

Table of Contents

Calorimeter representation.....	1
Reco.....	1
AOD.....	1
MINIAOD.....	1
Alternative 3 layer representation.....	1

Calorimeter representation

By the default Fireworks uses different EDM collections for different data types to represent calorimeter deposit. This document briefly describes collection and filter settings for each data type. Some of this information is also available in CollectionController's Filter and Data tab.

Reco

In reco data type calorimeter information is taken from **CaloTowerCollection**. The blue color represents emEt() value and the red color hadEt() value of the collection element.

Ecal	CaloTower
	emEt()
Hcal	CaloTower
	hadEt()

Fireworks with reco data screenshot

AOD

Fireworks uses **reco::PFCandidateCollection** to display calorimeter representation. Blue towers represent ecalEnergy and the red ones hcalEnergy() othe the reco::PFCandaidate element.

EcalFromPF	reco::PFCandidate
	ecalEnergy()* TMath::Sin(theta())
HcalFromPF	reco::PFCandidate
	hcalEnergy() * TMath::Sin(theta())

Fireworks AOD data screenshot

MINIAOD

In miniaod data type calorimeter deposit is derived from **pat::PackedCandidate** collection. We have used filter settings for the outer and inner layer:

EcalFromPFCands	reco::Candidate
	pt() && (abs(pdgId) = 11 II abs(pdgId) = 22 II pdgId = 2)
HCalFromPFCands	reco::PFCandidate
	pt() && abs(pdgId) = 211 II abs(pdgId) = 130 II pdgId = 1)

Fireworks miniAOD data screenshot

Alternative 3 layer representation

It possible to display calorimeter deposit with more layers. Below is a list of filter settings from [[<https://amrktad.web.cern.ch/amrktad/miniaod-calo3.fwc>] [miniaod-3cal.fwc]]:

PFElectromagnetic	reco::Candidate
	pt() && (abs(pdgId) = 11 II abs(pdgId) = 22)
PFChargedHadron	reco::PFCandidate
	pt() && (abs(pdgId) = 211 II abs(pdgId) = 321)

	reco::PFCandidate
	pt() && (pdgId = 111 II pdgId = 311)

Fireworks miniAOD data with 3 calo-layer screenshot

Responsible: AljaMrakTadel

This topic: CMSPublic > WorkBookFireworksCalorimeterRep

Topic revision: r8 - 2016-06-21 - AljaMrakTadel



Copyright &© 2008-2020 by the contributing authors. All material on this collaboration platform is the property of the contributing authors.

Ideas, requests, problems regarding TWiki? Send feedback