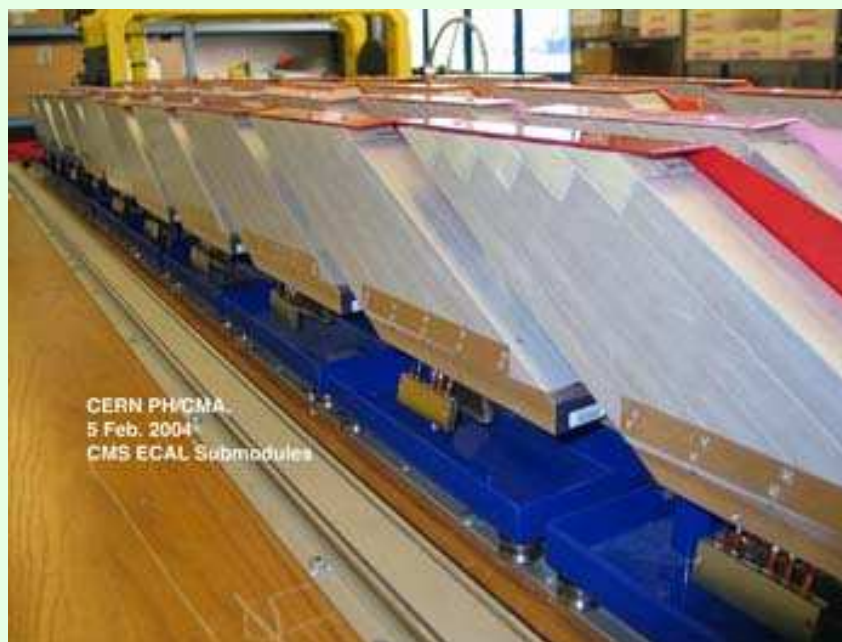


GFLASH Validation on ECAL Report

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University of Mississippi

CMS GFLASH Simulation
April 16, 2007



GFLASH Validation in ECAL

We are validating GFLASH in CMSSW 140 with GEANT4 in CMSSW 140

The event samples were generated using single particle gun

- ☐ I have encountered some problems running CMSSW 130 pre4

such as “the Standard library exception caught in cmsRun”

(I believe the CMSSW 130 pre4 have some problem)

- ☐ The histograms structure:

