

## Content

Collection	Description
CaloMET	phi
ChsMET	raw chs PF MET phi
CorrT1METJet	Additional low-pt jets for Type-1 MET re-correction
DeepMETResolutionTune	DeepMET ResolutionTune phi
DeepMETResponseTune	DeepMET ResponseTune phi
Electron	slimmedElectrons after basic selection (pt > 5 )
FatJet	slimmedJetsAK8, i.e. ak8 fat jets for boosted analysis
Flag	Bad ECAL calib flag (updated xtal list)
FsrPhoton	Final state radiation photons emitted by muons
GenDressedLepton	Dressed leptons from Rivet-based ParticleLevelProducer
GenIsolatedPhoton	Isolated photons from Rivet-based ParticleLevelProducer
GenJet	slimmedGenJets, i.e. ak4 Jets made with visible genparticles
GenJetAK8	slimmedGenJetsAK8, i.e. ak8 Jets made with visible genparticles
GenMET	phi
GenPart	interesting gen particles
GenVisTau	gen hadronic taus
Generator	MC generation binning value
HLT	Trigger/flag bit (process: HLT)
HLTriggerFinalPath	Trigger/flag bit (process: HLT)
HLTriggerFirstPath	Trigger/flag bit (process: HLT)
HTXS	pt of the Higgs boson as identified in HTXS
IsoTrack	isolated tracks after basic selection (((pt>5 && (abs(pdgId) == 11    abs(pdgId) == 13))    pt > 10) && (abs(pdgId) < 15    abs(eta) < 2.5) && abs(dxy) < 0.2 && abs(dz) < 0.1 && ((pfIsolationDR03().chargedHadronIso < 5 && pt < 25)    pfIsolationDR03().chargedHadronIso/pt < 0.2)) and lepton veto
Jet	slimmedJets, i.e. ak4 PFJets CHS with JECs applied, after basic selection (pt > 15)
L1	Trigger/flag bit (process: DQM)
L1Reco	Trigger/flag bit (process: RECO)
L1simulation	Trigger/flag bit (process: HLT)
LHE	HT, scalar sum of parton pTs at LHE step
LHEPart	Pt of LHE particles
LHEPdfWeight	
LHEReweightingWeight	
LHEScaleWeight	
LHEWeight	Nominal event weight in the LHE file
MET	Delta (METx_mod-METx) Unclustered Energy Up
Muon	slimmedMuons after basic selection (pt > 3 && (passed('CutBasedIdLoose')    passed('SoftCutBasedId')    passed('SoftMvaId')    passed('CutBasedIdGlobalHighPt')    passed('CutBasedIdTrkHighPt')))
OtherPV	Z position of other primary vertices, excluding the main PV
PSWeight	PS weights (w_var / w_nominal); [0] is ISR=0.5 FSR=1; [1] is ISR=1 FSR=0.5; [2] is ISR=2 FSR=1; [3] is ISR=1 FSR=2
PV	main primary vertex number of degree of freedom
Photon	slimmedPhotons after basic selection (pt > 5 )
Pileup	the true mean number of the poisson distribution for this event from which the number of interactions each bunch crossing has been sampled
PuppiMET	phi
RawMET	phi
RawPuppiMET	phi
SV	decay length in cm
SoftActivityJet	jets clustered from charged candidates compatible with primary vertex (charge()!=0 && pvAssociationQuality())>=5 && vertexRef().key()==0)
SoftActivityJetHT	scalar sum of soft activity jet pt, pt>1
SoftActivityJetHT10	scalar sum of soft activity jet pt , pt >10
SoftActivityJetHT2	scalar sum of soft activity jet pt, pt >2
SoftActivityJetHT5	scalar sum of soft activity jet pt, pt>5
SoftActivityJetNjets10	number of soft activity jet pt, pt >2
SoftActivityJetNjets2	number of soft activity jet pt, pt >10

<b>SoftActivityJetNjets5</b>	number of soft activity jet pt, pt >5
<b>SubGenJetAK8</b>	slimmedGenJetsAK8SoftDropSubJets, i.e. subjets of ak8 Jets made with visible genparticles
<b>SubJet</b>	slimmedJetsAK8, i.e. ak8 fat jets for boosted analysis
<b>Tau</b>	slimmedTaus after basic selection (pt > 18 && tauID('decayModeFindingNewDMs') && (tauID('byLooseCombinedIsolationDeltaBetaCorr3Hits')    tauID('byVLooseIsolationMVArun2v1DBoldDMwLT2015')    tauID('byVLooseIsolationMVArun2v1DBnewDMwLT')    tauID('byVLooseIsolationMVArun2v1DBdR03oldDMwLT')    tauID('byVVLooseIsolationMVArun2v1DBoldDMwLT')    tauID('byVVLooseIsolationMVArun2v1DBoldDMwLT2017v2')    tauID('byVVLooseIsolationMVArun2v1DBnewDMwLT2017v2')    tauID('byVVLooseIsolationMVArun2v1DBdR03oldDMwLT2017v2')    tauID('byVVVLooseDeepTau2017v2p1VSjet')))
<b>TkMET</b>	raw track MET phi
<b>TrigObj</b>	pt
<b>btagWeight</b>	b-tag event weight for CSV2
<b>event</b>	event/l
<b>fixedGridRhoFastjetAll</b>	rho from all PF Candidates, used e.g. for JECs
<b>fixedGridRhoFastjetCentral</b>	rho from all PF Candidates for central region, used e.g. for JECs
<b>fixedGridRhoFastjetCentralCalo</b>	rho from calo towers with  eta  < 2.5, used e.g. egamma PFCluster isolation
<b>fixedGridRhoFastjetCentralChargedPileUp</b>	rho from charged PF Candidates for central region, used e.g. for JECs
<b>fixedGridRhoFastjetCentralNeutral</b>	rho from neutral PF Candidates with  eta  < 2.5, used e.g. for rho corrections of some lepton isolations
<b>genTtbarId</b>	ttbar categorization
<b>genWeight</b>	generator weight
<b>luminosityBlock</b>	luminosityBlock/i
<b>run</b>	run/i

## Events detail

CaloMET [\[back to top\]](#)

Object property	Type	Description
CaloMET_phi	Float_t	phi
CaloMET_pt	Float_t	pt
CaloMET_sumEt	Float_t	scalar sum of Et

ChsMET [\[back to top\]](#)

Object property	Type	Description
ChsMET_phi	Float_t	raw chs PF MET phi
ChsMET_pt	Float_t	raw chs PF MET pt
ChsMET_sumEt	Float_t	raw chs PF scalar sum of Et

Corr1METJet [\[back to top\]](#)

Object property	Type	Description
Corr1METJet_area	Float_t	jet catchment area, for JECs
Corr1METJet_eta	Float_t	eta
Corr1METJet_muonSubtrFactor	Float_t	1-(muon-subtracted raw pt)/(raw pt)
Corr1METJet_phi	Float_t	phi
Corr1METJet_rawPt	Float_t	pt()*jecFactor('Uncorrected')
nCorr1METJet	UInt_t	Additional low-pt jets for Type-1 MET re-correction

DeepMETResolutionTune [\[back to top\]](#)

Object property	Type	Description
DeepMETResolutionTune_phi	Float_t	DeepmET ResolutionTune phi
DeepMETResolutionTune_pt	Float_t	DeepMET ResolutionTune pt

DeepMETResponseTune [\[back to top\]](#)

Object property	Type	Description
DeepMETResponseTune_phi	Float_t	DeepMET ResponseTune phi
DeepMETResponseTune_pt	Float_t	DeepMET ResponseTune pt

Electron [\[back to top\]](#)

Object property	Type
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<b>Electron_charge</b>	Int_t	electric charge
<b>Electron_cleanmask</b>	UChar_t	simple cleaning mask with priority to leptons
<b>Electron_convVeto</b>	Bool_t	pass conversion veto
<b>Electron_cutBased</b>	Int_t	cut-based ID Fall17 V2 (0:fail, 1:veto, 2:loose, 3:medium, 4:t
<b>Electron_cutBased_Fall17_V1</b>	Int_t	cut-based ID Fall17 V1 (0:fail, 1:veto, 2:loose, 3:medium, 4:t
<b>Electron_cutBased_HEEP</b>	Bool_t	cut-based HEEP ID
<b>Electron_deltaEtaSC</b>	Float_t	delta eta (SC,ele) with sign
<b>Electron_dr03EcalRecHitSumEt</b>	Float_t	Non-PF Ecal isolation within a delta R cone of 0.3 with electr
<b>Electron_dr03HcalDepth1TowerSumEt</b>	Float_t	Non-PF Hcal isolation within a delta R cone of 0.3 with electr
<b>Electron_dr03TkSumPt</b>	Float_t	Non-PF track isolation within a delta R cone of 0.3 with elect
<b>Electron_dr03TkSumPtHEEP</b>	Float_t	Non-PF track isolation within a delta R cone of 0.3 with elect
<b>Electron_dxy</b>	Float_t	dxy (with sign) wrt first PV, in cm
<b>Electron_dxyErr</b>	Float_t	dxy uncertainty, in cm
<b>Electron_dz</b>	Float_t	dz (with sign) wrt first PV, in cm
<b>Electron_dzErr</b>	Float_t	dz uncertainty, in cm
<b>Electron_eCorr</b>	Float_t	ratio of the calibrated energy/miniaod energy
<b>Electron_eInvMinusPInv</b>	Float_t	1/E_SC - 1/p_trk
<b>Electron_energyErr</b>	Float_t	energy error of the cluster-track combination
<b>Electron_eta</b>	Float_t	eta
<b>Electron_genPartFlav</b>	UChar_t	Flavour of genParticle for MC matching to status==1 electrons 0 = unmatched
<b>Electron_genPartIdx</b>	Int_t(index to Genpart)	Index into genParticle list for MC matching to status==1 elect
<b>Electron_hoe</b>	Float_t	H over E
<b>Electron_ip3d</b>	Float_t	3D impact parameter wrt first PV, in cm
<b>Electron_isPFcand</b>	Bool_t	electron is PF candidate
<b>Electron_jetIdx</b>	Int_t(index to Jet)	index of the associated jet (-1 if none)
<b>Electron_jetPtRelv2</b>	Float_t	Relative momentum of the lepton with respect to the closest je
<b>Electron_jetRelIso</b>	Float_t	Relative isolation in matched jet (1/ptRatio-1, pfRelIso04_all
<b>Electron_lostHits</b>	UChar_t	number of missing inner hits
<b>Electron_mass</b>	Float_t	mass
<b>Electron_miniPFRelIso_all</b>	Float_t	mini PF relative isolation, total (with scaled rho*EA PU corre
<b>Electron_miniPFRelIso_chg</b>	Float_t	mini PF relative isolation, charged component
<b>Electron_mvaFall17V1Iso</b>	Float_t	MVA Iso ID V1 score
<b>Electron_mvaFall17V1Iso_WP80</b>	Bool_t	MVA Iso ID V1 WP80
<b>Electron_mvaFall17V1Iso_WP90</b>	Bool_t	MVA Iso ID V1 WP90
<b>Electron_mvaFall17V1Iso_WPL</b>	Bool_t	MVA Iso ID V1 loose WP
<b>Electron_mvaFall17V1noIso</b>	Float_t	MVA noIso ID V1 score
<b>Electron_mvaFall17V1noIso_WP80</b>	Bool_t	MVA noIso ID V1 WP80
<b>Electron_mvaFall17V1noIso_WP90</b>	Bool_t	MVA noIso ID V1 WP90
<b>Electron_mvaFall17V1noIso_WPL</b>	Bool_t	MVA noIso ID V1 loose WP
<b>Electron_mvaFall17V2Iso</b>	Float_t	MVA Iso ID V2 score
<b>Electron_mvaFall17V2Iso_WP80</b>	Bool_t	MVA Iso ID V2 WP80
<b>Electron_mvaFall17V2Iso_WP90</b>	Bool_t	MVA Iso ID V2 WP90
<b>Electron_mvaFall17V2Iso_WPL</b>	Bool_t	MVA Iso ID V2 loose WP
<b>Electron_mvaFall17V2noIso</b>	Float_t	MVA noIso ID V2 score
<b>Electron_mvaFall17V2noIso_WP80</b>	Bool_t	MVA noIso ID V2 WP80
<b>Electron_mvaFall17V2noIso_WP90</b>	Bool_t	MVA noIso ID V2 WP90
<b>Electron_mvaFall17V2noIso_WPL</b>	Bool_t	MVA noIso ID V2 loose WP
<b>Electron_mvaTTH</b>	Float_t	TTH MVA lepton ID score
<b>Electron_pdgId</b>	Int_t	PDG code assigned by the event reconstruction (not by MC truth)
<b>Electron_pfRelIso03_all</b>	Float_t	PF relative isolation dR=0.3, total (with rho*EA PU correction
<b>Electron_pfRelIso03_chg</b>	Float_t	PF relative isolation dR=0.3, charged component
<b>Electron_phi</b>	Float_t	phi
<b>Electron_photonIdx</b>	Int_t(index to Photon)	index of the associated photon (-1 if none)
<b>Electron_pt</b>	Float_t	p_{T}
<b>Electron_r9</b>	Float_t	R9 of the supercluster, calculated with full 5x5 region
<b>Electron_scEtOverPt</b>	Float_t	(supercluster transverse energy)/pt-1
<b>Electron_seedGain</b>	UChar_t	Gain of the seed crystal
<b>Electron_sieie</b>	Float_t	sigma_IetaIeta of the supercluster, calculated with full 5x5 r
<b>Electron_sip3d</b>	Float_t	3D impact parameter significance wrt first PV, in cm
<b>Electron_tightCharge</b>	Int_t	Tight charge criteria (0:none, 1:isGsfScPixChargeConsistent, 2

