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HLT paths for the 8E29 "core" menu (v0.4, announced and frozen on 2009.04.29)

This version of the High Level Trigger tables has been **frozen from further development**, so that it can be used as a reference. For a version up-to-date with recent development, please use **this** table.

| Jets triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
|----------------|-----------------|---------------------------------|-------------|--------------|--------------|
| | HLT_L1Jet6U | L1_SingleJet6U | 25 | 20 | Normal Hz |
| | HLT_Jet15U | L1_SingleJet6U | 25 | 1 | Normal Hz |
| | HLT_Jet30U | L1_SingleJet20U | 1 | 1 | Normal Hz |
| | HLT_Jet50U | L1_SingleJet30U | 1 | 1 | Normal Hz |
| | HLT_DiJetAve15U | L1_SingleJet6U | 25 | 1 | Normal Hz |
| | HLT_DiJetAve30U | L1_SingleJet20U | 1 | 1 | Normal Hz |
| | HLT_FwdJet20U | L1_IsoEG10_Jet6U_ForJet6U | 1 | 1 | Normal Hz |
| | HLT_QuadJet15U | L1_QuadJet6U | 1 | 1 | Normal Hz |
| MET triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_L1MET20 | L1_ETM20 | 1 | 2 | Normal Hz |
| | HLT_MET35 | L1_ETM30 | 1 | 1 | Normal Hz |
| | HLT_MET100 | L1_ETM80 | 1 | 1 | Normal Hz |
| Muons triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_L1MuOpen | L1_SingleMuOpen OR L1_SingleMu0 | 1, 1 | 10 | Normal Hz |
| | HLT_L1Mu | L1_SingleMu7 OR L1_DoubleMu3 | 1, 1 | 5 | Normal Hz |

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| | | | | | |
|-------------------------------|------------------------|--|------------------------|-------------------------|--------------------|
| | HLT_L1Mu20 | L1_SingleMu20 | 1 | 1 | Normal Hz |
| | HLT_L2Mu9 | L1_SingleMu7 | 1 | 1 | Normal Hz |
| | HLT_L2Mu11 | L1_SingleMu7 | 1 | 1 | Normal Hz |
| | HLT_Mu3 | L1_SingleMuOpen OR L1_SingleMu0 OR L1_SingleMu3 | 1, 1, 1 | 1 | Normal Hz |
| | HLT_Mu5 | L1_SingleMu3 | 1 | 1 | Normal Hz |
| | HLT_Mu9 | L1_SingleMu7 | 1 | 1 | Normal Hz |
| | HLT_DoubleMu0 | L1_DoubleMuOpen | 1 | 1 | Normal Hz |
| | HLT_DoubleMu3 | L1_DoubleMu3 | 1 | 1 | Normal Hz |
| | HLT_L1DoubleMuOpen | L1_DoubleMuOpen | 1 | 1 | Normal Hz |
| | HLT_IsoMu3 | L1_SingleMu3 | 1 | 1 | Normal Hz |
| Electrons triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_L1SingleEG5 | L1_SingleEG5 | 1 | 50 | Normal Hz |
| | HLT_L1SingleEG8 | L1_SingleEG8 | 1 | 10 | Normal Hz |
| | HLT_Ele10_LW_L1R | L1_SingleEG5 | 1 | 1 | Normal Hz |
| | HLT_Ele10_LW_EleId_L1R | L1_SingleEG5 | 1 | 1 | Normal Hz |
| | HLT_Ele15_LW_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Ele15_SC10_LW_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Ele20_LW_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |

TriggerMenuDescription8E29_V04 < Sandbox < TWiki

| | | | | | |
|-------------------------|-------------------------------|--|--------------------|---------------------|--------------|
| | HLT_L1DoubleEG5 | L1_DoubleEG5 | 1 | 5 | Normal Hz |
| | HLT_DoubleEle5_SW_L1R | L1_DoubleEG5 | 1 | 1 | Normal Hz |
| | HLT_DoublePhoton5_eeRes_L1R | L1_SingleEG8 OR L1_DoubleEG5 | 1, 1 | 1 | Normal Hz |
| | HLT_DoublePhoton5_Jpsi_L1R | L1_SingleEG8 OR L1_DoubleEG5 | 1, 1 | 1 | Normal Hz |
| | HLT_DoublePhoton5_Upsilon_L1R | L1_SingleEG8 OR L1_DoubleEG5 | 1, 1 | 1 | Normal Hz |
| Photons triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | Rate |
| | HLT_Photon10_L1R | L1_SingleEG5 | 1 | 25 | Normal Hz |
| | HLT_Photon15_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Photon15_TrackIso_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Photon15_LooseEcalIso_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Photon20_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_Photon30_L1R | L1_SingleEG8 | 1 | 1 | Normal Hz |
| | HLT_DoublePhoton10_L1R | L1_DoubleEG5 | 1 | 1 | Normal Hz |
| Tau triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | Rate |
| | HLT_SingleLooseIsoTau20 | L1_SingleTauJet20U OR L1_SingleJet30U | 1, 1 | 1 | Normal Hz |
| | HLT_DoubleLooseIsoTau15 | L1_DoubleTauJet14U OR L1_DoubleJet30U | 1, 1 | 1 | Normal Hz |
| B jets triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | Rate |
| | HLT_BTagIP_Jet50U | L1_SingleJet30U | 1 | 1 | Normal Hz |
| | HLT_BTagMu_Jet10U | L1_Mu3_Jet6U | 1 | 1 | Normal Hz |

