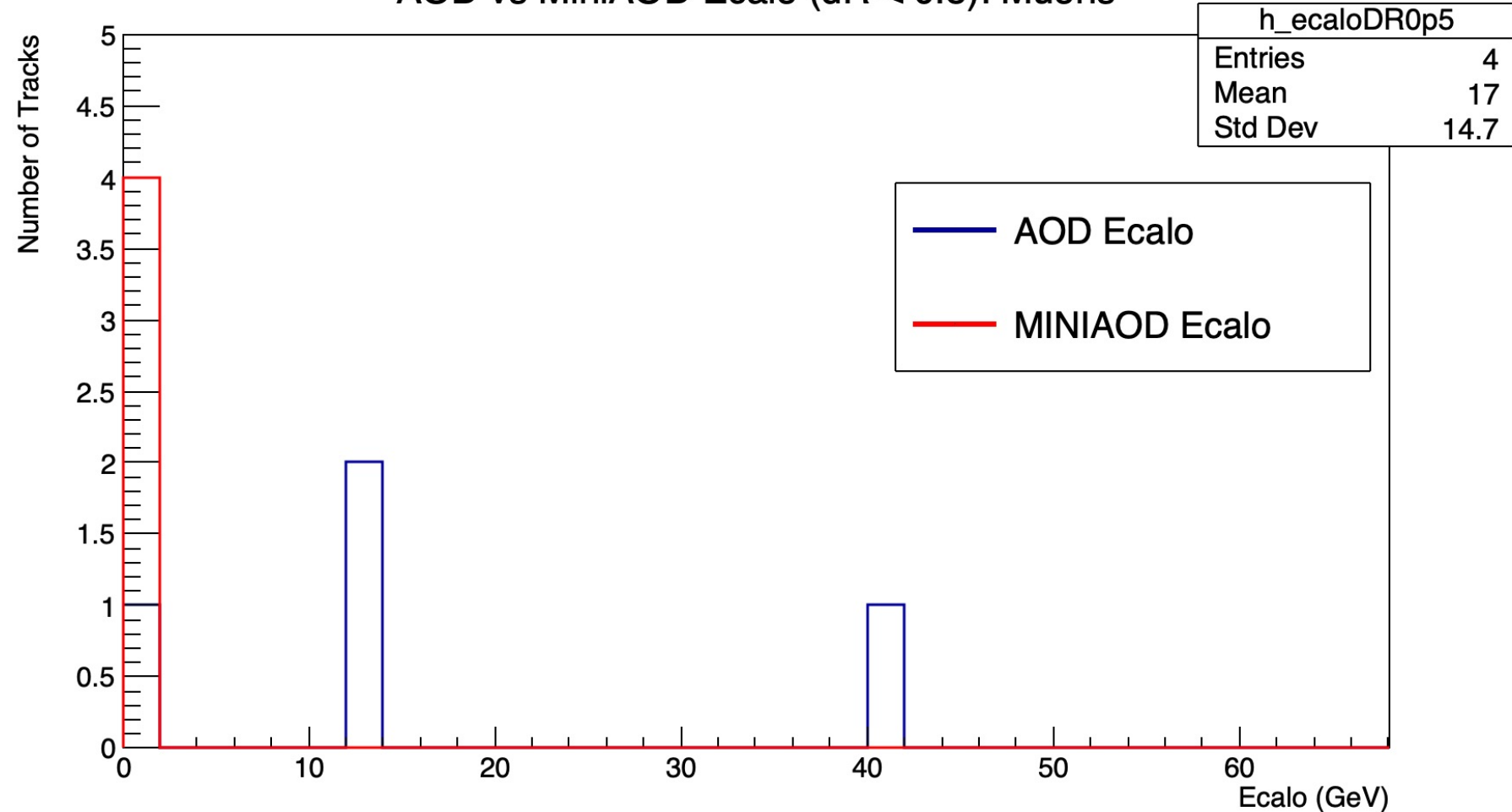


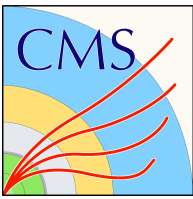
miniAOD vs AOD Ecalo: Muons



- 16 probe muons pass full selection
- 12 tracks vetoed in AOD by our ecalo cut at 10GeV
- All tracks allowed in miniAOD
- Most muons are leaving enough energy in the calorimeters for us to veto in AOD

AOD vs MiniAOD Ecalo ($dR < 0.5$): Muons





miniAOD vs AOD Ecalo: Electrons

- Plot of energy difference ($E_{AOD} - E_{miniAOD}$) (right)
- 13 probe electrons pass full selection
- All 13 tracks vetoed in AOD and miniAOD
- AOD does have more hits and higher energy
- We will end up allowing tracks in miniAOD that would be vetoed in AOD