<b>Electron_vidNestedWPBitmap</b>	Int_t	VID compressed bitmap (MinPtCut,GsfEleSCEtaMultiRangeCut,GsfEl
<b>Electron_vidNestedWPBitmapHEEP</b>	Int_t	VID compressed bitmap (MinPtCut,GsfEleSCEtaMultiRangeCut,GsfEleDEtaInSeedCut,GsfEleD 1 bits per cut
<b>nElectron</b>	UInt_t	slimmedElectrons after basic selection (pt > 5 )

FatJet [back to top]

Object property	Type	Description
<b>FatJet_area</b>	Float_t	jet catchment area, for JECs
<b>FatJet_btagCMVA</b>	Float_t	CMVA V2 btag discriminator
<b>FatJet_btagCSVV2</b>	Float_t	pfCombinedInclusiveSecondaryVertexV2 b-tag discriminator (aka CSVV2)
<b>FatJet_btagDDBvL</b>	Float_t	DeepDoubleX (mass-decorrelated) discriminator for H(Z)->bb vs QCD
<b>FatJet_btagDDBvL_noMD</b>	Float_t	DeepDoubleX discriminator (no mass-decorrelation) for H(Z)->bb vs QCD
<b>FatJet_btagDDCvB</b>	Float_t	DeepDoubleX (mass-decorrelated) discriminator for H(Z)->cc vs H(Z)->bb
<b>FatJet_btagDDCvB_noMD</b>	Float_t	DeepDoubleX discriminator (no mass-decorrelation) for H(Z)->cc vs H(Z)->bb
<b>FatJet_btagDDCvL</b>	Float_t	DeepDoubleX (mass-decorrelated) discriminator for H(Z)->cc vs QCD
<b>FatJet_btagDDCvL_noMD</b>	Float_t	DeepDoubleX discriminator (no mass-decorrelation) for H(Z)->cc vs QCD
<b>FatJet_btagDeepB</b>	Float_t	DeepCSV b+bb tag discriminator
<b>FatJet_btagHbb</b>	Float_t	Higgs to BB tagger discriminator
<b>FatJet_deepTagMD_H4qvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger H->4q vs QCD discriminator
<b>FatJet_deepTagMD_HbbvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger H->bb vs QCD discriminator
<b>FatJet_deepTagMD_TvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger top vs QCD discriminator
<b>FatJet_deepTagMD_WvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger W vs QCD discriminator
<b>FatJet_deepTagMD_ZHbbvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z/H->bb vs QCD discriminator
<b>FatJet_deepTagMD_ZHccvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z/H->cc vs QCD discriminator
<b>FatJet_deepTagMD_ZbbvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z->bb vs QCD discriminator
<b>FatJet_deepTagMD_ZvsQCD</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z vs QCD discriminator
<b>FatJet_deepTagMD_bbvsLight</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z/H/gluon->bb vs light flavour discriminator
<b>FatJet_deepTagMD_ccvsLight</b>	Float_t	Mass-decorrelated DeepBoostedJet tagger Z/H/gluon->cc vs light flavour discriminator
<b>FatJet_deepTag_H</b>	Float_t	DeepBoostedJet tagger H(bb,cc,4q) sum
<b>FatJet_deepTag_QCD</b>	Float_t	DeepBoostedJet tagger QCD(bb,cc,b,c,others) sum
<b>FatJet_deepTag_QCDothers</b>	Float_t	DeepBoostedJet tagger QCDothers value
<b>FatJet_deepTag_TvsQCD</b>	Float_t	DeepBoostedJet tagger top vs QCD discriminator
<b>FatJet_deepTag_WvsQCD</b>	Float_t	DeepBoostedJet tagger W vs QCD discriminator
<b>FatJet_deepTag_ZvsQCD</b>	Float_t	DeepBoostedJet tagger Z vs QCD discriminator
<b>FatJet_electronIdx3SJ</b>	Int_t(index to Electron)	index of electron matched to jet
<b>FatJet_eta</b>	Float_t	eta
<b>FatJet_genJetAK8Idx</b>	Int_t(index to Genjetak8)	index of matched gen AK8 jet
<b>FatJet_hadronFlavour</b>	Int_t	flavour from hadron ghost clustering
<b>FatJet_jetId</b>	Int_t	Jet ID flags bit1 is loose (always false in 2017 since it does not exist), bit2 is tight, bit3 is tightLepVeto
<b>FatJet_lsf3</b>	Float_t	Lepton Subjet Fraction (3 subjets)
<b>FatJet_mass</b>	Float_t	mass
<b>FatJet_msoftdrop</b>	Float_t	Corrected soft drop mass with PUPPI
<b>FatJet_muonIdx3SJ</b>	Int_t(index to Muon)	index of muon matched to jet
<b>FatJet_n2b1</b>	Float_t	N2 with beta=1
<b>FatJet_n3b1</b>	Float_t	N3 with beta=1
<b>FatJet_nBHadrons</b>	UChar_t	number of b-hadrons
<b>FatJet_nCHadrons</b>	UChar_t	number of c-hadrons
<b>FatJet_phi</b>	Float_t	phi

FatJet_pt	Float_t	pt
FatJet_rawFactor	Float_t	1 - Factor to get back to raw pT
FatJet_subJetIdx1	Int_t(index to Subjet)	index of first subjet
FatJet_subJetIdx2	Int_t(index to Subjet)	index of second subjet
FatJet_tau1	Float_t	Nsubjettiness (1 axis)
FatJet_tau2	Float_t	Nsubjettiness (2 axis)
FatJet_tau3	Float_t	Nsubjettiness (3 axis)
FatJet_tau4	Float_t	Nsubjettiness (4 axis)
nFatJet	UInt_t	slimmedJetsAK8, i.e. ak8 fat jets for boosted analysis

Flag [back to top]

Object property	Type	Description
Flag_BadChargedCandidateFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_BadChargedCandidateSummer16Filter	Bool_t	Trigger/flag bit (process: PAT)
Flag_BadPFMuonFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_BadPFMuonSummer16Filter	Bool_t	Trigger/flag bit (process: PAT)
Flag_CSCTightHalo2015Filter	Bool_t	Trigger/flag bit (process: PAT)
Flag_CSCTightHaloFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_CSCTightHaloTrkMuUnvetoFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_EcalDeadCellBoundaryEnergyFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_EcalDeadCellTriggerPrimitiveFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_HBHEnoiseFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_HBHEnoiseIsoFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_HcalStripHaloFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_METFilters	Bool_t	Trigger/flag bit (process: PAT)
Flag_chargedHadronTrackResolutionFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_ecalBadCalibFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_ecalBadCalibFilterV2	Bool_t	Bad ECAL calib flag (updated xtal list)
Flag_ecalLaserCorrFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_eeBadScFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_globalSuperTightHalo2016Filter	Bool_t	Trigger/flag bit (process: PAT)
Flag_globalTightHalo2016Filter	Bool_t	Trigger/flag bit (process: PAT)
Flag_goodVertices	Bool_t	Trigger/flag bit (process: PAT)
Flag_hcalLaserEventFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_muonBadTrackFilter	Bool_t	Trigger/flag bit (process: PAT)
Flag_trkP0GFilters	Bool_t	Trigger/flag bit (process: PAT)
Flag_trkP0G_logErrorTooManyClusters	Bool_t	Trigger/flag bit (process: PAT)
Flag_trkP0G_manystripclus53X	Bool_t	Trigger/flag bit (process: PAT)
Flag_trkP0G_toomanystripclus53X	Bool_t	Trigger/flag bit (process: PAT)

FsrPhoton [back to top]

Object property	Type	Description
FsrPhoton_dROverEt2	Float_t	deltaR to associated muon divided by photon et2
FsrPhoton_eta	Float_t	eta
FsrPhoton_muonIdx	Int_t(index to Muon)	index of associated muon
FsrPhoton_phi	Float_t	phi
FsrPhoton_pt	Float_t	pt
FsrPhoton_relIso03	Float_t	relative isolation in a 0.3 cone without CHS
nFsrPhoton	UInt_t	Final state radiation photons emitted by muons

GenDressedLepton [back to top]

Object property	Type	Description
GenDressedLepton_eta	Float_t	eta
GenDressedLepton_hasTauAnc	Bool_t	true if Dressed lepton has a tau as ancestor
GenDressedLepton_mass	Float_t	mass
GenDressedLepton_pdgId	Int_t	PDG id
GenDressedLepton_phi	Float_t	phi
GenDressedLepton_pt	Float_t	pt
nGenDressedLepton	UInt_t	Dressed leptons from Rivet-based ParticleLevelProducer

GenIsolatedPhoton [back to top]

Object property	Type	Description
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<b>GenIsolatedPhoton_eta</b>	Float_t	eta
<b>GenIsolatedPhoton_mass</b>	Float_t	mass
<b>GenIsolatedPhoton_phi</b>	Float_t	phi
<b>GenIsolatedPhoton_pt</b>	Float_t	pt
<b>nGenIsolatedPhoton</b>	UInt_t	Isolated photons from Rivet-based ParticleLevelProducer

GenJet [\[back to top\]](#)

Object property	Type	Description
<b>GenJet_eta</b>	Float_t	eta
<b>GenJet_hadronFlavour</b>	UChar_t	flavour from hadron ghost clustering
<b>GenJet_mass</b>	Float_t	mass
<b>GenJet_partonFlavour</b>	Int_t	flavour from parton matching
<b>GenJet_phi</b>	Float_t	phi
<b>GenJet_pt</b>	Float_t	pt
<b>nGenJet</b>	UInt_t	slimmedGenJets, i.e. ak4 Jets made with visible genparticles

GenJetAK8 [\[back to top\]](#)

Object property	Type	Description
<b>GenJetAK8_eta</b>	Float_t	eta
<b>GenJetAK8_hadronFlavour</b>	UChar_t	flavour from hadron ghost clustering
<b>GenJetAK8_mass</b>	Float_t	mass
<b>GenJetAK8_partonFlavour</b>	Int_t	flavour from parton matching
<b>GenJetAK8_phi</b>	Float_t	phi
<b>GenJetAK8_pt</b>	Float_t	pt
<b>nGenJetAK8</b>	UInt_t	slimmedGenJetsAK8, i.e. ak8 Jets made with visible genparticles

GenMET [\[back to top\]](#)

Object property	Type	Description
<b>GenMET_phi</b>	Float_t	phi
<b>GenMET_pt</b>	Float_t	pt

GenPart [\[back to top\]](#)

Object property	Type	Description
<b>GenPart_eta</b>	Float_t	eta
<b>GenPart_genPartIdxMother</b>	Int_t(index to Genpart)	index of the mother particle
<b>GenPart_mass</b>	Float_t	Mass stored for all particles with the exception of quarks (except top), leptons/neutrinos, photons with mass < 1 GeV, gluons, pi0(111), pi+(211), D0(421), and D+(411). For these particles, you can lookup the value from PDG.
<b>GenPart_pdgId</b>	Int_t	PDG id
<b>GenPart_phi</b>	Float_t	phi
<b>GenPart_pt</b>	Float_t	pt
<b>GenPart_status</b>	Int_t	Particle status. 1=stable
<b>GenPart_statusFlags</b>	Int_t	gen status flags stored bitwise, bits are: 0 : isPrompt, 1 : isDecayedLeptonHadron, 2 : isTauDecayProduct, 3 : isPromptTauDecayProduct, 4 : isDirectTauDecayProduct, 5 : isDirectPromptTauDecayProduct, 6 : isDirectHadronDecayProduct, 7 : isHardProcess, 8 : fromHardProcess, 9 : isHardProcessTauDecayProduct, 10 : isDirectHardProcessTauDecayProduct, 11 : fromHardProcessBeforeFSR, 12 : isFirstCopy, 13 : isLastCopy, 14 : isLastCopyBeforeFSR,
<b>nGenPart</b>	UInt_t	interesting gen particles

GenVisTau [\[back to top\]](#)

Object property	Type	Description
<b>GenVisTau_charge</b>	Int_t	charge
<b>GenVisTau_eta</b>	Float_t	eta
<b>GenVisTau_genPartIdxMother</b>	Int_t(index to Genpart)	index of the mother particle
<b>GenVisTau_mass</b>	Float_t	mass
<b>GenVisTau_phi</b>	Float_t	phi
<b>GenVisTau_pt</b>	Float_t	pt
<b>GenVisTau_status</b>	Int_t	Hadronic tau decay mode. 0=OneProng0PiZero, 1=OneProng1PiZero, 2=OneProng2PiZero, 10=ThreeProng0PiZero, 11=ThreeProng1PiZero, 15=Other

nGenVisTau      UInt\_t      gen hadronic taus

Generator [back to top]