30 GeV γ (2000 events), it is still running now

400 GeV γ (200 events)

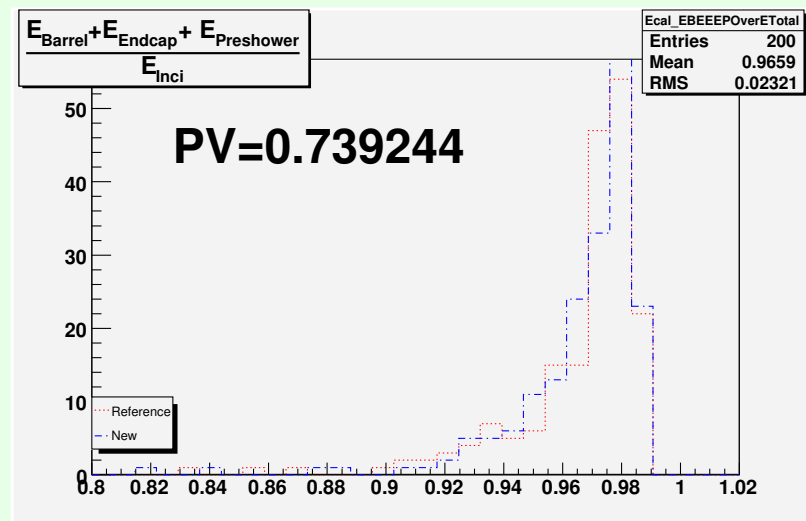
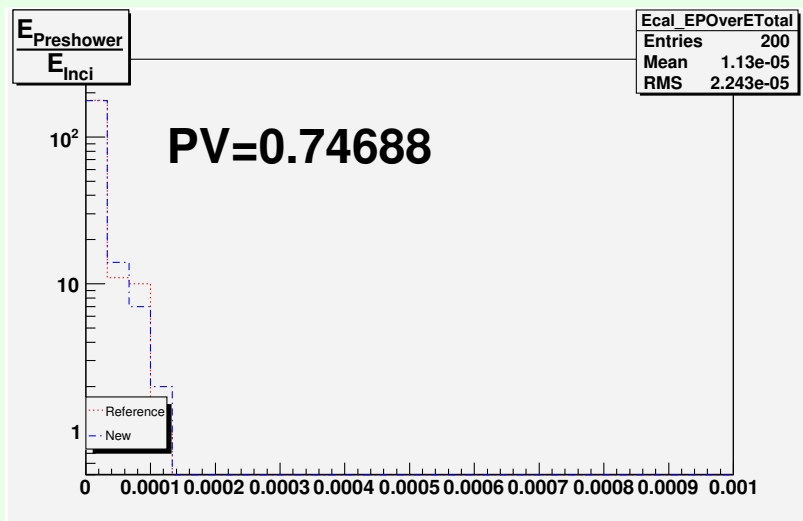
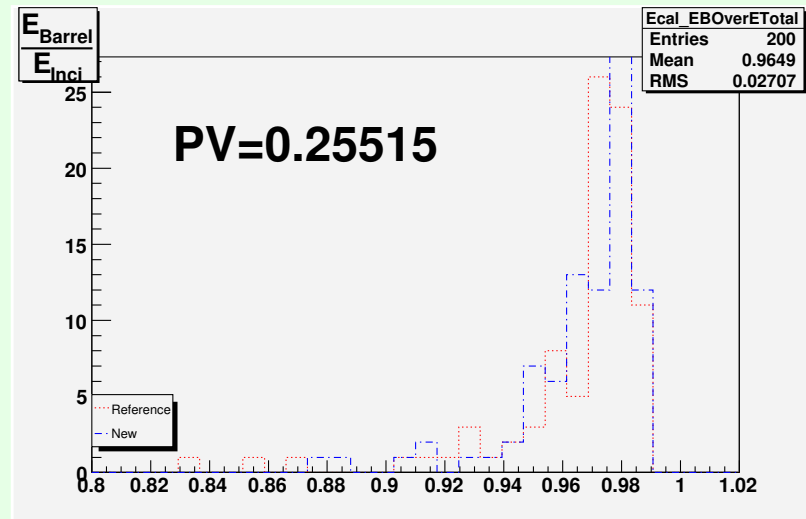
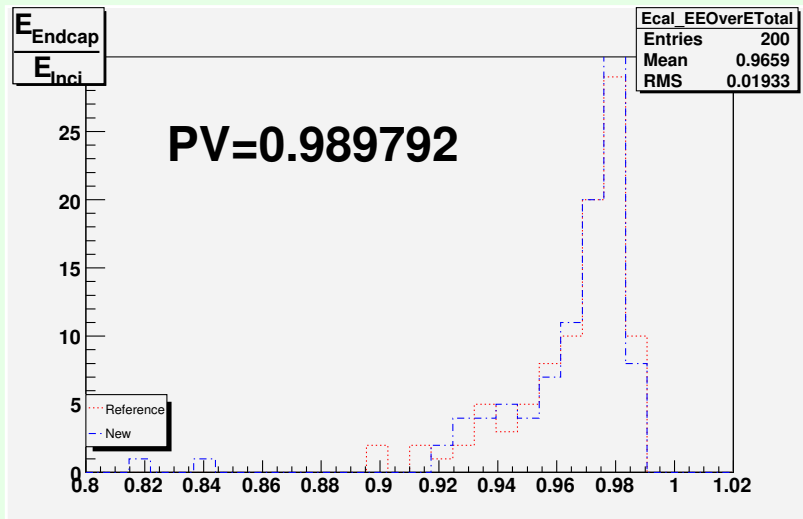
- ☐ We continue to do the GFLASH validation in CMSSW 140,

add the KS fit and increase the event samples

Plan to add timing information to check the speed (I have tested it)