| Abort Gap triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
|-------------------------------|-----------------------------|--|--|---------------------|----------------|
| | HLT_StoppedHSCP | L1_SingleJet6U | 1 | 1 | Non-Hz |
| Cross-channel triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_L1Mu14_L1SingleEG10 | L1_SingleMu14 AND L1_SingleEG10 | 1, 1 | 1 | Non-Hz |
| | HLT_L1Mu14_L1SingleJet6U | L1_SingleMu14 AND L1_SingleJet6U | 1, 25 | 1 | Non-Hz |
| | HLT_L1Mu14_L1ETM30 | L1_SingleMu14 AND L1_ETM30 | 1, 1 | 1 | Non-Hz |
| MinBias triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_ZeroBias | L1_ZeroBias | 5000 | 1 | Non-Hz |
| | HLT_MinBiasHcal | L1_SingleHfBitCountsRing1_1 OR L1_DoubleHfBitCountsRing1_P1N1 OR L1_SingleHfRingEtSumsRing1_4 OR L1_DoubleHfRingEtSumsRing1_P4N4 OR L1_SingleHfRingEtSumsRing2_4 OR L1_DoubleHfRingEtSumsRing2_P4N4 | 1000, 100, 100, 100, 100, 100 | 500 | Non-Hz |
| | HLT_MinBiasEcal | L1_SingleEG1 OR L1_SingleEG2 OR L1_DoubleEG1 | 100, 100, 100 | 250 | Non-Hz |
| | HLT_MinBiasPixel | L1_MinBias_HTT10 | 10 | 1 | Non-Hz |
| | HLT_MinBiasPixel_Trk5 | L1_MinBias_HTT10 | 10 | 1 | Non-Hz |
| Commissioning triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_CSCBeamHalo | L1_SingleMuBeamHalo | 1 | 1 | Non-Hz |
| | HLT_CSCBeamHaloOverlapRing1 | L1_SingleMuBeamHalo | 1 | 1 | Non-Hz |
| | HLT_CSCBeamHaloOverlapRing2 | L1_SingleMuBeamHalo | 1 | 1 | Non-Hz |
| | HLT_CSCBeamHaloRing2or3 | L1_SingleMuBeamHalo | 1 | 1 | Non-Hz |

TriggerMenuDescription8E29_V04 < Sandbox < TWiki

| | | | | | |
|-----------------------------|--------------------|---|--|-------------------------|--------------------|
| | HLT_BackwardBSC | L1 Technical bits: 38 OR 39 | TBD | TBD | Normal Hz |
| | HLT_ForwardBSC | L1 Technical bits: 36 OR 37 | TBD | TBD | Normal Hz |
| | HLT_TrackerCosmics | L1 Technical bits: 24 OR 25 OR 26 OR 27 OR 28 | TBD | TBD | Normal Hz |
| AlCaRAW triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L1 rate |
| | HLT_IsoTrack | L1_SingleJet20U OR L1_SingleJet30U OR L1_SingleJet40U OR L1_SingleJet50U OR L1_SingleJet60U OR L1_SingleTauJet10U OR L1_SingleTauJet20U OR L1_SingleTauJet30U OR L1_SingleTauJet50U | 1, 1, 1, 1, 1 1, 1, 1, 1, 1 | 1 | Normal Hz |
| | AlCa_HcalPhiSym | L1_SingleEG1 OR L1_SingleEG2 OR L1_DoubleEG1 | 100, 100, 100 | 1 | Normal Hz |
| | AlCa_EcalPhiSym | L1_ZeroBias OR L1_SingleEG1 OR L1_SingleEG2 OR L1_DoubleEG1 OR L1_SingleHfBitCountsRing1_1 OR L1_DoubleHfBitCountsRing1_P1N1 OR L1_SingleHfRingEtSumsRing1_4 OR L1_DoubleHfRingEtSumsRing1_P4N4 OR L1_SingleHfRingEtSumsRing2_4 OR L1_DoubleHfRingEtSumsRing2_P4N4 | 5000, 100, 100, 100, 1000, 100, 100, 100, 100, 100 | 1 | Normal Hz |
| | AlCa_EcalPi0 | L1_SingleEG1 OR L1_SingleEG2 OR L1_SingleEG5 OR L1_SingleEG8 OR L1_SingleEG10 OR L1_SingleEG12 OR L1_SingleEG15 OR L1_SingleEG20 OR L1_SingleIsoEG5 OR L1_SingleIsoEG8 OR L1_SingleIsoEG10 OR L1_SingleIsoEG12 OR L1_SingleIsoEG15 OR L1_DoubleEG5 OR L1_SingleJet6U OR L1_SingleJet20U OR L1_SingleJet30U OR L1_SingleJet40U OR L1_SingleJet50U OR L1_DoubleJet30U | 100, 100, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 25, 1, 1, 1, 1, 1 | 1 | Normal Hz |
| | AlCa_EcalEta | L1_SingleEG1 OR L1_SingleEG2 OR L1_SingleEG5 OR L1_SingleEG8 OR L1_SingleEG10 OR L1_SingleEG12 OR L1_SingleEG15 OR L1_SingleEG20 OR L1_SingleIsoEG5 OR L1_SingleIsoEG8 OR L1_SingleIsoEG10 OR L1_SingleIsoEG12 OR L1_SingleIsoEG15 OR L1_DoubleEG5 | 100, 100, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 25, 1, 1, 1, 1, 1 | 1 | Normal Hz |