Object property	Type	Description
Generator_binvar	Float_t	MC generation binning value
Generator_id1	Int_t	id of first parton
Generator_id2	Int_t	id of second parton
Generator_scalePDF	Float_t	Q2 scale for PDF
Generator_weight	Float_t	MC generator weight
Generator_x1	Float_t	x1 fraction of proton momentum carried by the first parton
Generator_x2	Float_t	x2 fraction of proton momentum carried by the second parton
Generator_xpdf1	Float_t	x*pdf(x) for the first parton
Generator_xpdf2	Float_t	x*pdf(x) for the second parton

HLT [back to top]

Object property	Type	Description
HLT_AK4CaloJet100	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4CaloJet120	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4CaloJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4CaloJet40	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4CaloJet50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4CaloJet80	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4PFJet100	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4PFJet120	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4PFJet50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK4PFJet80	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFHT750_TrimMass50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFHT800_TrimMass50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFHT850_TrimMass50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFHT900_TrimMass50	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet140	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet15	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet200	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet25	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet260	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet320	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet330_TrimMass30_PFAK8BTagDeepCSV_p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet330_TrimMass30_PFAK8BTagDeepCSV_p17	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet330_TrimMass30_PFAK8BoostedDoubleB_np2	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet330_TrimMass30_PFAK8BoostedDoubleB_np4	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet330_TrimMass30_PFAK8BoostedDoubleB_p02	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet360_TrimMass30	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_AK8PFJet380_TrimMass30	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet40	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet400	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet400_TrimMass30	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet420_TrimMass30	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet450	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet500	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet550	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet60	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJet80	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd140	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd15	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd200	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd25	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd260	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd320	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd40	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd400	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd450	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd500	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd60	Bool_t	Trigger/flag bit (process: HLT)
HLT_AK8PFJetFwd80	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet110_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet110_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet170_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet170_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet20_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet20_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet40_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet40_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet70_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4DiJet70_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4Jet300_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK4Jet300_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK8DiJet170_Mu5	Bool_t	Trigger/flag bit (process: HLT)



HLT_BTagMu_AK8DiJet170_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK8Jet170_DoubleMu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK8Jet170_DoubleMu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK8Jet300_Mu5	Bool_t	Trigger/flag bit (process: HLT)
HLT_BTagMu_AK8Jet300_Mu5_noalgo	Bool_t	Trigger/flag bit (process: HLT)
HLT_CDC_L2cosmic_5_er1p0	Bool_t	Trigger/flag bit (process: HLT)
HLT_CDC_L2cosmic_5p5_er1p0	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloJet500_NoJetID	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloJet550_NoJetID	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET100_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET100_NotCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET110_NotCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET250_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET250_NotCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET300_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET350_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET70_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET80_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET80_NotCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET90_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMET90_NotCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_CaloMHT90	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiEle27_WPTightCaloOnly_L1DoubleEG	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiJet110_35_Mjj650_PFMET110	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiJet110_35_Mjj650_PFMET120	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiJet110_35_Mjj650_PFMET130	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiMu4_Ele9_CaloIdL_TrackIdL_DZ_Mass3p8	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiMu9_Ele9_CaloIdL_TrackIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiMu9_Ele9_CaloIdL_TrackIdL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve100_HFJEC	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve140	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve160_HFJEC	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve200	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve220_HFJEC	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve260	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve300_HFJEC	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_DiPFJetAve320	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve40	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve400	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve500	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve60	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve60_HFJEC	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve80	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiPFJetAve80_HFJEC	Bool_t	Trigger/flag bit (process: HLT)
HLT_DiSC30_18_EIso_AND_HE_Mass70	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi3p5_Muon2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi_L1_4R_0er1p5R	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi_L1_NoOS	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi_NoVertexing	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi_NoVertexing_L1_4R_0er1p5R	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Jpsi_NoVertexing_NoOS	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass_L1_0er1p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass_L1_0er1p5R	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass_L1_4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass_L1_4R	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_LowMass_L1_TM530	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_4p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_4p5NoOS	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_4p5er2p0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_4p5er2p0M	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_L1_5M	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_Muon_L1_TM0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_Muon_NoL1Mass	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon0_Upsilon_NoVertexing	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon10_PsiPrime_Barrel_Seagulls	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon12_Upsilon_y1p4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon14_Phi_Barrel_Seagulls	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon18_PsiPrime	Bool_t	Trigger/flag bit (process: HLT)

HLT_Dimuon18_PsiPrime_noCorrL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon20_Jpsi_Barrel_Seagulls	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon24_Phi_noCorrL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon24_Upsilon_noCorrL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon25_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Dimuon25_Jpsi_noCorrL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30PV_18PV_R9Id_AND_IsoCaloId_AND_HE_R9Id_NoPixelVeto_Mass55	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30PV_18PV_R9Id_AND_IsoCaloId_AND_HE_R9Id_PixelVeto_Mass55	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30_18_R9IdL_AND_HE_AND_IsoCaloId_NoPixelVeto	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30_18_R9IdL_AND_HE_AND_IsoCaloId_NoPixelVeto_Mass55	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30_22_R9Id_OR_IsoCaloId_AND_HE_R9Id_Mass90	Bool_t	Trigger/flag bit (process: HLT)
HLT_Diphoton30_22_R9Id_OR_IsoCaloId_AND_HE_R9Id_Mass95	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle24_eta2p1_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle25_CaloIdL_MW	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle27_CaloIdL_MW	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle33_CaloIdL_MW	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle8_CaloIdM_TrackIdM_Mass8_DZ_PFHT350	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleEle8_CaloIdM_TrackIdM_Mass8_PFHT350	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleIsoMu20_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu23NoVtx_2Cha	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu23NoVtx_2Cha_CosmicSeed	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu23NoVtx_2Cha_CosmicSeed_NoL2Matched	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu23NoVtx_2Cha_NoL2Matched	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha_CosmicSeed	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha_CosmicSeed_Eta2p4	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha_CosmicSeed_NoL2Matched	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha_Eta2p4	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu25NoVtx_2Cha_NoL2Matched	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu30NoVtx_2Cha_CosmicSeed_Eta2p4	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu30NoVtx_2Cha_Eta2p4	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleL2Mu50	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMediumChargedIsoPFTauHPS35_Trk1_TightID_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMediumChargedIsoPFTauHPS35_Trk1_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMediumChargedIsoPFTauHPS40_Trk1_TightID_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMediumChargedIsoPFTauHPS40_Trk1_eta2p1_Reg	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_DoubleMu20_7_Mass0to30_L1_DM4	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu20_7_Mass0to30_L1_DM4EG	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu20_7_Mass0to30_Photon23	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu2_Jpsi_DoubleTkMu0_Phi	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu2_Jpsi_DoubleTrk1_Phi1p05	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu33NoFiltersNoVtxDisplaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_DCA_PFMET50_PFMHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_DZ_PFMET50_PFMHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_DZ_PFMET70_PFMHT70	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_DZ_PFMET90_PFMHT90	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_DoubleEle7p5_CaloIdL_TrackIdL_Upsilon	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_TkMu_DsTau3Mu	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_Trk_Tau3mu	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu3_Trk_Tau3mu_NoL1Mass	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu40NoFiltersNoVtxDisplaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu43NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu48NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_3_Bs	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_3_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_JpsiTrkTrk_Displaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_JpsiTrk_Displaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_Jpsi_Displaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_Jpsi_NoVertexing	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_LowMassNonResonantTrk_Displaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_Mass3p8_DZ_PFHT350	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu4_PsiPrimeTrk_Displaced	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleMu5_Upsilon_DoubleEle3_CaloIdL_TrackIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets100_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets116MaxDeta1p6_DoubleCaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets128MaxDeta1p6_DoubleCaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets200_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets350_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePFJets40_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePhoton33_CaloIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoublePhoton70	Bool_t	Trigger/flag bit (process: HLT)

HLT_DoublePhoton85	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleTightChargedIsoPFTauHPS35_Trk1_TightID_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleTightChargedIsoPFTauHPS35_Trk1_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleTightChargedIsoPFTauHPS40_Trk1_TightID_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleTightChargedIsoPFTauHPS40_Trk1_eta2p1_Reg	Bool_t	Trigger/flag bit (process: HLT)
HLT_DoubleTrkMu_16_6_NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_ECALHT800	Bool_t	Trigger/flag bit (process: HLT)
HLT_EcalCalibration	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele115_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele12_CaloIdL_TrackIdL_IsoVL_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele135_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele145_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_CaloIdL_TrackIdL_IsoVL_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_Ele8_CaloIdL_TrackIdL_IsoVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_IsoVVVL_PFHT450	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_IsoVVVL_PFHT450_CaloBTagDeepCSV_4p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_IsoVVVL_PFHT450_PFMET50	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_IsoVVVL_PFHT600	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele15_WPLoose_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele16_Ele12_Ele8_CaloIdL_TrackIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele17_CaloIdM_TrackIdM_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele17_WPLoose_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele200_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele20_WPLoose_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele20_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele20_eta2p1_WPLoose_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele23_CaloIdL_TrackIdL_IsoVL_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele23_CaloIdM_TrackIdM_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele23_Ele12_CaloIdL_TrackIdL_IsoVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele23_Ele12_CaloIdL_TrackIdL_IsoVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_LooseChargedIsoPFTauHPS30_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_LooseChargedIsoPFTauHPS30_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_MediumChargedIsoPFTauHPS30_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_MediumChargedIsoPFTauHPS30_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_TightChargedIsoPFTauHPS30_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele24_eta2p1_WPTight_Gsf_TightChargedIsoPFTauHPS30_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_Ele250_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele27_Ele37_CaloIdL_MW	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele27_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele28_HighEta_SC20_Mass55	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele28_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele28_eta2p1_WPTight_Gsf_HT150	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele300_CaloIdVT_GsfTrkIdT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele30_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele30_eta2p1_WPTight_Gsf_CentralPFJet35_EleCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele32_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele32_WPTight_Gsf_L1DoubleEG	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele35_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele35_WPTight_Gsf_L1EGMT	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele38_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele40_WPTight_Gsf	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele50_CaloIdVT_GsfTrkIdT_PFJet165	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele50_IsoVVVL_PFHT450	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele8_CaloIdL_TrackIdL_IsoVL_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Ele8_CaloIdM_TrackIdM_PFJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT300_Beamspot	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT400_DisplacedDijet40_DisplacedTrack	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT425	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT430_DisplacedDijet40_DisplacedTrack	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT430_DisplacedDijet60_DisplacedTrack	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT450_Beamspot	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT500_DisplacedDijet40_DisplacedTrack	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT550_DisplacedDijet60_Inclusive	Bool_t	Trigger/flag bit (process: HLT)
HLT_HT650_DisplacedDijet60_Inclusive	Bool_t	Trigger/flag bit (process: HLT)
HLT_HcalCalibration	Bool_t	Trigger/flag bit (process: HLT)
HLT_HcalIsolatedbunch	Bool_t	Trigger/flag bit (process: HLT)
HLT_HcalNZS	Bool_t	Trigger/flag bit (process: HLT)
HLT_HcalPhiSym	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20_eta2p1_LooseChargedIsoPFTauHPS27_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20_eta2p1_LooseChargedIsoPFTauHPS27_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit (process: HLT)

HLT_IsoMu20_eta2p1_MediumChargedIsoPFTauHPS27_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20_eta2p1_MediumChargedIsoPFTauHPS27_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20_eta2p1_TightChargedIsoPFTauHPS27_eta2p1_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu20_eta2p1_TightChargedIsoPFTauHPS27_eta2p1_TightID_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_TwoProngs35	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1_MediumChargedIsoPFTauHPS35_Trk1_TightID_eta2p1_Reg_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1_MediumChargedIsoPFTauHPS35_Trk1_eta2p1_Reg_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1_TightChargedIsoPFTauHPS35_Trk1_TightID_eta2p1_Reg_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu24_eta2p1_TightChargedIsoPFTauHPS35_Trk1_eta2p1_Reg_CrossL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu27	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu27_LooseChargedIsoPFTauHPS20_Trk1_eta2p1_SingleL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu27_MET90	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu27_MediumChargedIsoPFTauHPS20_Trk1_eta2p1_SingleL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu27_TightChargedIsoPFTauHPS20_Trk1_eta2p1_SingleL1	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoMu30	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoTrackHB	Bool_t	Trigger/flag bit (process: HLT)
HLT_IsoTrackHE	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1ETMHadSeeds	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1NotBptx0R	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1SingleMu18	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1SingleMu25	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1UnpairedBunchBptxMinus	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1UnpairedBunchBptxPlus	Bool_t	Trigger/flag bit (process: HLT)
HLT_L1_CDC_SingleMu_3_er1p2_TOP120_DPHI2p618_3p142	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu10	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu10_NoVertex_NoBPTX	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu10_NoVertex_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu23NoVtx_2Cha	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu23NoVtx_2Cha_CosmicSeed	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu40_NoVertex_3Sta_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu45_NoVertex_3Sta_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)
HLT_L2Mu50	Bool_t	Trigger/flag bit (process: HLT)
HLT_MET105_IsoTrk50	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_MET120_IsoTrk50	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau180HighPtRelaxedIso_Trk50_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau180HighPtRelaxedIso_Trk50_eta2p1_1pr	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau200HighPtRelaxedIso_Trk50_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau220HighPtRelaxedIso_Trk50_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET100	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET110	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET120	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET130	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET140	Bool_t	Trigger/flag bit (process: HLT)
HLT_MediumChargedIsoPFTau50_Trk30_eta2p1_1pr_MET90	Bool_t	Trigger/flag bit (process: HLT)
HLT_MonoCentralPFJet80_PFMETNoMu110_PFMHTNoMu110_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_MonoCentralPFJet80_PFMETNoMu120_PFMHTNoMu120_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_MonoCentralPFJet80_PFMETNoMu130_PFMHTNoMu130_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_MonoCentralPFJet80_PFMETNoMu140_PFMHTNoMu140_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu10_TrkIsoVVL_DiPFJet40_DEta3p5_MJJ750_HTT350_PFMETNoMu60	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets100_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets200_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets350_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets40MaxDeta1p6_DoubleCaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets40_CaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets54MaxDeta1p6_DoubleCaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePFJets62MaxDeta1p6_DoubleCaloBTagDeepCSV_p71	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_DoublePhoton20	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_IP6_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_IP6_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_IP6_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_IP6_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_IP6_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu12_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu15	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu15_IsoVVVL_PFHT450	Bool_t	Trigger/flag bit (process: HLT)