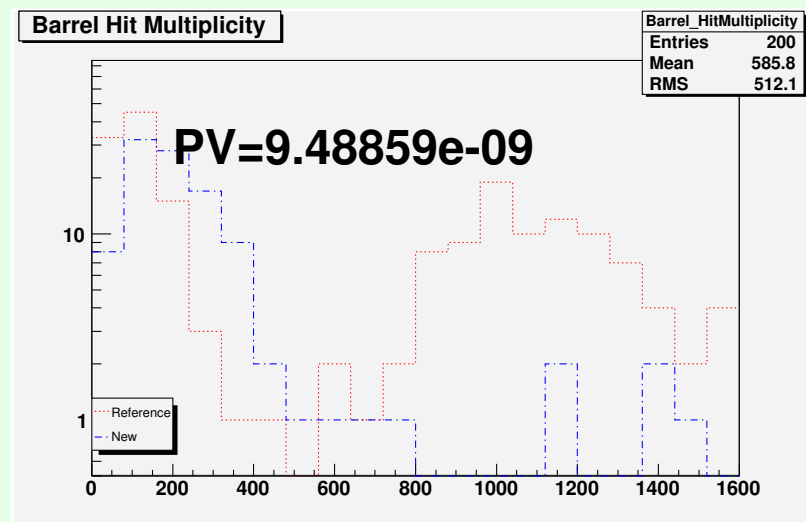
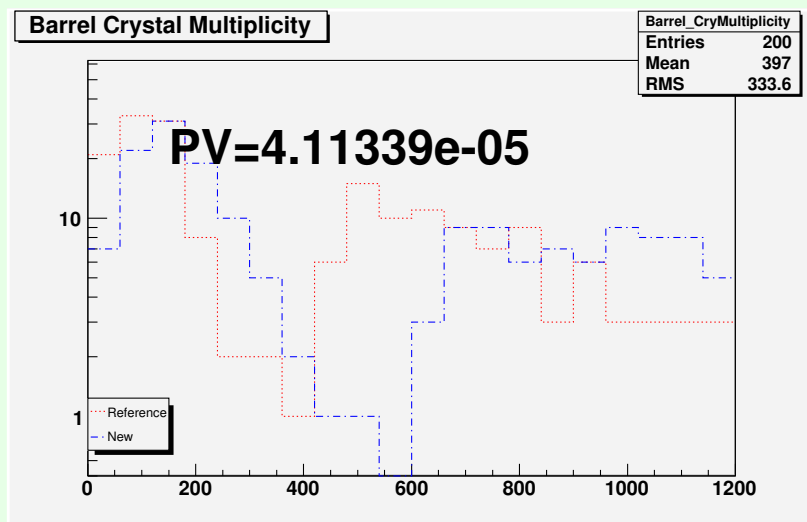
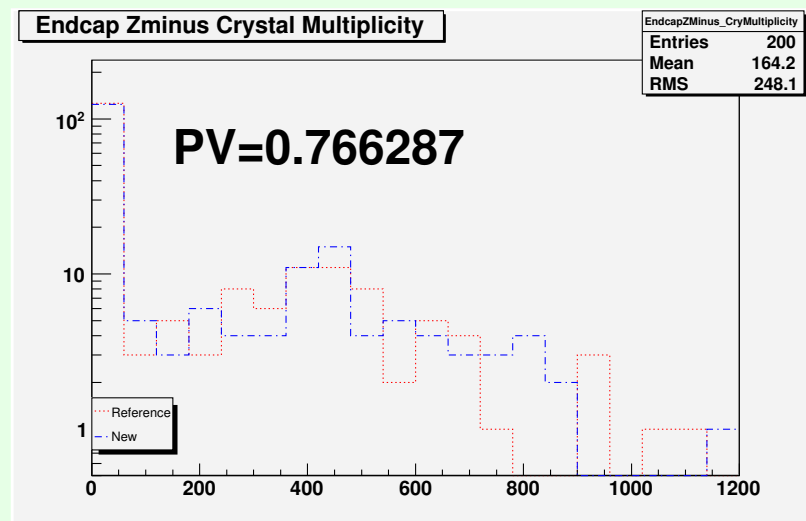
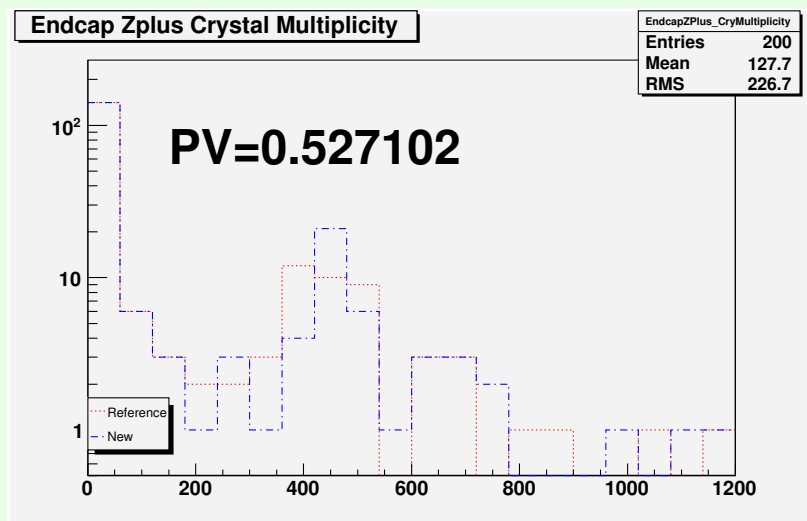
400 GeV E_γ ratio in Endcap, Barrel, Preshower, and E+B+P

CMSSW 140 (new) Vs CMSSW 140 (reference)