| Monitoring triggers | HLT path | L1 seeds | L1 prescale | HLT prescale | L ra |
|---------------------|---------------------------|--|-------------|--------------|-----------|
| | | OR L1_SingleJet6U OR L1_SingleJet20U OR L1_SingleJet30U OR L1_SingleJet40U OR L1_SingleJet50U OR L1_DoubleJet30U | | | |
| | AICa_RPCMuonNormalisation | L1_SingleMuOpen OR L1_SingleMu0 | 1, 1 | 1 | Non Hz |
| | AICa_RPCMuonNoHits | L1_SingleMuOpen OR L1_SingleMu0 | 1, 1 | 1 | Non Hz |

Links to the Trigger Reviews describing the algorithms and the POG/PAG triggers requests

- [JetMET](#) triggers review
- [Muon](#) triggers review
- [EGamma](#) triggers review
- [B and Tau](#) triggers review
- [Cross channel](#) triggers review
- [MinBias, AICa, Commissioning](#) triggers review

L1 and HLT tables references

The following L1 menus contain the L1 seeds and are compatible with this HLT menu:

- Level 1 menu for 3.1.0-pre6: L1Menu_Commissioning2009_v1
- Level 1 menu for 2.2.6-HLT: L1Menu_Commissioning2009_v0
- Level 1 menu for MWGR18: L1Menu_Commissioning2009_v0

The following HLT tables are available in ConfDB:

- ConfDB implementation for 3.1.0-pre6: [/dev/CMSSW_3_1_0/pre4/8E29_V54/V2](#)
- ConfDB implementation for 2.2.6-HLT: [/dev/CMSSW_2_2_6_HLT/8E29/V50](#)
- ConfDB implementation for MWGR18: [/online/cosmic/MWGR18/HLT/V9](#)

Description of HLT paths for the 8E29 "core" menu

Jets trigger paths

HLT_L1Jet6U

- The L1 seed is L1_SingleJet6U.
- Description:
 - ◆ A single jet pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix

- ◆ Leonard Apanasevich

HLT_Jet15U

- The L1 seed is L1_SingleJet6U.
- Description:
 - ◆ A single jet trigger, requiring ≥ 1 jet at HLT with $p_T > 15$ GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_Jet30U

- The L1 seed is L1_SingleJet20U.
- Description:
 - ◆ A single jet trigger, requiring ≥ 1 jet at HLT with $p_T > 30$ GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_Jet50U

- The L1 seed is L1_SingleJet30U.
- Description:
 - ◆ A single jet trigger, requiring ≥ 1 jet at HLT with $p_T > 50$ GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_DiJetAve15U

- The L1 seed is L1_SingleJet6U.
- Description:
 - ◆ A dijet trigger, requiring at least one pair of jets at HLT in which the average scalar p_T is > 15 GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Notes:
 - ◆ This trigger is available as **HLT_DiJetAve15U_8E29** in the 3.1.0-pre6, 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_DiJetAve30U

- The L1 seed is L1_SingleJet20U.
- Description:
 - ◆ A dijet trigger, requiring at least one pair of jets at HLT in which the average scalar pT is > 30 GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Notes:
 - ◆ This trigger is available as **HLT_DiJetAve30U_8E29** in the 3.1.0-pre6, 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_FwdJet20U

- The L1 seed is L1_IsoEG10_Jet6U_ForJet6U.
- Description:
 - ◆ A rapidity gap trigger, requiring at least 2 jets in the event and the sum of jet energies within the HF ($3 < \eta < 5$) be less than 20 GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_QuadJet15U

- The L1 seed is L1_QuadJet6U.
- Description:
 - ◆ A quad jet trigger, requiring ≥ 4 jet at HLT with pT > 15 GeV.
 - ◆ The jet energy threshold is chosen based on **uncorrected** jets.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich
- Contact person(s) for Top HLT code integration:
 - ◆ Marta Felcini
 - ◆ Javier Cuevas

MET trigger paths

HLT_L1MET20

- The L1 seed is L1_ETM20.
- Description:
 - ◆ A MET pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for MET HLT code integration:
 - ◆ Gheorghe Lungu
 - ◆ Florent Lacroix

HLT_MET35

- The L1 seed is L1_ETM30.
- Description:
 - ◆ A MET trigger, requiring the MET calculated at HLT be > 35 GeV.
- Notes:
 - ◆ To be checked that the L1 threshold is not too high for the HLT threshold.
- Contact person(s) for MET HLT code integration:
 - ◆ Gheorghe Lungu
 - ◆ Florent Lacroix

HLT_MET100

- The L1 seed is L1_ETM80.
- Description:
 - ◆ A MET trigger, requiring the MET calculated at HLT be > 100 GeV.
- Contact person(s) for MET HLT code integration:
 - ◆ Gheorghe Lungu
 - ◆ Florent Lacroix

Muons trigger paths

HLT_L1MuOpen

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleMuOpen
 - ◆ L1_SingleMu0
- Description:
 - ◆ A single muon pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_L1Mu

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleMu7
 - ◆ L1_DoubleMu3
- Description:
 - ◆ A single muon pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_L1Mu20

- The L1 seed is L1_SingleMu20.
- Description:
 - ◆ A single muon pass-through trigger.

- ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_L2Mu9

- The L1 seed is L1_SingleMu7.
- Description:
 - ◆ A single muon trigger, based on the Level 2 (muon system only, no tracker) HLT muon reconstruction.
 - ◆ At least one Level 2 muon with $pT > 9$ GeV is required.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_L2Mu11

- The L1 seed is L1_SingleMu7.
- Description:
 - ◆ A single muon trigger, based on the Level 2 (muon system only, no tracker) HLT muon reconstruction.
 - ◆ At least one Level 2 muon with $pT > 11$ GeV is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_Mu3

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleMuOpen
 - ◆ L1_SingleMu0
 - ◆ L1_SingleMu3
- Description:
 - ◆ A single muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least one Level 3 muon with $pT > 3$ GeV is required.
 - ◆ The Level 3 muon is seeded by a Level 2 muon with $pT > 3$ GeV.
 - ◆ The two-dimensional Delta-XY between the Level 3 muon and the beam spot must be < 2 cm.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_Mu5

- The L1 seed is L1_SingleMu3.
- Description:
 - ◆ A single muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least one Level 3 muon with $pT > 5$ GeV is required.
 - ◆ The Level 3 muon is seeded by a Level 2 muon with $pT > 4$ GeV.

- ◆ The two-dimensional Delta-XY between the Level 3 muon and the beam spot must be < 2 cm.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_Mu9

- The L1 seed is L1_SingleMu7.
- Description:
 - ◆ A single muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least one Level 3 muon with $pT > 9$ GeV is required.
 - ◆ The Level 3 muon is seeded by a Level 2 muon with $pT > 7$ GeV.
 - ◆ The two-dimensional Delta-XY between the Level 3 muon and the beam spot must be < 2 cm.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_DoubleMu0

- The L1 seed is L1_DoubleMuOpen.
- Description:
 - ◆ A double muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least two Level 3 muons are required, without any pT cut.
 - ◆ Each Level 3 muon is seeded by a Level 2 muon, without any pT cut.
 - ◆ The two-dimensional Delta-XY between each Level 3 muon and the beam spot must be < 2 cm.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_DoubleMu3

- The L1 seed is L1_DoubleMu3.
- Description:
 - ◆ A double muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least two Level 3 muon with $pT > 3$ GeV are required.
 - ◆ Each Level 3 muon is seeded by a Level 2 muon with $pT > 3$ GeV.
 - ◆ The two-dimensional Delta-XY between each Level 3 muon and the beam spot must be < 2 cm.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_L1DoubleMuOpen

- The L1 seed is L1_DoubleMuOpen.
- Description:
 - ◆ A double muon pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

HLT_IsoMu3

- The L1 seed is L1_SingleMu3.
- Description:
 - ◆ A single muon trigger, based on the Level 3 (combined muon system and tracker) HLT muon reconstruction.
 - ◆ At least one Level 3 muon with $p_T > 3$ GeV is required.
 - ◆ The Level 3 muon is seeded by a Level 2 muon with $p_T > 3$ GeV.
 - ◆ Calorimetric isolation is required at L2.
 - ◆ Tracker isolation is required at L3.
 - ◆ The two-dimensional Delta-XY between the Level 3 muon and the beam spot must be < 2 cm.
- Contact person(s) for Muon HLT code integration:
 - ◆ Jean-Roch Vlimant

Electrons trigger paths

HLT_L1SingleEG5

- The L1 seed is L1_SingleEG5.
- Description:
 - ◆ A single electron trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_L1SingleEG8

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single electron trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Le10_LW_L1R

- The L1 seed is L1_SingleEG5.
- Description:
 - ◆ A single electron trigger, using the large pixel-matching window ("LW") at HLT.
 - ◆ The supercluster used to seed the pixel matching must have $ET > 5$ GeV and $H/E < 0.2$.
 - ◆ At least one HLT electron with $ET > 10$ GeV is required.
 - ◆ No isolation is required.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Le10_LW_LeId_L1R

- The L1 seed is L1_SingleEG5.
- Description:
 - ◆ A single electron trigger, using the large pixel-matching window ("LW") at HLT.
 - ◆ The supercluster used to seed the pixel matching must have $ET > 5$ GeV and $H/E < 0.2$, and pass an electron identification cut based on cluster shape variables.
 - ◆ At least one HLT electron with $ET > 10$ GeV is required.
 - ◆ No isolation is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Le15_LW_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single electron trigger, using the large pixel-matching window ("LW") at HLT.
 - ◆ The supercluster used to seed the pixel matching must have $ET > 5$ GeV and $H/E < 0.2$.
 - ◆ At least one HLT electron with $ET > 15$ GeV is required.
 - ◆ No isolation is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Le15_SC10_LW_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single electron trigger, using the large pixel-matching window ("LW") at HLT.
 - ◆ The supercluster used to seed the pixel matching must have $ET > 5$ GeV and $H/E < 0.2$.
 - ◆ At least one HLT electron with $ET > 15$ GeV is required.
 - ◆ An additional supercluster with $ET > 10$ GeV is required.
 - ◆ No isolation is required.
- Notes:

- ◆ This trigger specifies an express stream (ES) bit.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Ele20_LW_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single electron trigger, using the large pixel-matching window ("LW") at HLT.
 - ◆ The supercluster used to seed the pixel matching must have $ET > 5$ GeV and $H/E < 0.2$.
 - ◆ At least one HLT electron with $ET > 20$ GeV is required.
 - ◆ No isolation is required.
- Notes:
 - ◆ This trigger specifies an express stream (ES) bit.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli
- Contact person(s) for EWK PAG contact:
 - ◆ Bryan Dames