HLT_Mu15_IsoVVVL_PFHT450_CaloBTagDeepCSV_4p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu15_IsoVVVL_PFHT450_PFMET50	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu15_IsoVVVL_PFHT600	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_Photon30_IsoCaloId	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_TrkIsoVVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL_DZ_Mass3p8	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL_DZ_Mass8	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu18_Mu9	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu18_Mu9_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu18_Mu9_SameSign	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu18_Mu9_SameSign_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19_TrkIsoVVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL_DZ_Mass3p8	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL_DZ_Mass8	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20_Mu10	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20_Mu10_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20_Mu10_SameSign	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20_Mu10_SameSign_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu20_TkMu0_Phi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_Mu12	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_Mu12_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_Mu12_SameSign	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_Mu12_SameSign_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_TrkIsoVVL_Ele12_CaloIdL_TrackIdL_IsoVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu23_TrkIsoVVL_Ele12_CaloIdL_TrackIdL_IsoVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu25_TkMu0_Onia	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu25_TkMu0_Phi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu27	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu27_Ele37_CaloIdL_MW	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_Mu30_TkMu0_Psi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu30_TkMu0_Upsilon	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu37_Ele27_CaloIdL_MW	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu37_TkMu27	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu38NoFiltersNoVtxDisplaced_Photon38_CaloIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3_L1SingleMu5orSingleMu7	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3_PFJet40	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMET100_PFMHT100_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMET70_PFMHT70_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMET80_PFMHT80_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMET90_PFMHT90_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMETNoMu100_PFMHTNoMu100_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMETNoMu70_PFMHTNoMu70_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMETNoMu80_PFMHTNoMu80_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu3er1p5_PFJet100er2p5_PFMETNoMu90_PFMHTNoMu90_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu43NoFiltersNoVtxDisplaced_Photon43_CaloIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu43NoFiltersNoVtx_Photon43_CaloIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu48NoFiltersNoVtx_Photon48_CaloIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu4_TrkIsoVVL_DiPFJet90_40_Delta3p5_MJJ750_HTT300_PFMETNoMu60	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu50	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu50_IsoVVVL_PFHT450	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu55	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7_IP4_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7_IP4_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7_IP4_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7_IP4_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7_IP4_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_L2Mu2_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_L2Mu2_Upsilon	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track2_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track2_Upsilon	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track3p5_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track3p5_Upsilon	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track7_Jpsi	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu7p5_Track7_Upsilon	Bool_t	Trigger/flag bit (process: HLT)

HLT_Mu8	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_DiEle12_CaloIdL_TrackIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_DiEle12_CaloIdL_TrackIdL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_Ele8_CaloIdM_TrackIdM_Mass8_PFHT350	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_Ele8_CaloIdM_TrackIdM_Mass8_PFHT350_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP3_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP3_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP3_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP3_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP3_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP5_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP5_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP5_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP5_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP5_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP6_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP6_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP6_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP6_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_IP6_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_DiPFJet40_DEta3p5_MJJ750_HTT300_PFMETNoMu60	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ_CaloDiJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ_CaloDiJet30_CaloBtagDeepCSV_1p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ_PFDiJet30	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu8_TrkIsoVVL_Ele23_CaloIdL_TrackIdL_IsoVL_DZ_PFDiJet30_PFBtagDeepCSV_1p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP4_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP4_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP4_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP4_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP4_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP5_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP5_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP5_part2	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_Mu9_IP5_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP5_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP6_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP6_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP6_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP6_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Mu9_IP6_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_OldMu100	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT1050	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT180	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT250	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT330PT30_QuadPFJet_75_60_45_40	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT330PT30_QuadPFJet_75_60_45_40_TriplePFBTagDeepCSV_4p5	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT350	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT350MinPFJet15	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT370	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT400_SixPFJet32	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT400_SixPFJet32_DoublePFBTagDeepCSV_2p94	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT430	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT450_SixPFJet36	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT450_SixPFJet36_PFBTagDeepCSV_1p59	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT500_PFMET100_PFMHT100_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT500_PFMET110_PFMHT110_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT510	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT590	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT680	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT700_PFMET85_PFMHT85_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT700_PFMET95_PFMHT95_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT780	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT800_PFMET75_PFMHT75_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT800_PFMET85_PFMHT85_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFHT890	Bool_t	Trigger/flag bit (process: HLT)
HLT_PJJet140	Bool_t	Trigger/flag bit (process: HLT)
HLT_PJJet15	Bool_t	Trigger/flag bit (process: HLT)
HLT_PJJet200	Bool_t	Trigger/flag bit (process: HLT)

HLT_PFJet25	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet260	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet320	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet40	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet400	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet450	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet500	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet550	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJet80	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd140	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd15	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd200	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd25	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd260	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd320	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd40	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd400	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd450	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd500	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFJetFwd80	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET100_PFMHT100_IDTight_CaloBTagDeepCSV_3p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET100_PFMHT100_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET110_PFMHT110_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET110_PFMHT110_IDTight_CaloBTagDeepCSV_3p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET120_PFMHT120_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET120_PFMHT120_IDTight_CaloBTagDeepCSV_3p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET120_PFMHT120_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET130_PFMHT130_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET130_PFMHT130_IDTight_CaloBTagDeepCSV_3p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET140_PFMHT140_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET140_PFMHT140_IDTight_CaloBTagDeepCSV_3p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET200_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET200_HBHE_BeamHaloCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET200_NotCleaned	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_PFMET250_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMET300_HBHECleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu100_PFMHTNoMu100_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu110_PFMHTNoMu110_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu120_PFMHTNoMu120_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu120_PFMHTNoMu120_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu130_PFMHTNoMu130_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETNoMu140_PFMHTNoMu140_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne100_PFMHT100_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne110_PFMHT110_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne120_PFMHT120_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne120_PFMHT120_IDTight_PFHT60	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne130_PFMHT130_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne140_PFMHT140_IDTight	Bool_t	Trigger/flag bit (process: HLT)
HLT_PFMETTypeOne200_HBHE_BeamHaloCleaned	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon100EBHE10	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon100EB_TightID_TightIso	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon100EEHE10	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon100EE_TightID_TightIso	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon110EB_TightID_TightIso	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon120	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon120EB_TightID_TightIso	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon120_R9Id90_HE10_IsoM	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon150	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon165_R9Id90_HE10_IsoM	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon175	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon20	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon200	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon20_HoverELoose	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon300_NoHE	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon30_HoverELoose	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon33	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon35_TwoProngs35	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon50	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon50_R9Id90_HE10_IsoM	Bool_t	Trigger/flag bit (process: HLT)

HLT_Photon50_R9Id90_HE10_IsoM_EBOnly_PFJetsMJJ300DEta3_PFMET50	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon60_R9Id90_CaloIdL_IsoL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon60_R9Id90_CaloIdL_IsoL_DisplacedIdL	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon60_R9Id90_CaloIdL_IsoL_DisplacedIdL_PFHT350MinPFJet15	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75_R9Id90_HE10_IsoM	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75_R9Id90_HE10_IsoM_EBOnly_CaloMJJ300_PFJetsMJJ400DEta3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75_R9Id90_HE10_IsoM_EBOnly_CaloMJJ400_PFJetsMJJ600DEta3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75_R9Id90_HE10_IsoM_EBOnly_PFJetsMJJ300DEta3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon75_R9Id90_HE10_IsoM_EBOnly_PFJetsMJJ600DEta3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon90	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon90_CaloIdL_PFHT700	Bool_t	Trigger/flag bit (process: HLT)
HLT_Photon90_R9Id90_HE10_IsoM	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part5	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part6	Bool_t	Trigger/flag bit (process: HLT)
HLT_Physics_part7	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet103_88_75_15	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet103_88_75_15_DoublePFBTagDeepCSV_1p3_7p7_VBF1	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet103_88_75_15_PFBTagDeepCSV_1p3_VBF2	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet105_88_76_15	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet105_88_76_15_DoublePFBTagDeepCSV_1p3_7p7_VBF1	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet105_88_76_15_PFBTagDeepCSV_1p3_VBF2	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet111_90_80_15	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet111_90_80_15_DoublePFBTagDeepCSV_1p3_7p7_VBF1	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet111_90_80_15_PFBTagDeepCSV_1p3_VBF2	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet98_83_71_15	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet98_83_71_15_DoublePFBTagDeepCSV_1p3_7p7_VBF1	Bool_t	Trigger/flag bit (process: HLT)
HLT_QuadPFJet98_83_71_15_PFBTagDeepCSV_1p3_VBF2	Bool_t	Trigger/flag bit (process: HLT)
HLT_Random	Bool_t	Trigger/flag bit (process: HLT)
HLT_Rsq0p35	Bool_t	Trigger/flag bit

		(process: HLT)
HLT_Rsq0p40	Bool_t	Trigger/flag bit (process: HLT)
HLT_RsqMR300_Rsq0p09_MR200	Bool_t	Trigger/flag bit (process: HLT)
HLT_RsqMR300_Rsq0p09_MR200_4jet	Bool_t	Trigger/flag bit (process: HLT)
HLT_RsqMR320_Rsq0p09_MR200	Bool_t	Trigger/flag bit (process: HLT)
HLT_RsqMR320_Rsq0p09_MR200_4jet	Bool_t	Trigger/flag bit (process: HLT)
HLT_SingleJet30_Mu12_SinglePFJet40	Bool_t	Trigger/flag bit (process: HLT)
HLT_SinglePhoton10_Eta3p1ForPPRef	Bool_t	Trigger/flag bit (process: HLT)
HLT_SinglePhoton20_Eta3p1ForPPRef	Bool_t	Trigger/flag bit (process: HLT)
HLT_SinglePhoton30_Eta3p1ForPPRef	Bool_t	Trigger/flag bit (process: HLT)
HLT_Tau3Mu_Mu7_Mu1_TkMu1_IsoTau15	Bool_t	Trigger/flag bit (process: HLT)
HLT_Tau3Mu_Mu7_Mu1_TkMu1_IsoTau15_Charge1	Bool_t	Trigger/flag bit (process: HLT)
HLT_Tau3Mu_Mu7_Mu1_TkMu1_Tau15	Bool_t	Trigger/flag bit (process: HLT)
HLT_Tau3Mu_Mu7_Mu1_TkMu1_Tau15_Charge1	Bool_t	Trigger/flag bit (process: HLT)
HLT_TkMu100	Bool_t	Trigger/flag bit (process: HLT)
HLT_Trimuon5_3p5_2_Upsilon_Muon	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrimuonOpen_5_3p5_2_Upsilon_Muon	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleJet110_35_35_Mjj650_PFMET110	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleJet110_35_35_Mjj650_PFMET120	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleJet110_35_35_Mjj650_PFMET130	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleMu_10_5_5_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleMu_12_10_5	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleMu_5_3_3_Mass3p8_DCA	Bool_t	Trigger/flag bit (process: HLT)
HLT_TripleMu_5_3_3_Mass3p8_DZ	Bool_t	Trigger/flag bit (process: HLT)
HLT_TriplePhoton_20_20_20_CaloIdLV2	Bool_t	Trigger/flag bit (process: HLT)
HLT_TriplePhoton_20_20_20_CaloIdLV2_R9IdVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_TriplePhoton_30_30_10_CaloIdLV2	Bool_t	Trigger/flag bit (process: HLT)
HLT_TriplePhoton_30_30_10_CaloIdLV2_R9IdVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_TriplePhoton_35_35_5_CaloIdLV2_R9IdVL	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrkMu12_DoubleTrkMu5NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrkMu16NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrkMu16_DoubleTrkMu6NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrkMu17_DoubleTrkMu8NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_TrkMu6NoFiltersNoVtx	Bool_t	Trigger/flag bit (process: HLT)
HLT_UncorrectedJetE30_NoBPTX	Bool_t	Trigger/flag bit (process: HLT)
HLT_UncorrectedJetE30_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)