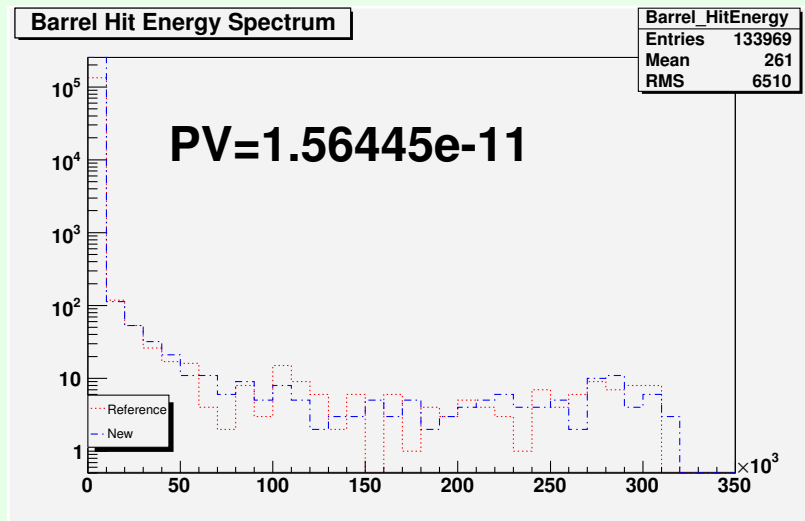
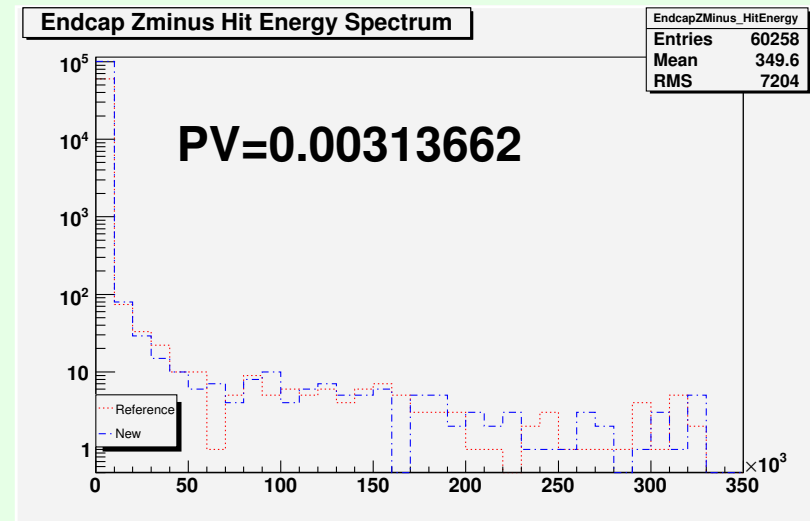
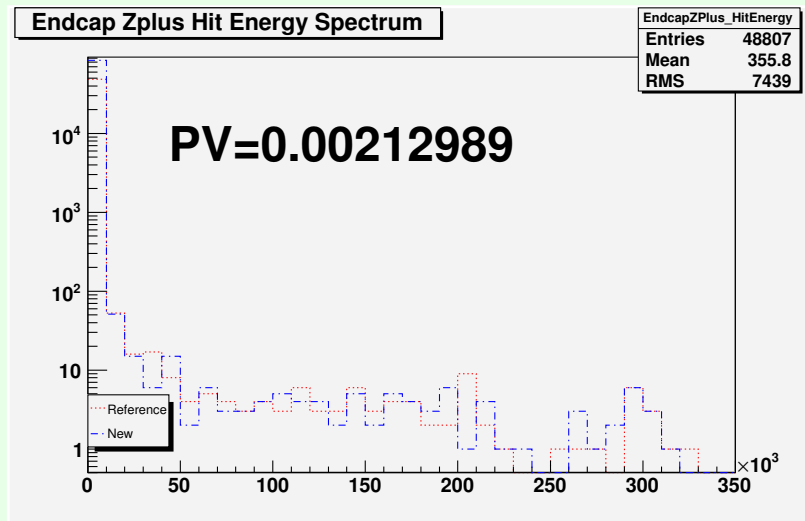
400 GeV γ Crystal Multiplicity

CMSSW 140 (new) Vs CMSSW 140 (reference)



400 GeV γ Hit Energy Spectrum in Endcap and Barrel

CMSSW 140 (new) Vs CMSSW 140 (reference)



Discussions

Items that need to be checked/understood:

☐ I noticed the “EdmProvDump” did not work in CMSSW 140 pre3

☐ When CaloMap is initialised:

I have noticed “G4GlobalFastSimulationManager” warning

“G4GlobalFastSimulationManager::GetFlavoredWorldForThis(...):

DEPRECATING, will be dropped @ next major release”

☐ Geant4 Physics List engine packaging library: PACK 5.1

“You are using the simulation engine: QGSP 3.1 + CMS GFLASH”

I am not so sure what “PACK 5.1” corresponding to ?