HLT_L1DoubleEG5

- The L1 seed is L1_DoubleEG5.
- Description:
 - ◆ A single double trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_DoubleEle5_SW_L1R

- The L1 seed is L1_DoubleEG5.
- Description:
 - ◆ A double electron trigger, using the startup pixel-matching window ("SW") at HLT.
 - ◆ The superclusters used to seed the pixel matching must each have $ET > 5$ GeV and $H/E < 0.2$.
 - ◆ At least two HLT electrons with $ET > 5$ GeV are required.
 - ◆ No isolation is required.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_DoublePhoton5_eeRes_L1R

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG8
 - ◆ L1_DoubleEG5
- Description:
 - ◆ A double photon trigger, requiring at least two HLT photons with $ET > 5$ GeV.

- ◆ An invariant mass cut is applied: $M(ee) > 2.0$ GeV.
- ◆ No isolation is required.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_DoublePhoton5_Jpsi_L1R

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG8
 - ◆ L1_DoubleEG5
- Description:
 - ◆ A double photon trigger, requiring at least two HLT photons with $ET > 5$ GeV.
 - ◆ An invariant mass cut is applied: $2.0 < M(ee) < 4.5$ GeV.
 - ◆ No isolation is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_DoublePhoton5_Upsilon_L1R

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG8
 - ◆ L1_DoubleEG5
- Description:
 - ◆ A double photon trigger, requiring at least two HLT photons with $ET > 5$ GeV.
 - ◆ An invariant mass cut is applied: $8.0 < M(ee) < 11.0$ GeV.
 - ◆ No isolation is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

Photons trigger paths

HLT_Photon10_L1R

- The L1 seed is L1_SingleEG5.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 10$ GeV.
 - ◆ No isolation is required.
- Contact person(s) for Jet HLT code integration:
 - ◆ Florent Lacroix
 - ◆ Leonard Apanasevich

HLT_Photon15_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 15$ GeV.
 - ◆ No isolation is required.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Photon15_TrackIso_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 15$ GeV.
 - ◆ Track isolation is required, with 1 or 0 tracks in the isolation cone.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Photon15_LooseEcalIso_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 15$ GeV.
 - ◆ Loose ECAL isolation is required, with < 3 GeV or 10% of the photon energy in the isolation cone.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Photon20_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 20$ GeV.
 - ◆ No isolation is required.
- Notes:
 - ◆ This is a backup trigger in case the one proposed for physics needs to be prescaled.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_Photon30_L1R

- The L1 seed is L1_SingleEG8.
- Description:
 - ◆ A single photon trigger, requiring at least one HLT photon with $ET > 30$ GeV.
 - ◆ No isolation is required.
- Notes:
 - ◆ This trigger specifies an express stream (ES) bit.
 - ◆ This trigger is available as **HLT_Photon30_L1R_8E29** in the 3.1.0-pre6 table(s).
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

HLT_DoublePhoton10_L1R

- The L1 seed is L1_DoubleEG5.
- Description:
 - ◆ A double photon trigger, requiring at least two HLT photons with $ET > 10$ GeV.
 - ◆ No isolation is required.
- Contact person(s) for EGamma HLT code integration:
 - ◆ Alessio Ghezzi
 - ◆ Roberto Covarelli

Tau trigger paths

HLT_SingleLooselsoTau20

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleTauJet20U
 - ◆ L1_SingleJet30U
- Description:
 - ◆ A single tau trigger, requiring at least one HLT tau with $ET > 20$ GeV.
 - ◆ A relaxed ECAL isolation cut is applied, requiring the sum of the ET in an annulus $0.15 < R < 0.5$ to be $ET < 5 \text{ GeV} + 0.025 \times ET + 0.0075 \times ET^2 / \text{GeV}$.
- Notes:
 - ◆ To be checked that the **L1_SingleTauJet20U** threshold is not too high for the HLT threshold.
- Contact person(s) for Particle flow and Tau HLT code integration:
 - ◆ Simone Gennai
 - ◆ Mike Bachtis

HLT_DoubleLooselsoTau15

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_DoubleTauJet14U
 - ◆ L1_DoubleJet30U
- Description:
 - ◆ A double tau trigger, requiring at least two HLT taus with $ET > 15$ GeV.
 - ◆ A relaxed ECAL isolation cut is applied, requiring the sum of the ET in an annulus $0.15 < R < 0.5$ to be $ET < 5 \text{ GeV} + 0.025 \times ET + 0.0075 \times ET^2 / \text{GeV}$.
- Contact person(s) for Particle flow and Tau HLT code integration:

- ◆ Simone Gennai
- ◆ Mike Bachtis

B jets trigger paths

HLT_BTagIP_Jet50U

- The L1 seed is L1_SingleJet30U.
- Description:
 - ◆ A single jet lifetime-based b-tag trigger, requiring ≥ 1 jet at L2 with $p_T > 50$ GeV.
 - ◆ The 50 GeV threshold is chosen based on **uncorrected** jets.
 - ◆ One of the four highest-ET jets is required to pass a loose lifetime b-tagging cuts, based on STARTUP tracker alignment.
- Notes:
 - ◆ This trigger specifies an express stream (ES) bit.
- Contact person(s) for BTag HLT code integration:
 - ◆ Andrea Bocci