HLT_UncorrectedJetE60_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)
HLT_UncorrectedJetE70_NoBPTX3BX	Bool_t	Trigger/flag bit (process: HLT)
HLT_VBF_DoubleLooseChargedIsoPFTauHPS20_Trk1_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_VBF_DoubleMediumChargedIsoPFTauHPS20_Trk1_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_VBF_DoubleTightChargedIsoPFTauHPS20_Trk1_eta2p1	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_Alignment	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_Beamspot	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_FirstBXAfterTrain	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_FirstCollisionAfterAbortGap	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_FirstCollisionInTrain	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_IsolatedBunches	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_LastCollisionInTrain	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part0	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part1	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part2	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part3	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part4	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part5	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part6	Bool_t	Trigger/flag bit (process: HLT)
HLT_ZeroBias_part7	Bool_t	Trigger/flag bit (process: HLT)

HLTriggerFinalPath [\[back to top\]](#)

Object property	Type	Description
HLTriggerFinalPath	Bool_t	Trigger/flag bit (process: HLT)

HLTriggerFirstPath [\[back to top\]](#)

Object property	Type	Description
HLTriggerFirstPath	Bool_t	Trigger/flag bit (process: HLT)

HTXS [\[back to top\]](#)

Object property	Type	Description
HTXS_Higgs_pt	Float_t	pt of the Higgs boson as identified in HTXS
HTXS_Higgs_y	Float_t	rapidity of the Higgs boson as identified in HTXS
HTXS_njets25	UChar_t	number of jets with pt>25 GeV as identified in HTXS
HTXS_njets30	UChar_t	number of jets with pt>30 GeV as identified in HTXS
HTXS_stage1_1_cat_pTjet25GeV	Int_t	HTXS stage-1.1 category(jet pt>25 GeV)
HTXS_stage1_1_cat_pTjet30GeV	Int_t	HTXS stage-1.1 category(jet pt>30 GeV)
HTXS_stage1_1_fine_cat_pTjet25GeV	Int_t	HTXS stage-1.1-fine category(jet pt>25 GeV)
HTXS_stage1_1_fine_cat_pTjet30GeV	Int_t	HTXS stage-1.1-fine category(jet pt>30 GeV)
HTXS_stage1_2_cat_pTjet25GeV	Int_t	HTXS stage-1.2 category(jet pt>25 GeV)
HTXS_stage1_2_cat_pTjet30GeV	Int_t	HTXS stage-1.2 category(jet pt>30 GeV)
HTXS_stage1_2_fine_cat_pTjet25GeV	Int_t	HTXS stage-1.2-fine category(jet pt>25 GeV)
HTXS_stage1_2_fine_cat_pTjet30GeV	Int_t	HTXS stage-1.2-fine category(jet pt>30 GeV)
HTXS_stage_0	Int_t	HTXS stage-0 category
HTXS_stage_1_pTjet25	Int_t	HTXS stage-1 category (jet pt>25 GeV)
HTXS_stage_1_pTjet30	Int_t	HTXS stage-1 category (jet pt>30 GeV)

IsoTrack [\[back to top\]](#)

Object property	Type	Description
IsoTrack_dxy	Float_t	dxy (with sign) wrt first PV, in cm
IsoTrack_dz	Float_t	dz (with sign) wrt first PV, in cm
IsoTrack_eta	Float_t	eta
IsoTrack_fromPV	Int_t	isolated track comes from PV
IsoTrack_isFromLostTrack	Bool_t	if isolated track comes from a lost track
IsoTrack_isHighPurityTrack	Bool_t	track is high purity
IsoTrack_isPFcand	Bool_t	if isolated track is a PF candidate
IsoTrack_miniPFRelIso_all	Float_t	mini PF relative isolation, total (with scaled rho*EA PU corrections)
IsoTrack_miniPFRelIso_chg	Float_t	mini PF relative isolation, charged component
IsoTrack_pdgId	Int_t	PDG id of PF cand
IsoTrack_pfRelIso03_all	Float_t	PF relative isolation dR=0.3, total (deltaBeta corrections)
IsoTrack_pfRelIso03_chg	Float_t	PF relative isolation dR=0.3, charged component
IsoTrack_phi	Float_t	phi
IsoTrack_pt	Float_t	pt
nIsoTrack	UInt_t	isolated tracks after basic selection (((pt>5 && (abs(pdgId) == 11    abs(pdgId) == 13))    pt > 10) && (abs(pdgId) < 15    abs(eta) < 2.5) && abs(dxy) < 0.2 && abs(dz) < 0.1 && ((pfIsolationDR03().chargedHadronIso < 5 && pt < 25)    pfIsolationDR03().chargedHadronIso/pt < 0.2)) and lepton veto

Jet [\[back to top\]](#)

Object property	Type	Description
Jet_area	Float_t	jet catchment area, for JECs
Jet_bRegCorr	Float_t	pt correction for b-jet energy regression
Jet_bRegRes	Float_t	res on pt corrected with b-jet regression
Jet_btagCMVA	Float_t	CMVA V2 btag discriminator
Jet_btagCSVV2	Float_t	pfCombinedInclusiveSecondaryVertexV2 b-tag discriminator (aka CSVV2)
Jet_btagDeepB	Float_t	DeepCSV b+bb tag discriminator
Jet_btagDeepC	Float_t	DeepCSV charm btag discriminator
Jet_btagDeepFlavB	Float_t	DeepFlavour b+bb+lepb tag discriminator
Jet_btagDeepFlavC	Float_t	DeepFlavour charm tag discriminator
Jet_cRegCorr	Float_t	pt correction for c-jet energy regression
Jet_cRegRes	Float_t	res on pt corrected with c-jet regression
Jet_chEmEF	Float_t	charged Electromagnetic Energy Fraction
Jet_chFPV0EF	Float_t	charged fromPV==0 Energy Fraction (energy excluded from CHS jets). Previously called betastar.
Jet_chFPV1EF	Float_t	charged fromPV==1 Energy Fraction (component of the total charged Energy Fraction).
Jet_chFPV2EF	Float_t	charged fromPV==2 Energy Fraction (component of the total charged Energy Fraction).
Jet_chFPV3EF	Float_t	charged fromPV==3 Energy Fraction (component of the total charged Energy Fraction).
Jet_chHEF	Float_t	charged Hadron Energy Fraction
Jet_cleanmask	UChar_t	simple cleaning mask with priority to leptons
Jet_electronIdx1	Int_t(index to Electron)	index of first matching electron
Jet_electronIdx2	Int_t(index to Electron)	index of second matching electron
Jet_eta	Float_t	eta
Jet_genJetIdx	Int_t(index to Genjet)	index of matched gen jet
Jet_hadronFlavour	Int_t	flavour from hadron ghost clustering
Jet_jetId	Int_t	Jet ID flags bit1 is loose (always false in 2017 since it does not exist), bit2 is tight, bit3 is tightLepVeto
Jet_mass	Float_t	mass
Jet_muEF	Float_t	muon Energy Fraction
Jet_muonIdx1	Int_t(index to Muon)	index of first matching muon
Jet_muonIdx2	Int_t(index to Muon)	index of second matching muon
Jet_muonSubtrFactor	Float_t	1-(muon-subtracted raw pt)/(raw pt)
Jet_nConstituents	Int_t	Number of particles in the jet
Jet_nElectrons	Int_t	number of electrons in the jet
Jet_nMuons	Int_t	number of muons in the jet

<b>Jet_neEmEF</b>	Float_t	neutral Electromagnetic Energy Fraction
<b>Jet_neHEF</b>	Float_t	neutral Hadron Energy Fraction
<b>Jet_partonFlavour</b>	Int_t	flavour from parton matching
<b>Jet_phi</b>	Float_t	phi
<b>Jet_pt</b>	Float_t	pt
<b>Jet_puId</b>	Int_t	Pilup ID flags with 80X (2016) training
<b>Jet_puIdDisc</b>	Float_t	Pilup ID discriminant with 102X (2018) training
<b>Jet_qgl</b>	Float_t	Quark vs Gluon likelihood discriminator
<b>Jet_rawFactor</b>	Float_t	1 - Factor to get back to raw pT
<b>nJet</b>	UInt_t	slimmedJets, i.e. ak4 PFJets CHS with JECs applied, after basic selection (pt > 15)

L1 [back to top]

Object property	Type	Description
L1_AlwaysTrue	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_AND_Ref1_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_AND_Ref3_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_AND_Ref4_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_BeamGas_B1_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_BeamGas_B2_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_BeamGas_Ref1_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_BeamGas_Ref2_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_NotOR_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_OR_Ref3_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_OR_Ref4_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BPTX_RefAND_VME	Bool_t	Trigger/flag bit (process: DQM)
L1_BptxMinus	Bool_t	Trigger/flag bit (process: DQM)
L1_BptxOR	Bool_t	Trigger/flag bit (process: DQM)
L1_BptxPlus	Bool_t	Trigger/flag bit (process: DQM)
L1_BptxXOR	Bool_t	Trigger/flag bit (process: DQM)
L1_CDC_SingleMu_3_er1p2_TOP120_DPHI2p618_3p142	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG8er2p5_HTT260er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG8er2p5_HTT280er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG8er2p5_HTT300er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG8er2p5_HTT320er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG8er2p5_HTT340er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_15_10_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_20_10_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_22_10_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_25_12_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_25_14_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_27_14_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_LooseIso20_10_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_LooseIso22_10_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_LooseIso22_12_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleEG_LooseIso25_12_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau28er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau28er2p1_Mass_Max80	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau28er2p1_Mass_Max90	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau30er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau30er2p1_Mass_Max80	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau30er2p1_Mass_Max90	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau32er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau34er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleIsoTau36er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet100er2p3_dEta_Max1p6	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet100er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet112er2p3_dEta_Max1p6	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet120er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet150er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet30er2p5_Mass_Min150_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet30er2p5_Mass_Min200_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet30er2p5_Mass_Min250_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet30er2p5_Mass_Min300_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)

L1_DoubleJet30er2p5_Mass_Min330_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet30er2p5_Mass_Min360_dEta_Max1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet35_Mass_Min450_IsoTau45_Rm0vlp	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet40er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_100_30_DoubleJet30_Mass_Min620	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_110_35_DoubleJet35_Mass_Min620	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_115_40_DoubleJet40_Mass_Min620	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_115_40_DoubleJet40_Mass_Min620_Jet60TT28	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_120_45_DoubleJet45_Mass_Min620	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_120_45_DoubleJet45_Mass_Min620_Jet60TT28	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_80_30_Mass_Min420_DoubleMu0_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_80_30_Mass_Min420_IsoTau40_Rm0vlp	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_80_30_Mass_Min420_Mu8	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleJet_90_30_DoubleJet30_Mass_Min620	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleLooseIsoEG22er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleLooseIsoEG24er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0_Mass_Min1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0_OQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0_SQ_OS	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0_dR_Max1p6_Jet90er2p5_dR_Max0p8	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er1p4_SQ_OS_dR_Max1p4	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er1p5_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er1p5_SQ_OS	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er1p5_SQ_OS_dR_Max1p4	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er1p5_SQ_dR_Max1p4	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er2p0_SQ_OS_dR_Max1p4	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu0er2p0_SQ_dR_Max1p4	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu18er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_OS_DoubleEG7p5Upsilon	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_ETMHF50_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_ETMHF50_Jet60er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_ETMHF50_Jet60er2p5_OR_DoubleJet40er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_ETMHF60_Jet60er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_HTT220er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_HTT240er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_SQ_HTT260er	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu3_dR_Max1p6_Jet90er2p5_dR_Max0p8	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4_SQ_EG9er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4_SQ_OS	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4_SQ_OS_dR_Max1p2	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4p5_SQ_OS	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4p5_SQ_OS_dR_Max1p2	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4p5er2p0_SQ_OS	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4p5er2p0_SQ_OS_Mass7to18	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu4p5er2p0_SQ_OS_Mass_Min7	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu5Upsilon_OS_DoubleEG3	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu5_SQ_EG9er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu8_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu9_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu_12_5	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu_15_5_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu_15_7	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu_15_7_Mass_Min1	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleMu_15_7_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_DoubleTau70er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_ETM120	Bool_t	Trigger/flag bit (process: DQM)
L1_ETM150	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF100	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF100_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF110	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF110_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF110_HTT60er_NotSecondBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)

