



Stage1 layer2 emulator status

Kalanand Mishra, Fermilab

L1 Calo Stage1 Upgrade Meeting
(March 12, 2014)



Emulator code

- Goal is to improve L1 calo objects by doing pileup subtraction and better algorithms \Rightarrow closely emulate the algo in the firmware
- Built on experience from 2013 L1 TDR and UCT2015
- Common repository for Stage1 and Stage2 emulators
[GitHub:cms-l1t-offline/cmssw/L1Trigger/L1TCalorimeter](https://github.com/cms-l1t-offline/cmssw/L1Trigger/L1TCalorimeter)
(current development branch 'l1t-devel-CMSSW_7_1_0_pre2')
- Stage1 Layer2 classes:
[Stage1Layer2EGammaAlgorithm](#)
[Stage1Layer2JetAlgorithm](#) (pp and HI)
[Stage1Layer2SingleTrackHI](#)
[Stage1Layer2TauAlgorithm](#)
- Twiki: <https://twiki.cern.ch/twiki/bin/view/CMSPublic/SWGuideL1TOfflineDev>
- Developer's meeting: every Wednesday at 18:00



Timeline and current status

- Milestones to accomplish
 - **Mid March (this week):** First version of the code in repository
 - **End April:** Main features implemented and tested. Capability to produce rate and efficiency plots. Capability to configure according to firmware implementation.
 - **Mid June:** Should have a working emulator. Only feature additions/upgrades after this point.
 - **Mid September:** Full blown emulator available.
- Current status
 - The basic classes are all in, they compile
 - Pileup subtraction for EG/tau objects missing
 - **Sum ET trigger missing**
 - Yet to be tested for runtime error/performance