HLT_BTagMu_Jet10U

- The L1 seed is L1_Mu3_Jet6U.
- Description:
 - ◆ A single jet soft muon b-tag trigger, requiring ≥ 1 jet at L2 with $p_T > 10$ GeV.
 - ◆ The 10 GeV threshold is chosen based on **uncorrected** jets.
 - ◆ It is required to have an L2 and L3 muon within one of the four highest-ET jets.
- Notes:
 - ◆ This trigger specifies an express stream (ES) bit.
- Contact person(s) for BTag HLT code integration:
 - ◆ Andrea Bocci

Abort Gap trigger paths

HLT_StoppedHSCP

- The L1 seed is L1_SingleJet6U.
- Description:
 - ◆ Dedicated trigger for stopped particle search.
 - ◆ The L1 seed is a calo jet during a period of **no collisions**.
 - ◆ The HLT path applies cuts to reject HCAL noise (hltHpdFilter), constructs jets from HCAL only, and cuts on jet energy (not Et).
- Notes:
 - ◆ The 2.2.6-HLT version is still cutting on Et instead of E.
 - ◆ This trigger is available as **HLT_StoppedHSCP_8E29** in the 3.1.0-pre6, 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for Developer for Exotica PAG:
 - ◆ Jim Brooke

Cross-channel trigger paths

HLT_L1Mu14_L1SingleEG10

- The L1 seed is a logical AND of the following L1 bits:
 - ◆ L1_SingleMu14
 - ◆ L1_SingleEG10
- Description:
 - ◆ A cross-channel L1 pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Exotica HLT code integration:
 - ◆ Zeynep Unalan
 - ◆ Chad Jarvis

HLT_L1Mu14_L1SingleJet6U

- The L1 seed is a logical AND of the following L1 bits:
 - ◆ L1_SingleMu14
 - ◆ L1_SingleJet6U
- Description:
 - ◆ A cross-channel L1 pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Exotica HLT code integration:
 - ◆ Zeynep Unalan
 - ◆ Chad Jarvis

HLT_L1Mu14_L1ETM30

- The L1 seed is a logical AND of the following L1 bits:
 - ◆ L1_SingleMu14
 - ◆ L1_ETM30
- Description:
 - ◆ A cross-channel L1 pass-through trigger.
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s) for Exotica HLT code integration:
 - ◆ Zeynep Unalan
 - ◆ Chad Jarvis

trigger paths

HLT_ZeroBias

- The L1 seed is L1_ZeroBias.
- Description:
 - ◆ An unbiased trigger.
- Notes:
 - ◆ **L1_ZeroBias** is not available in the 2.2.6-HLT L1 trigger table; **L1_MinBias_HTT10** is used instead.
- Contact person(s):

◆ David Hofman

HLT_MinBiasHcal

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleHfBitCountsRing1_1
 - ◆ L1_DoubleHfBitCountsRing1_P1N1
 - ◆ L1_SingleHfRingEtSumsRing1_4
 - ◆ L1_DoubleHfRingEtSumsRing1_P4N4
 - ◆ L1_SingleHfRingEtSumsRing2_4
 - ◆ L1_DoubleHfRingEtSumsRing2_P4N4
- Description:
 - ◆ At HLT, only a prescale factor is applied
- Contact person(s):
 - ◆ David Hofman

HLT_MinBiasEcal

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG1
 - ◆ L1_SingleEG2
 - ◆ L1_DoubleEG1
- Description:
 - ◆ At HLT, only a prescale factor is applied
- Notes:
 - ◆ **L1_SingleEG1** will be masked in favor of **L1_SingleEG2** if the ECAL noise is too high.
- Contact person(s):
 - ◆ David Hofman

HLT_MinBiasPixel

- The L1 seed is L1_MinBias_HTT10.
- Description:
 - ◆ There must be 2 (default) tracks with pT above 0.2 GeV/c and having same origin (within 1 cm in |z|)
- Notes:
 - ◆ **L1_MinBias_HTT10** has been used for technical reasons. The L1 seed in the final configuration will be **L1_ZeroBias**
- Contact person(s):
 - ◆ Mika Huhtinen

HLT_MinBiasPixel_Trk5

- The L1 seed is L1_MinBias_HTT10.
- Description:
 - ◆ There must be 2 (default) tracks with pT above 0.2 GeV/c and having same origin (within 1 cm in |z|)
- Notes:
 - ◆ **L1_MinBias_HTT10** has been used for technical reasons. The L1 seed in the final configuration will be **L1_ZeroBias**

- Contact person(s):
 - ◆ Mika Huhtinen

Commissioning trigger paths

HLT_CSCBeamHalo

- The L1 seed is L1_SingleMuBeamHalo.
- Description:
 - ◆ Selects events that pass the L1_SingleMuBeamHalo bit (all CSC beam-halo).
 - ◆ No selections beyond L1 are required in the HLT.
- Contact person(s):
 - ◆ Joseph Gartner
 - ◆ Jim Pivarski

HLT_CSCBeamHaloOverlapRing1

- The L1 seed is L1_SingleMuBeamHalo.
- Description:
 - ◆ Selects events that pass the L1_SingleMuBeamHalo bit (all CSC beam-halo)..
 - ◆ Requires a pattern of CSC RecHits that indicate that the muon has passed through the narrow overlap region in pairs of neighboring chambers, in the CSC inner ring (ring 1).
 - ◆ This represents a $\sim 1/50$ reduction in rate, and these events are very valuable for alignment
- Contact person(s):
 - ◆ Joseph Gartner
 - ◆ Jim Pivarski