L1_ETMHF120	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF120_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF120_NotSecondBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF130	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF130_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF140	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF150	Bool_t	Trigger/flag bit (process: DQM)
L1_ETMHF90_HTT60er	Bool_t	Trigger/flag bit (process: DQM)
L1_ETT1200	Bool_t	Trigger/flag bit (process: DQM)
L1_ETT1600	Bool_t	Trigger/flag bit (process: DQM)
L1_ETT2000	Bool_t	Trigger/flag bit (process: DQM)
L1_FirstBunchAfterTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_FirstBunchBeforeTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_FirstBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_FirstCollisionInOrbit	Bool_t	Trigger/flag bit (process: DQM)
L1_FirstCollisionInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_HCAL_LaserMon_Trig	Bool_t	Trigger/flag bit (process: DQM)
L1_HCAL_LaserMon_Veto	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT120er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT160er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT200er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT255er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT280er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT280er_QuadJet_70_55_40_35_er2p4	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT320er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT320er_QuadJet_70_55_40_40_er2p4	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT320er_QuadJet_80_60_er2p1_45_40_er2p3	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT320er_QuadJet_80_60_er2p1_50_45_er2p3	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT360er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT400er	Bool_t	Trigger/flag bit (process: DQM)
L1_HTT450er	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoEG32er2p5_Mt40	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoEG32er2p5_Mt44	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoEG32er2p5_Mt48	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoTau40er2p1_ETMHF100	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoTau40er2p1_ETMHF110	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoTau40er2p1_ETMHF80	Bool_t	Trigger/flag bit (process: DQM)
L1_IsoTau40er2p1_ETMHF90	Bool_t	Trigger/flag bit (process: DQM)
L1_IsolatedBunch	Bool_t	Trigger/flag bit (process: DQM)
L1_LastBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_LastCollisionInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG22er2p1_IsoTau26er2p1_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG22er2p1_Tau70er2p1_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG24er2p1_HTT100er	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG24er2p1_IsoTau27er2p1_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG26er2p1_HTT100er	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG26er2p1_Jet34er2p5_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG28er2p1_HTT100er	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG28er2p1_Jet34er2p5_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG30er2p1_HTT100er	Bool_t	Trigger/flag bit (process: DQM)
L1_LooseIsoEG30er2p1_Jet34er2p5_dR_Min0p3	Bool_t	Trigger/flag bit (process: DQM)
L1_MinimumBiasHF0_AND_BptxAND	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu10er2p3_Jet32er2p3_dR_Max0p4_DoubleJet32er2p3_dEta_Max1p6	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu12er2p3_Jet40er2p1_dR_Max0p4_DoubleJet40er2p1_dEta_Max1p6	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu12er2p3_Jet40er2p3_dR_Max0p4_DoubleJet40er2p3_dEta_Max1p6	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu18er2p1_Tau24er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu18er2p1_Tau26er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu20_EG10er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau28er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau30er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau32er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau34er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau36er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu22er2p1_IsoTau40er2p1	Bool_t	Trigger/flag bit (process: DQM)

L1_Mu22er2p1_Tau70er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet120er2p5_dR_Max0p4	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet120er2p5_dR_Max0p8	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet16er2p5_dR_Max0p4	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet30er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet35er2p5_dR_Max0p4	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet60er2p5_dR_Max0p4	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3_Jet80er2p5_dR_Max0p4	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3er1p5_Jet100er2p5_ETMHF40	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu3er1p5_Jet100er2p5_ETMHF50	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu5_EG23er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu5_LooseIsoEG20er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_DoubleEG10er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_DoubleEG12er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_DoubleEG15er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_DoubleEG17er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_HTT240er	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu6_HTT250er	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu7_EG20er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu7_EG23er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu7_LooseIsoEG20er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_Mu7_LooseIsoEG23er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_NotBptxOR	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadJet36er2p5_IsoTau52er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadJet60er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadJet_95_75_65_20_DoubleJet_75_65_er2p5_Jet20_FWD3p0	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadMu0	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadMu0_OQ	Bool_t	Trigger/flag bit (process: DQM)
L1_QuadMu0_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_SecondBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_SecondLastBunchInTrain	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG10er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG15er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG26er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG28_FWD2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG28er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG28er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG28er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG34er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG36er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG38er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG40er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG42er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG45er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG50	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG60	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleEG8er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG24er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG24er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG26er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG26er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG26er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG28_FWD2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG28er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG28er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG28er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG30er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG30er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG32er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG32er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleIsoEG34er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet10erHE	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet120	Bool_t	Trigger/flag bit (process: DQM)

L1_SingleJet120_FWD3p0	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet120er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet12erHE	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet140er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet140er2p5_ETMHF70	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet140er2p5_ETMHF80	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet140er2p5_ETMHF90	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet160er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet180	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet180er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet200	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet20er2p5_NotBptxOR	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet20er2p5_NotBptxOR_3BX	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet35	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet35_FWD3p0	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet35er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet43er2p5_NotBptxOR_3BX	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet46er2p5_NotBptxOR_3BX	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet60	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet60_FWD3p0	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet60er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet8erHE	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet90	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet90_FWD3p0	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleJet90er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG26er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG26er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG28_FWD2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG28er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG28er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG28er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG30er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleLooseIsoEG30er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu0_BMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu0_DQ	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu0_EMFT	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu0_OMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu10er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu12_DQ_BMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu12_DQ_EMFT	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu12_DQ_OMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu12er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu14er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu15_DQ	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu16er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu18	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu18er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu20	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu22	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu22_BMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu22_EMFT	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu22_OMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu25	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu3	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu6er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu7	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu7_DQ	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu7er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu8er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMu9er1p5	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuCosmics	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuCosmics_BMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuCosmics_EMFT	Bool_t	Trigger/flag bit (process: DQM)

L1_SingleMuCosmics_OMTF	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuOpen	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuOpen_NotBptx0R	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuOpen_er1p1_NotBptx0R_3BX	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleMuOpen_er1p4_NotBptx0R_3BX	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleTau120er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_SingleTau130er2p1	Bool_t	Trigger/flag bit (process: DQM)
L1_TOTEM_1	Bool_t	Trigger/flag bit (process: DQM)
L1_TOTEM_2	Bool_t	Trigger/flag bit (process: DQM)
L1_TOTEM_3	Bool_t	Trigger/flag bit (process: DQM)
L1_TOTEM_4	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleEG16er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleEG_16_12_8_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleEG_16_15_8_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleEG_18_17_8_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleEG_18_18_12_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleJet_100_80_70_DoubleJet_80_70_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleJet_105_85_75_DoubleJet_85_75_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleJet_95_75_65_DoubleJet_75_65_er2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu0	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu0_0Q	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu0_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu3	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu3_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5SQ_3SQ_00Q	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5SQ_3SQ_00Q_DoubleMu_5_3_SQ_OS_Mass_Max9	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5SQ_3SQ_0_DoubleMu_5_3_SQ_OS_Mass_Max9	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_3_3	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_3_3_SQ	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_3p5_2p5	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_3p5_2p5_DoubleMu_5_2p5_OS_Mass_5to17	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_3p5_2p5_0Q_DoubleMu_5_2p5_0Q_OS_Mass_5to17	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_4_2p5_DoubleMu_5_2p5_OS_Mass_5to17	Bool_t	Trigger/flag bit (process: DQM)
L1_TripleMu_5_5_3	Bool_t	Trigger/flag bit (process: DQM)
L1_UnpairedBunchBptxMinus	Bool_t	Trigger/flag bit (process: DQM)
L1_UnpairedBunchBptxPlus	Bool_t	Trigger/flag bit (process: DQM)
L1_ZeroBias	Bool_t	Trigger/flag bit (process: DQM)
L1_ZeroBias_copy	Bool_t	Trigger/flag bit (process: DQM)

L1Reco [back to top]

Object property	Type	Description
L1Reco_step	Bool_t	Trigger/flag bit (process: RECO)

L1simulation [back to top]

Object property	Type	Description
L1simulation_step	Bool_t	Trigger/flag bit (process: HLT)

LHE [back to top]

Object property	Type	Description
LHE_AlphaS	Float_t	Per-event alphaS
LHE_HT	Float_t	HT, scalar sum of parton pTs at LHE step
LHE_HTIncoming	Float_t	HT, scalar sum of parton pTs at LHE step, restricted to partons
LHE_Nb	UChar_t	Number of b partons at LHE step
LHE_Nc	UChar_t	Number of c partons at LHE step
LHE_Nglu	UChar_t	Number of gluon partons at LHE step
LHE_Njets	UChar_t	Number of jets (partons) at LHE step
LHE_NpLO	UChar_t	number of partons at LO
LHE_NpNLO	UChar_t	number of partons at NLO
LHE_Nuds	UChar_t	Number of u,d,s partons at LHE step
LHE_Vpt	Float_t	pT of the W or Z boson at LHE step

LHEPart [back to top]

Object property	Type	Description
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<b>LHEPart_eta</b>	Float_t	Pseudorapidity of LHE particles
<b>LHEPart_incomingpz</b>	Float_t	Pz of incoming LHE particles
<b>LHEPart_mass</b>	Float_t	Mass of LHE particles
<b>LHEPart_pdgId</b>	Int_t	PDG ID of LHE particles
<b>LHEPart_phi</b>	Float_t	Phi of LHE particles
<b>LHEPart_pt</b>	Float_t	Pt of LHE particles
<b>LHEPart_spin</b>	Int_t	Spin of LHE particles
<b>LHEPart_status</b>	Int_t	LHE particle status; -1:incoming, 1:outgoing
<b>nLHEPart</b>	UInt_t	

LHEPdfWeight [back to top]

Object property	Type	Description
<b>LHEPdfWeight</b>	Float_t	
<b>nLHEPdfWeight</b>	UInt_t	

LHEReweightingWeight [back to top]

Object property	Type	Description
<b>LHEReweightingWeight</b>	Float_t	
<b>nLHEReweightingWeight</b>	UInt_t	

LHEScaleWeight [back to top]

Object property	Type	Description
<b>LHEScaleWeight</b>	Float_t	
<b>nLHEScaleWeight</b>	UInt_t	

LHEWeight [back to top]

Object property	Type	Description
<b>LHEWeight_originalXWGTUP</b>	Float_t	Nominal event weight in the LHE file

MET [back to top]

Object property	Type	Description
<b>MET_MetUnclustEnUpDeltaX</b>	Float_t	Delta (METx_mod-METx) Unclustered Energy Up
<b>MET_MetUnclustEnUpDeltaY</b>	Float_t	Delta (METy_mod-METy) Unclustered Energy Up
<b>MET_covXX</b>	Float_t	xx element of met covariance matrix
<b>MET_covXY</b>	Float_t	xy element of met covariance matrix
<b>MET_covYY</b>	Float_t	yy element of met covariance matrix
<b>MET_fiducialGenPhi</b>	Float_t	phi
<b>MET_fiducialGenPt</b>	Float_t	pt
<b>MET_phi</b>	Float_t	phi
<b>MET_pt</b>	Float_t	pt
<b>MET_significance</b>	Float_t	MET significance
<b>MET_sumEt</b>	Float_t	scalar sum of Et
<b>MET_sumPtUnclustered</b>	Float_t	sumPt used for MET significance

Muon [back to top]

Object property	Type	Description
<b>Muon_charge</b>	Int_t	electric charge
<b>Muon_cleanmask</b>	UChar_t	simple cleaning mask with priority to leptons
<b>Muon_dxy</b>	Float_t	dxy (with sign) wrt first PV, in cm
<b>Muon_dxyErr</b>	Float_t	dxy uncertainty, in cm
<b>Muon_dxybs</b>	Float_t	dxy (with sign) wrt the beam spot, in cm
<b>Muon_dz</b>	Float_t	dz (with sign) wrt first PV, in cm
<b>Muon_dzErr</b>	Float_t	dz uncertainty, in cm
<b>Muon_eta</b>	Float_t	eta
<b>Muon_fsrPhotonIdx</b>	Int_t(index to Fsrphoton)	Index of the associated FSR photon
<b>Muon_genPartFlav</b>	UChar_t	Flavour of genParticle for MC matching to status==1 muons: 1 = prompt muon (including gamma*->mu mu), 15 = muon from prompt tau, 5 = muon from b, 4 = muon from c, 3 = muon from light or unknown, 0 = unmatched
<b>Muon_genPartIdx</b>	Int_t(index to Genpart)	Index into genParticle list for MC matching to status==1 muons
<b>Muon_highPtId</b>	UChar_t	high-pT cut-based ID (1 = tracker high pT, 2 = global high pT, which includes tracker high pT)

