



Session 3: Trigger ...



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- Solution to session 2
- Introduction to Trigger...
- Hands on Exercises...



Your assignment (1) :



- Using the same code:
 1. Include the MC truth information into the Code?
 2. Try to identify the electrons from the truth and match it to one of the electron candidates from the Z peak?
 3. Put in the same Ntuple all the necessary information.

➤ Solution:

Please **RECOPY** the code `Z_Analysis` from the area indicated in the twiki page, and run it.

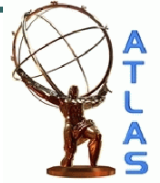


Trigger Signatures: Your assignment (2)...



- There are three trigger decisions:
 1. L1
 2. L2
 3. EF
- Each trigger level has different signatures, your assignment is to identify all the signatures used in this particular release.
- To run please add the lines described in the wiki page.
- Please use the following AOD in the jobOption file:
- Replace:

[AOD.029110._00001.pool.root.1]
with
[forTutorial.pool.root]



Please read session 3
description from twiki



Some Background Information before next assignment...



- The egamma PID builder makes various shower-shape and track-quality cuts and encodes the results of these cuts in isEM
 - isEM is a word, whose bits represent various conditions (BitDef).
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- Isolation cut → using `(electron->parameter(ElectronParameters::etconeX))`
 - `EtconeX` = Total ET in ($\$X\$/100$) cone around centroid - EM Cluster ET (i.e. 5x5 of EM layers only around centroid).
 - Note, the `etcone` corresponds to $R=0.45$ and there are also `etcone20`, `etcone30`, `etcone40` (for $R=0.2$, 0.3 and 0.4 respectively).



Your assignment (3)...



- Now, let's start the real study:
1. You need to know if the electron candidates you are selecting from the electron container are really good electrons, let's adopt the CSC definition of a good electron:
 1. `ElecAuthor == 1 || ElecAuthor == 3 [AuthorEgamma]`
 2. `isEM & 0x3FF == 0` (isEM medium: track matching, $E/|p|$ and TRT requirements are not imposed)
 3. Eta cut $|\eta| \leq 2.5$ and also you can add a p_T cut $> 10 \text{ GeV}/c$