HLT_CSCBeamHaloOverlapRing2

- The L1 seed is L1_SingleMuBeamHalo.
- Description:
 - ◆ Selects events that pass the L1_SingleMuBeamHalo bit (all CSC beam-halo)..
 - ◆ Requires a pattern of CSC RecHits that indicate that the muon has passed through the narrow overlap region in pairs of neighboring chambers, in the CSC outer ring (ring 2).
 - ◆ This represents a $\sim 1/50$ reduction in rate, and these events are very valuable for alignment
- Contact person(s):
 - ◆ Joseph Gartner
 - ◆ Jim Pivarski

HLT_CSCBeamHaloRing2or3

- The L1 seed is L1_SingleMuBeamHalo.
- Description:
 - ◆ Selects events that pass the L1_SingleMuBeamHalo bit (all CSC beam-halo).
 - ◆ Additionally requires CSC RecHits in rings 2 (ME1/2, 2/2, or 3/2) or 3 (ME1/3), which are more rare and therefore more valuable.
 - ◆ This trigger has applications beyond alignment.
- Contact person(s):
 - ◆ Joseph Gartner

- ◆ Jim Pivarski

HLT_BackwardBSC

- The L1 seed is a logical OR of the following L1 technical bits:
 - ◆ 38
 - ◆ 39
- Description:
 - ◆ Selects events that pass the L1 technical trigger for the Beam Scintillation Counter, for beam-halo in the tracker.
 - ◆ There are two L1 bits, corresponding to forward and backward-going beam-halo muons (from their timing), and these are passed to two HLT paths.
- Contact person(s):
 - ◆ Andrei Gritsan
 - ◆ Yohann Tschudi

HLT_ForwardBSC

- The L1 seed is a logical OR of the following L1 technical bits:
 - ◆ 36
 - ◆ 37
- Description:
 - ◆ Selects events that pass the L1 technical trigger for the Beam Scintillation Counter, for beam-halo in the tracker.
 - ◆ There are two L1 bits, corresponding to forward and backward-going beam-halo muons (from their timing), and these are passed to two HLT paths.
- Contact person(s):
 - ◆ Andrei Gritsan
 - ◆ Yohann Tschudi

HLT_TrackerCosmics

- The L1 seed is a logical OR of the following L1 technical bits:
 - ◆ 24
 - ◆ 25
 - ◆ 26
 - ◆ 27
 - ◆ 28
- Description:
 - ◆ Selects events that pass the L1 technical trigger for RPC cosmics.
 - ◆ To be made more restrictive, to select cosmic rays that actually point to the tracker (to be reviewed).
- Contact person(s):
 - ◆ Andrei Gritsan
 - ◆ Yohann Tschudi

trigger paths

HLT_IsoTrack

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleJet20U
 - ◆ L1_SingleJet30U
 - ◆ L1_SingleJet40U
 - ◆ L1_SingleJet50U
 - ◆ L1_SingleJet60U
 - ◆ L1_SingleTauJet10U
 - ◆ L1_SingleTauJet20U
 - ◆ L1_SingleTauJet30U
 - ◆ L1_SingleTauJet50U
- Description:
 - ◆ For HCAL calibration.
- Notes:
 - ◆ This trigger is available as `HLT_IsoTrack_8E29` in the 3.1.0-pre6, 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for AICa code integration:
 - ◆ Stephanie Beauceron
 - ◆ Jim Pivarski

_HcalPhiSym

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG1
 - ◆ L1_SingleEG2
 - ◆ L1_DoubleEG1
- Description:
 - ◆ The path is asking for having at least one HCALRecHit with > 0 MeV in any of HCAL subdetector.
 - ◆ **Only** HcalRecHit collection will be stored from that events.
 - ◆ This path should run only on the interspersed **non-zero-suppressed** events.
 - ◆ The filter to implement this functionality is still missing.
 - ◆ Typical events size is ~ 100 kB.
- Notes:
 - ◆ `L1_SingleEG1` will be masked in favor of `L1_SingleEG2` if the ECAL noise is too high.
- Contact person(s) for AICa code integration:
 - ◆ Stephanie Beauceron
 - ◆ Jim Pivarski

_EcalPhiSym

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_ZeroBias
 - ◆ L1_SingleEG1
 - ◆ L1_SingleEG2
 - ◆ L1_DoubleEG1
 - ◆ L1_SingleHfBitCountsRing1_1
 - ◆ L1_DoubleHfBitCountsRing1_P1N1
 - ◆ L1_SingleHfRingEtSumsRing1_4
 - ◆ L1_DoubleHfRingEtSumsRing1_P4N4
 - ◆ L1_SingleHfRingEtSumsRing2_4

- ◆ L1_DoubleHfRingEtSumsRing2_P4N4
- Description:
 - ◆ The path is asking for at least one RecHit with > 150 MeV in the barrel or > 750 MeV in the endcap.
 - ◆ **Only** EcalRecHit collection will be stored from that events.
 - ◆ Typical events size is ~ 3 kB.
- Notes:
 - ◆ **L1_zeroBias** is not available in the 2.2.6-HLT L1 trigger table.
 - ◆ **L1_SingleEG1** will be masked in favor of **L1_SingleEG2** if the ECAL noise is too high.
- Contact person(s) for AICa code integration:
 - ◆ Stephanie Beauceron
 - ◆ Jim Pivarski