<b>Muon_highPurity</b>	Bool_t	inner track is high purity
<b>Muon_inTimeMuon</b>	Bool_t	inTimeMuon ID
<b>Muon_ip3d</b>	Float_t	3D impact parameter wrt first PV, in cm
<b>Muon_isGlobal</b>	Bool_t	muon is global muon
<b>Muon_isPFcand</b>	Bool_t	muon is PF candidate
<b>Muon_isTracker</b>	Bool_t	muon is tracker muon
<b>Muon_jetIdx</b>	Int_t(index to Jet)	index of the associated jet (-1 if none)
<b>Muon_jetPtRelv2</b>	Float_t	Relative momentum of the lepton with respect to the closest jet after subtracting the lepton
<b>Muon_jetRelIso</b>	Float_t	Relative isolation in matched jet (1/ptRatio-1, pfRelIso04_all if no matched jet)
<b>Muon_looseId</b>	Bool_t	muon is loose muon
<b>Muon_mass</b>	Float_t	mass
<b>Muon_mediumId</b>	Bool_t	cut-based ID, medium WP
<b>Muon_mediumPromptId</b>	Bool_t	cut-based ID, medium prompt WP
<b>Muon_miniIsoId</b>	UChar_t	MiniIso ID from miniAOD selector (1=MiniIsoLoose, 2=MiniIsoMedium, 3=MiniIsoTight, 4=MiniIsoVeryTight)
<b>Muon_miniPFRelIso_all</b>	Float_t	mini PF relative isolation, total (with scaled rho*EA PU corrections)
<b>Muon_miniPFRelIso_chg</b>	Float_t	mini PF relative isolation, charged component
<b>Muon_multiIsoId</b>	UChar_t	MultiIsoId from miniAOD selector (1=MultiIsoLoose, 2=MultiIsoMedium)
<b>Muon_mvaId</b>	UChar_t	Mva ID from miniAOD selector (1=MvaLoose, 2=MvaMedium, 3=MvaTight, 4=MvaVTight, 5=MvaVVTight)
<b>Muon_mvaLowPt</b>	Float_t	Low pt muon ID score
<b>Muon_mvaLowPtId</b>	UChar_t	Low Pt Mva ID from miniAOD selector (1=LowPtMvaLoose, 2=LowPtMvaMedium)
<b>Muon_mvaTTH</b>	Float_t	TTH MVA lepton ID score
<b>Muon_nStations</b>	Int_t	number of matched stations with default arbitration (segment & track)
<b>Muon_nTrackerLayers</b>	Int_t	number of layers in the tracker
<b>Muon_pdgId</b>	Int_t	PDG code assigned by the event reconstruction (not by MC truth)
<b>Muon_pfIsoId</b>	UChar_t	PFIso ID from miniAOD selector (1=PFIsoVeryLoose, 2=PFIsoLoose, 3=PFIsoMedium, 4=PFIsoTight, 5=PFIsoVeryTight, 6=PFIsoVeryVeryTight)
<b>Muon_pfRelIso03_all</b>	Float_t	PF relative isolation dR=0.3, total (deltaBeta corrections)
<b>Muon_pfRelIso03_chg</b>	Float_t	PF relative isolation dR=0.3, charged component
<b>Muon_pfRelIso04_all</b>	Float_t	PF relative isolation dR=0.4, total (deltaBeta corrections)
<b>Muon_phi</b>	Float_t	phi
<b>Muon_pt</b>	Float_t	pt
<b>Muon_ptErr</b>	Float_t	ptError of the muon track
<b>Muon_segmentComp</b>	Float_t	muon segment compatibility
<b>Muon_sip3d</b>	Float_t	3D impact parameter significance wrt first PV
<b>Muon_softId</b>	Bool_t	soft cut-based ID
<b>Muon_softMva</b>	Float_t	soft MVA ID score
<b>Muon_softMvaId</b>	Bool_t	soft MVA ID
<b>Muon_tightCharge</b>	Int_t	Tight charge criterion using pterr/pt of muonBestTrack (0:fail, 2:pass)
<b>Muon_tightId</b>	Bool_t	cut-based ID, tight WP
<b>Muon_tkIsoId</b>	UChar_t	TkIso ID (1=TkIsoLoose, 2=TkIsoTight)
<b>Muon_tkRelIso</b>	Float_t	Tracker-based relative isolation dR=0.3 for highPt, trkIso/tunePpt
<b>Muon_triggerIdLoose</b>	Bool_t	TriggerIdLoose ID
<b>Muon_tunePrelPt</b>	Float_t	TuneP relative pt, tunePpt/pt
<b>nMuon</b>	UInt_t	slimmedMuons after basic selection (pt > 3 && (passed('CutBasedIdLoose')    passed('SoftCutBasedId')    passed('SoftMvaId')    passed('CutBasedIdGlobalHighPt')    passed('CutBasedIdTrkHighPt')))

**otherPV** [back to top]

Object property	Type	Description
<b>otherPV_z</b>	Float_t	Z position of other primary vertices, excluding the main PV
<b>nOtherPV</b>	UInt_t	

**PSWeight** [back to top]

Object property	Type	Description
<b>PSWeight</b>	Float_t	PS weights (w_var / w_nominal); [0] is ISR=0.5 FSR=1; [1] is ISR=1 FSR=0.5; [2] is ISR=2 FSR=1; [3] is ISR=1 FSR=2
<b>nPSWeight</b>	UInt_t	

**pV** [back to top]

Object property	Type	Description
PV_chi2	Float_t	main primary vertex reduced chi2
PV_ndof	Float_t	main primary vertex number of degree of freedom
PV_npvs	Int_t	total number of reconstructed primary vertices
PV_npvsGood	Int_t	number of good reconstructed primary vertices. selection: !isFake && ndof > 4 && abs(z) <= 24 && position.Rho <= 2
PV_score	Float_t	main primary vertex score, i.e. sum pt2 of clustered objects
PV_x	Float_t	main primary vertex position x coordinate
PV_y	Float_t	main primary vertex position y coordinate
PV_z	Float_t	main primary vertex position z coordinate

Photon [back to top]

Object property	Type	Description
Photon_charge	Int_t	electric charge
Photon_cleanmask	UChar_t	simple cleaning mask with priority to leptons
Photon_cutBased	Int_t	cut-based ID bitmap, Fall17V2, (0:fail, 1:loose, 2:medium, 3:tight)
Photon_cutBased_Fall17V1Bitmap	Int_t	cut-based ID bitmap, Fall17V1, 2^(0:loose, 1:medium, 2:tight).
Photon_eCorr	Float_t	ratio of the calibrated energy/miniaod energy
Photon_electronIdx	Int_t(index to Electron)	index of the associated electron (-1 if none)
Photon_electronVeto	Bool_t	pass electron veto
Photon_energyErr	Float_t	energy error of the cluster from regression
Photon_eta	Float_t	eta
Photon_genPartFlav	UChar_t	Flavour of genParticle for MC matching to status==1 photons or el
Photon_genPartIdx	Int_t(index to Genpart)	Index into genParticle list for MC matching to status==1 photons
Photon_hoe	Float_t	H over E
Photon_isScEtaEB	Bool_t	is supercluster eta within barrel acceptance
Photon_isScEtaEE	Bool_t	is supercluster eta within endcap acceptance
Photon_jetIdx	Int_t(index to Jet)	index of the associated jet (-1 if none)
Photon_mass	Float_t	mass
Photon_mvaID	Float_t	MVA ID score, Fall17V2
Photon_mvaID_Fall17V1p1	Float_t	MVA ID score, Fall17V1p1
Photon_mvaID_WP80	Bool_t	MVA ID WP80, Fall17V2
Photon_mvaID_WP90	Bool_t	MVA ID WP90, Fall17V2
Photon_pdgId	Int_t	PDG code assigned by the event reconstruction (not by MC truth)
Photon_pfRelIso03_all	Float_t	PF relative isolation dR=0.3, total (with rho*EA PU corrections)
Photon_pfRelIso03_chg	Float_t	PF relative isolation dR=0.3, charged component (with rho*EA PU c
Photon_phi	Float_t	phi
Photon_pixelSeed	Bool_t	has pixel seed
Photon_pt	Float_t	p_{T}
Photon_r9	Float_t	R9 of the supercluster, calculated with full 5x5 region
Photon_seedGain	UChar_t	Gain of the seed crystal
Photon_sieie	Float_t	sigma_IetaIeta of the supercluster, calculated with full 5x5 regi
Photon_vidNestedWPBitmap	Int_t	Fall17V2 VID compressed bitmap (MinPtCut, PhoSCEtaMultiRangeCut, PhoSingleTowerHadOverEmCut, PhoFull 2 bits per cut
nPhoton	UInt_t	slimmedPhotons after basic selection (pt > 5 )

Pileup [back to top]

Object property	Type	Description
Pileup_gpudensity	Float_t	Generator-level PU vertices / mm
Pileup_nPU	Int_t	the number of pileup interactions that have been added to the event in the current bunch crossing
Pileup_nTrueInt	Float_t	the true mean number of the poisson distribution for this event from which the number of interactions each bunch crossing has been sampled
Pileup_pudensity	Float_t	PU vertices / mm
Pileup_sumE00T	Int_t	number of early out of time pileup
Pileup_sumL00T	Int_t	number of late out of time pileup

PuppiMET [back to top]

Object property	Type	Description
PuppiMET_phi	Float_t	phi

<b>PuppiMET_phiJERUp</b>	Float_t	JER up phi
<b>PuppiMET_phiJESUp</b>	Float_t	JES up phi
<b>PuppiMET_pt</b>	Float_t	pt
<b>PuppiMET_ptJERUp</b>	Float_t	JER up pt
<b>PuppiMET_ptJESUp</b>	Float_t	JES up pt
<b>PuppiMET_sumEt</b>	Float_t	scalar sum of Et

RawMET [back to top]

Object property	Type	Description
<b>RawMET_phi</b>	Float_t	phi
<b>RawMET_pt</b>	Float_t	pt
<b>RawMET_sumEt</b>	Float_t	scalar sum of Et

RawPuppiMET [back to top]

Object property	Type	Description
<b>RawPuppiMET_phi</b>	Float_t	phi
<b>RawPuppiMET_pt</b>	Float_t	pt
<b>RawPuppiMET_sumEt</b>	Float_t	scalar sum of Et

SV [back to top]

Object property	Type	Description
<b>SV_chi2</b>	Float_t	reduced chi2, i.e. chi/ndof
<b>SV_dlen</b>	Float_t	decay length in cm
<b>SV_dlenSig</b>	Float_t	decay length significance
<b>SV_dxy</b>	Float_t	2D decay length in cm
<b>SV_dxySig</b>	Float_t	2D decay length significance
<b>SV_eta</b>	Float_t	eta
<b>SV_mass</b>	Float_t	mass
<b>SV_ndof</b>	Float_t	number of degrees of freedom
<b>SV_pAngle</b>	Float_t	pointing angle, i.e. $\text{acos}(p_{SV} * (SV - PV))$
<b>SV_phi</b>	Float_t	phi
<b>SV_pt</b>	Float_t	pt
<b>SV_x</b>	Float_t	secondary vertex X position, in cm
<b>SV_y</b>	Float_t	secondary vertex Y position, in cm
<b>SV_z</b>	Float_t	secondary vertex Z position, in cm
<b>nSV</b>	UInt_t	

SoftActivityJet [back to top]

Object property	Type	Description
<b>SoftActivityJet_eta</b>	Float_t	eta
<b>SoftActivityJet_phi</b>	Float_t	phi
<b>SoftActivityJet_pt</b>	Float_t	pt
<b>nSoftActivityJet</b>	UInt_t	jets clustered from charged candidates compatible with primary vertex ( $\text{charge}() \neq 0$ && $\text{pvAssociationQuality}() \geq 5$ && $\text{vertexRef().key()} = 0$ )

SoftActivityJetHT [back to top]

Object property	Type	Description
<b>SoftActivityJetHT</b>	Float_t	scalar sum of soft activity jet pt, pt>1

SoftActivityJetHT10 [back to top]

Object property	Type	Description
<b>SoftActivityJetHT10</b>	Float_t	scalar sum of soft activity jet pt , pt >10

SoftActivityJetHT2 [back to top]

Object property	Type	Description
<b>SoftActivityJetHT2</b>	Float_t	scalar sum of soft activity jet pt, pt >2

SoftActivityJetHT5 [back to top]

Object property	Type	Description
<b>SoftActivityJetHT5</b>	Float_t	scalar sum of soft activity jet pt, pt>5

SoftActivityJetNjets10 [back to top]

Object property	Type	Description
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<b>SoftActivityJetNjets10</b>	Int_t	number of soft activity jet pt, pt >2
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SoftActivityJetNjets2 [back to top]

Object property	Type	Description
SoftActivityJetNjets2	Int_t	number of soft activity jet pt, pt >10

SoftActivityJetNjets5 [back to top]

Object property	Type	Description
SoftActivityJetNjets5	Int_t	number of soft activity jet pt, pt >5

SubGenJetAK8 [back to top]

Object property	Type	Description
SubGenJetAK8_eta	Float_t	eta
SubGenJetAK8_mass	Float_t	mass
SubGenJetAK8_phi	Float_t	phi
SubGenJetAK8_pt	Float_t	pt
nSubGenJetAK8	UInt_t	slimmedGenJetsAK8SoftDropSubJets, i.e. subjets of ak8 Jets made with visible genparticles

SubJet [back to top]

Object property	Type	Description
SubJet_btagCMVA	Float_t	CMVA V2 btag discriminator
SubJet_btagCSVV2	Float_t	pfCombinedInclusiveSecondaryVertexV2 b-tag discriminator (aka CSVV2)
SubJet_btagDeepB	Float_t	DeepCSV b+bb tag discriminator
SubJet_eta	Float_t	eta
SubJet_mass	Float_t	mass
SubJet_n2b1	Float_t	N2 with beta=1
SubJet_n3b1	Float_t	N3 with beta=1
SubJet_nBHadrons	UChar_t	number of b-hadrons
SubJet_nCHadrons	UChar_t	number of c-hadrons
SubJet_phi	Float_t	phi
SubJet_pt	Float_t	pt
SubJet_rawFactor	Float_t	1 - Factor to get back to raw pT
SubJet_tau1	Float_t	Nsubjettiness (1 axis)
SubJet_tau2	Float_t	Nsubjettiness (2 axis)
SubJet_tau3	Float_t	Nsubjettiness (3 axis)
SubJet_tau4	Float_t	Nsubjettiness (4 axis)
nSubJet	UInt_t	slimmedJetsAK8, i.e. ak8 fat jets for boosted analysis

Tau [back to top]

Object property	Type	Description
Tau_charge	Int_t	electric charge
Tau_chargedIso	Float_t	charged isolation
Tau_cleanmask	UChar_t	simple cleaning mask with priority to leptons
Tau_decayMode	Int_t	decayMode()
Tau_dxy	Float_t	d_{xy} of lead track with respect to PV, in cm (with sign)
Tau_dz	Float_t	d_{z} of lead track with respect to PV, in cm (with sign)
Tau_eta	Float_t	eta
Tau_genPartFlav	UChar_t	Flavour of genParticle for MC matching to status==2 taus: 1 = prompt electron, 2 = prompt muon, 3 = tau->e decay, 4 = tau->mu decay, 5 = hadronic tau decay, 0 = unknown or unmatched
Tau_genPartIdx	Int_t(index to Genpart)	Index into genParticle list for MC matching to status==2 taus
Tau_idAntiEle	UChar_t	Anti-electron MVA discriminator V6 (2015): bitmask 1 = VLoose, 2 = Loose, 4 = Medium, 8 = Tight, 16 = VTight
Tau_idAntiEle2018	UChar_t	Anti-electron MVA discriminator V6 (2018): bitmask 1 = VLoose, 2 = Loose, 4 = Medium, 8 = Tight, 16 = VTight
Tau_idAntiEleDeadECal	Bool_t	Anti-electron dead-ECal discriminator
Tau_idAntiMu	UChar_t	Anti-muon discriminator V3: : bitmask 1 = Loose, 2 = Tight
Tau_idDecayMode	Bool_t	tauID('decayModeFinding')
Tau_idDecayModeNewDMS	Bool_t	tauID('decayModeFindingNewDMS')
Tau_idDeepTau2017v2p1VSe	UChar_t	byDeepTau2017v2p1VSe ID working points (deepTau2017v2p1): bitmask 1 = VVVLoose, 2 = VVLoose, 4 = VLoose, 8 = Loose, 16 = Medium, 32 = Tight, 64 = VTight, 128 = VVTight
Tau_idDeepTau2017v2p1VSjet	UChar_t	byDeepTau2017v2p1VSjet ID working points (deepTau2017v2p1):

bitmask 1 = VVLoose, 2 = VVLoose, 4 = VLoose, 8 = Loose, 16 = Medium, 32 = Tight, 64 = VTight, 128 = VVTight

<b>Tau_idDeepTau2017v2p1VSmu</b>	UChar_t	byDeepTau2017v2p1VSmu ID working points (deepTau2017v2p1): bitmask 1 = VLoose, 2 = Loose, 4 = Medium, 8 = Tight
<b>Tau_idMVAnewDM2017v2</b>	UChar_t	IsolationMVArun2v1DBnewDMwLT ID working point (2017v2): bitmask 1 = VVLoose, 2 = VLoose, 4 = Loose, 8 = Medium, 16 = Tight, 32 = VTight, 64 = VVTight
<b>Tau_idMVAoldDM</b>	UChar_t	IsolationMVArun2v1DBoldDMwLT ID working point (2015): bitmask 1 = VLoose, 2 = Loose, 4 = Medium, 8 = Tight, 16 = VTight, 32 = VVTight
<b>Tau_idMVAoldDM2017v1</b>	UChar_t	IsolationMVArun2v1DBoldDMwLT ID working point (2017v1): bitmask 1 = VVLoose, 2 = VLoose, 4 = Loose, 8 = Medium, 16 = Tight, 32 = VTight, 64 = VVTight
<b>Tau_idMVAoldDM2017v2</b>	UChar_t	IsolationMVArun2v1DBoldDMwLT ID working point (2017v2): bitmask 1 = VVLoose, 2 = VLoose, 4 = Loose, 8 = Medium, 16 = Tight, 32 = VTight, 64 = VVTight
<b>Tau_idMVAoldDMdR032017v2</b>	UChar_t	IsolationMVArun2v1DBoldDMdR03wLT ID working point (2017v2): bitmask 1 = VVLoose, 2 = VLoose, 4 = Loose, 8 = Medium, 16 = Tight, 32 = VTight, 64 = VVTight
<b>Tau_jetIdx</b>	Int_t(index to Jet)	index of the associated jet (-1 if none)
<b>Tau_leadTkDeltaEta</b>	Float_t	eta of the leading track, minus tau eta
<b>Tau_leadTkDeltaPhi</b>	Float_t	phi of the leading track, minus tau phi
<b>Tau_leadTkPtOverTauPt</b>	Float_t	pt of the leading track divided by tau pt
<b>Tau_mass</b>	Float_t	mass
<b>Tau_neutralIso</b>	Float_t	neutral (photon) isolation
<b>Tau_phi</b>	Float_t	phi
<b>Tau_photonsOutsideSignalCone</b>	Float_t	sum of photons outside signal cone
<b>Tau_pt</b>	Float_t	pt
<b>Tau_puCorr</b>	Float_t	pileup correction
<b>Tau_rawAntiEle</b>	Float_t	Anti-electron MVA discriminator V6 raw output discriminator (2015)
<b>Tau_rawAntiEle2018</b>	Float_t	Anti-electron MVA discriminator V6 raw output discriminator (2018)
<b>Tau_rawAntiEleCat</b>	Int_t	Anti-electron MVA discriminator V6 category (2015)
<b>Tau_rawAntiEleCat2018</b>	Int_t	Anti-electron MVA discriminator V6 category (2018)
<b>Tau_rawDeepTau2017v2p1VSe</b>	Float_t	byDeepTau2017v2p1VSe raw output discriminator (deepTau2017v2p1)
<b>Tau_rawDeepTau2017v2p1VSjet</b>	Float_t	byDeepTau2017v2p1VSjet raw output discriminator (deepTau2017v2p1)
<b>Tau_rawDeepTau2017v2p1VSmu</b>	Float_t	byDeepTau2017v2p1VSmu raw output discriminator (deepTau2017v2p1)
<b>Tau_rawIso</b>	Float_t	combined isolation (deltaBeta corrections)
<b>Tau_rawIsodR03</b>	Float_t	combined isolation (deltaBeta corrections, dR=0.3)
<b>Tau_rawMVAnewDM2017v2</b>	Float_t	byIsolationMVArun2v1DBnewDMwLT raw output discriminator (2017v2)
<b>Tau_rawMVAoldDM</b>	Float_t	byIsolationMVArun2v1DBoldDMwLT raw output discriminator (2015)
<b>Tau_rawMVAoldDM2017v1</b>	Float_t	byIsolationMVArun2v1DBoldDMwLT raw output discriminator (2017v1)
<b>Tau_rawMVAoldDM2017v2</b>	Float_t	byIsolationMVArun2v1DBoldDMwLT raw output discriminator (2017v2)
<b>Tau_rawMVAoldDMdR032017v2</b>	Float_t	byIsolationMVArun2v1DBdR03oldDMwLT raw output discriminator (2017v2)
<b>nTau</b>	UInt_t	slimmedTaus after basic selection (pt > 18 && tauID('decayModeFindingNewDMs') && (tauID('byLooseCombinedIsolationDeltaBetaCorr3Hits')    tauID('byVLooseIsolationMVArun2v1DBoldDMwLT2015')    tauID('byVLooseIsolationMVArun2v1DBnewDMwLT')    tauID('byVLooseIsolationMVArun2v1DBdR03oldDMwLT')    tauID('byVVLooseIsolationMVArun2v1DBoldDMwLT')    tauID('byVVLooseIsolationMVArun2v1DBoldDMwLT2017v2')    tauID('byVVLooseIsolationMVArun2v1DBnewDMwLT2017v2')    tauID('byVVLooseIsolationMVArun2v1DBdR03oldDMwLT2017v2')    tauID('byVVVLooseDeepTau2017v2p1VSjet'))))

TkMET [back to top]

Object property	Type	Description
<b>TkMET_phi</b>	Float_t	raw track MET phi
<b>TkMET_pt</b>	Float_t	raw track MET pt
<b>TkMET_sumEt</b>	Float_t	raw track scalar sum of Et

TrigObj [back to top]

Object property	Type	Description
<b>TrigObj_eta</b>	Float_t	eta

<b>TrigObj_filterBits</b>	Int_t	extra bits of associated information: 1 = CaloIdL_TrackIdL_IsoVL, 2 = 1e (WPTight PFTau, 16 = 2e, 32 = 1e-1mu, 64 = 1e-1tau, 128 = 3e, 256 = 2e-1mu, 512 = 1e-2mu, (32_LiDoubleEG_AND_LiSingleEGor), 2048 = 1e (CaloIdVT_GsfTrkIdT), 4096 = 1e (PFJe for Electron (PixelMatched e/gamma)); 1 = TrkIsoVVL, 2 = Iso, 4 = OverlapFilter PF 64 = 1mu-1tau, 128 = 3mu, 256 = 2mu-1e, 512 = 1mu-2e, 1024 = 1mu (Mu50), 2048 = 1 LooseChargedIso, 2 = MediumChargedIso, 4 = TightChargedIso, 8 = TightID 00SC phot tau+MET, 64 = di-tau, 128 = e-tau, 256 = mu-tau, 512 = VBF+di-tau for Tau; Jet bi loose iso PFTau, bit 1 for hltBTagCaloCSVp087Triple, bit 2 for hltDoubleCentralJe hltDoublePFCentralJetLooseID90, bit 4 for hltL1sTripleJetVBFiorHTTIorDoubleJetCIO hltQuadCentralJet30, bit 6 for hltQuadPFCentralJetLooseID30, bit 7 for hltL1sQuadJetC50IorQuadJetC60IorHTT280IorHTT300IorHTT320IorTripleJet846848VBFiorT or hltL1sQuadJetCIorTripleJetVBFiorHTT, bit 8 for hltQuadCentralJet45, bit 9 for for hltL1sQuadJetC60IorHTT380IorHTT280QuadJetIorHTT300QuadJet or hltL1sQuadJetC50to60IorHTT280to500IorHTT250to340QuadJet bit 11 for hltBTagCaloCSV hltBTagCaloDeepCSVp17Double, bit 12 for hltPFCentralJetLooseIDQuad30, bit 13 for hlt2PFCentralJetLooseID60, bit 15 for hlt3PFCentralJetLooseID45, bit 16 for hlt4P hltBTagPFCSVp070Triple or hltBTagPFDeepCSVp24Triple or hltBTagPFDeepCSV4p5Triple hltL1sTripleJetVBFiorHTTIorDoubleJetCIorSingleJet, bit 1 for hltL1sQuadJetC50IorQuadJetC60IorHTT280IorHTT300IorHTT320IorTripleJet846848VBFiorT or hltL1sQuadJetCIorTripleJetVBFiorHTT, bit 2 for hltL1sQuadJetC60IorHTT380IorHTT hltL1sQuadJetC50to60IorHTT280to500IorHTT250to340QuadJet, bit 3 for hltCaloQuadJet 4 for hltPFCentralJetsLooseIDQuad30HT300 or hltPFCentralJetsLooseIDQuad30HT330 fo hltCaloQuadJet30HT300 or hltCaloQuadJet30HT320, bit 1 for hltPFCentralJetsLooseID hltPFCentralJetsLooseIDQuad30HT330 for MHT;
<b>TrigObj_id</b>	Int_t	ID of the object: 11 = Electron (PixelMatched e/gamma), 22 = Photon (PixelMatch-v = Jet, 6 = FatJet, 2 = MET, 3 = HT, 4 = MHT
<b>TrigObj_l1charge</b>	Int_t	charge of associated L1 seed
<b>TrigObj_l1iso</b>	Int_t	iso of associated L1 seed
<b>TrigObj_l1pt</b>	Float_t	pt of associated L1 seed
<b>TrigObj_l1pt_2</b>	Float_t	pt of associated secondary L1 seed
<b>TrigObj_l2pt</b>	Float_t	pt of associated 'L2' seed (i.e. HLT before tracking/PF)
<b>TrigObj_phi</b>	Float_t	phi
<b>TrigObj_pt</b>	Float_t	pt
<b>nTrigObj</b>	UInt_t	

btagWeight [back to top]

Object property	Type	Description
<b>btagWeight_CSVV2</b>	Float_t	b-tag event weight for CSVV2
<b>btagWeight_DeepCSVB</b>	Float_t	b-tag event weight for DeepCSVB

event [back to top]

Object property	Type	Description
<b>event</b>	ULong64_t	event/l

fixedGridRhoFastjetAll [back to top]

Object property	Type	Description
<b>fixedGridRhoFastjetAll</b>	Float_t	rho from all PF Candidates, used e.g. for JECs

fixedGridRhoFastjetCentral [back to top]

Object property	Type	Description
<b>fixedGridRhoFastjetCentral</b>	Float_t	rho from all PF Candidates for central region, used e.g. for JECs

fixedGridRhoFastjetCentralCalo [back to top]

Object property	Type	Description
<b>fixedGridRhoFastjetCentralCalo</b>	Float_t	rho from calo towers with  eta  < 2.5, used e.g. egamma PFcluster isolation

fixedGridRhoFastjetCentralChargedPileUp [back to top]

Object property	Type	Description
<b>fixedGridRhoFastjetCentralChargedPileUp</b>	Float_t	rho from charged PF Candidates for central region, used e.g. for JECs

fixedGridRhoFastjetCentralNeutral [back to top]

Object property	Type	Description
<b>fixedGridRhoFastjetCentralNeutral</b>	Float_t	rho from neutral PF Candidates with  eta  < 2.5, used e.g. for rho corrections of some lepton isolations

genTtbarId [back to top]

Object property	Type	Description
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<b>genTtbarId</b>	<b>Int_t</b>	<b>ttbar categorization</b>
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**genWeight** [back to top]

<b>Object property</b>	<b>Type</b>	<b>Description</b>
<b>genWeight</b>	<b>Float_t</b>	generator weight

**luminosityBlock** [back to top]

<b>Object property</b>	<b>Type</b>	<b>Description</b>
<b>luminosityBlock</b>	<b>UInt_t</b>	luminosityBlock/i

**run** [back to top]

<b>Object property</b>	<b>Type</b>	<b>Description</b>
<b>run</b>	<b>UInt_t</b>	run/i