_EcalPi0

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG1
 - ◆ L1_SingleEG2
 - ◆ L1_SingleEG5
 - ◆ L1_SingleEG8
 - ◆ L1_SingleEG10
 - ◆ L1_SingleEG12
 - ◆ L1_SingleEG15
 - ◆ L1_SingleEG20
 - ◆ L1_SingleIsoEG5
 - ◆ L1_SingleIsoEG8
 - ◆ L1_SingleIsoEG10
 - ◆ L1_SingleIsoEG12
 - ◆ L1_SingleIsoEG15
 - ◆ L1_DoubleEG5
 - ◆ L1_SingleJet6U
 - ◆ L1_SingleJet20U
 - ◆ L1_SingleJet30U
 - ◆ L1_SingleJet40U
 - ◆ L1_SingleJet50U
 - ◆ L1_DoubleJet30U
- Description:
 - ◆ The path is asking at least one pi0 candidate which is reconstructed as two 3x3 cluster in ECAL with the following selection.
 - ◆ Each of the seed crystal should have at least 500 MeV.
 - ◆ Each of the cluster should have at least $P_t > 900$ MeV.
 - ◆ Each of the clusters should have $E_{2 \times 2} / E_{3 \times 3} > 0.8$ (barrel) or > 0.85 (endcap).
 - ◆ The 2 clusters should be separated in DR 0.2 and in Delta 0.05.
 - ◆ The pi0 candidate should have at least $P_t > 2$ GeV.
 - ◆ The invariant mass of the pi0 candidate should be in the window $[0.06, 0.22]$ GeV (barrel) or $[0.05, 0.3]$ GeV (endcap).
 - ◆ Only EcalRecHit **around** the pi0 candidates are saved (~ 18 crystals as mean value).
 - ◆ Typical events size ~ 1.5 kB.
- Notes:
 - ◆ **L1_SingleEG1** will be masked in favor of **L1_SingleEG2** if the ECAL noise is too high.
 - ◆ This trigger is available as **AICa_EcalPi0_8E29** in the 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for AICa code integration:
 - ◆ Stephanie Beauceron

- ◆ Jim Pivarski

_EcalEta

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleEG1
 - ◆ L1_SingleEG2
 - ◆ L1_SingleEG5
 - ◆ L1_SingleEG8
 - ◆ L1_SingleEG10
 - ◆ L1_SingleEG12
 - ◆ L1_SingleEG15
 - ◆ L1_SingleEG20
 - ◆ L1_SingleIsoEG5
 - ◆ L1_SingleIsoEG8
 - ◆ L1_SingleIsoEG10
 - ◆ L1_SingleIsoEG12
 - ◆ L1_SingleIsoEG15
 - ◆ L1_DoubleEG5
 - ◆ L1_SingleJet6U
 - ◆ L1_SingleJet20U
 - ◆ L1_SingleJet30U
 - ◆ L1_SingleJet40U
 - ◆ L1_SingleJet50U
 - ◆ L1_DoubleJet30U
- Description:
 - ◆ Similar to A1Ca_EcalPi0, but look for eta.
- Notes:
 - ◆ This trigger is available as **A1Ca_EcalEta_8E29** in the 2.2.6-HLT, MWGR18 table(s).
- Contact person(s) for A1Ca code integration:
 - ◆ Stephanie Beauceron
 - ◆ Jim Pivarski

Monitoring trigger paths

_RPCMuonNormalisation

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleMuOpen
 - ◆ L1_SingleMu0
- Description:
 - ◆ This path is a copy of HLT_L1MuOpen up to $l_{\text{eta}} < 1.6$ following the coverage of RPC chambers.
 - ◆ The events recorded by such path will be used by RPC people in order to normalize their efficiency calculation.
 - ◆ The output of the path is composed of Digis and RecHits from each muon subdetector.
- Notes:
 - ◆ These two paths are needed for monitoring the RPC chambers. The statement A1Ca_ only signify that they are part of a dedicated stream (not that they are part of Alignment/Claibration workflow)
- Contact person(s) for A1Ca code integration:

◆ Stephanie Beauceron

_RPCMuonNoHits

- The L1 seed is a logical OR of the following L1 bits:
 - ◆ L1_SingleMuOpen
 - ◆ L1_SingleMu0
- Description:
 - ◆ This path is seeded by the same L1 seeds that the previous one and go up to letal<1.6.
 - ◆ It will select "pathological" events for RPC: events where DT or CSC have seen muon hits but not RPC chambers.
 - ◆ The selection of the event is based on L1MuonQuality bit (== 6).
 - ◆ The output of the path is composed of Digis and RecHits from each muon subdetector.
- Notes:
 - ◆ These two paths are needed for monitoring the RPC chambers. The statement AICa_ only signify that they are part of a dedicated stream (not that they are part of Alignement/Claibration workflow)
- Contact person(s) for AICa code integration:
 - ◆ Stephanie Beauceron

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The tables and algorithm descriptions presented here are to be considered /frozen/ - please do not edit them.

The additional comments are included from a sub-topic - please do not edit those, either.

This topic: Sandbox > TriggerMenuDescription8E29_V04

Topic revision: r2 - 2009-04-29 - AndreaBocci



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