

Run 22 st_fwd Data Production QA

David Kapukchyan

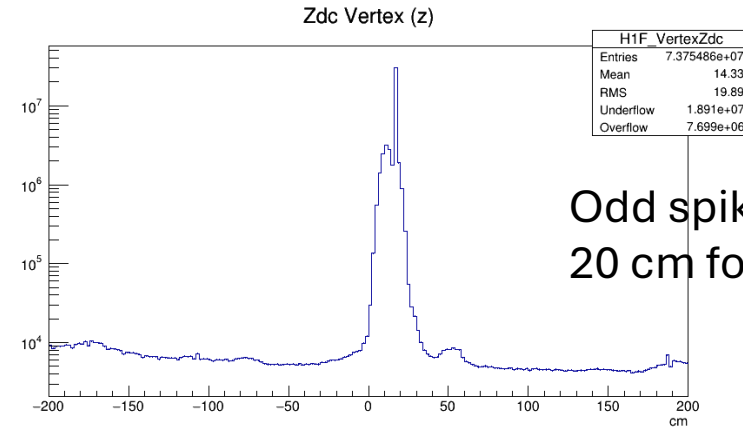
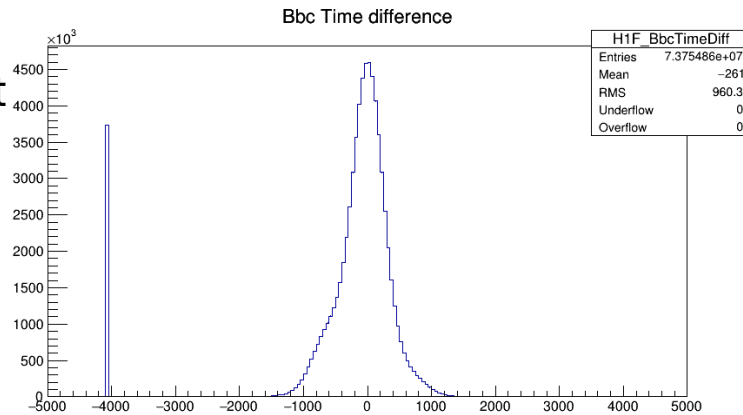
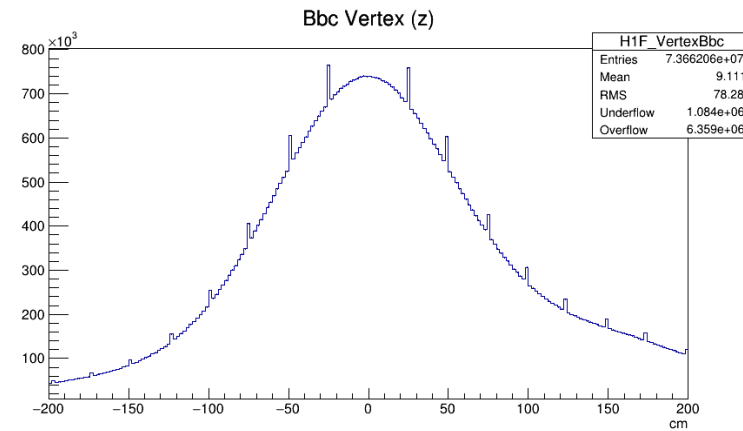
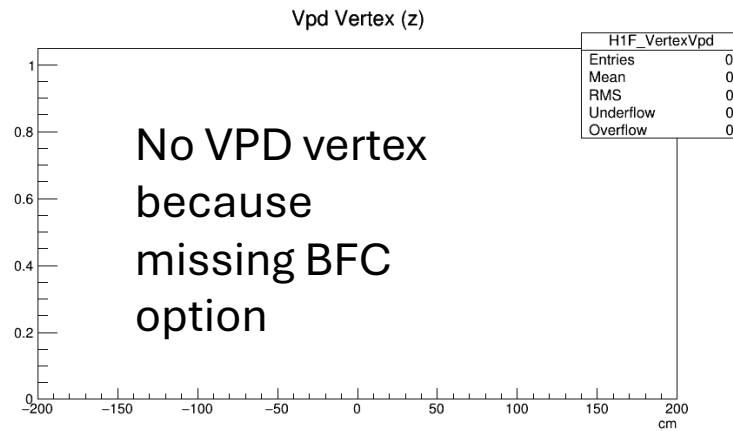
July 3, 2024

Spin PWG Meeting

Recap

- Request for st_fwd stream for Run 22 with no tracking
- Request page:
<https://drupal.star.bnl.gov/STAR/blog/dkap7827/Run-22-Data-Production-Request>
- Production tag P24ia
- Spin information is not implemented into database
- Goal: make sure that all needed data is there and FCS pi0s have correct mass from reconstruction

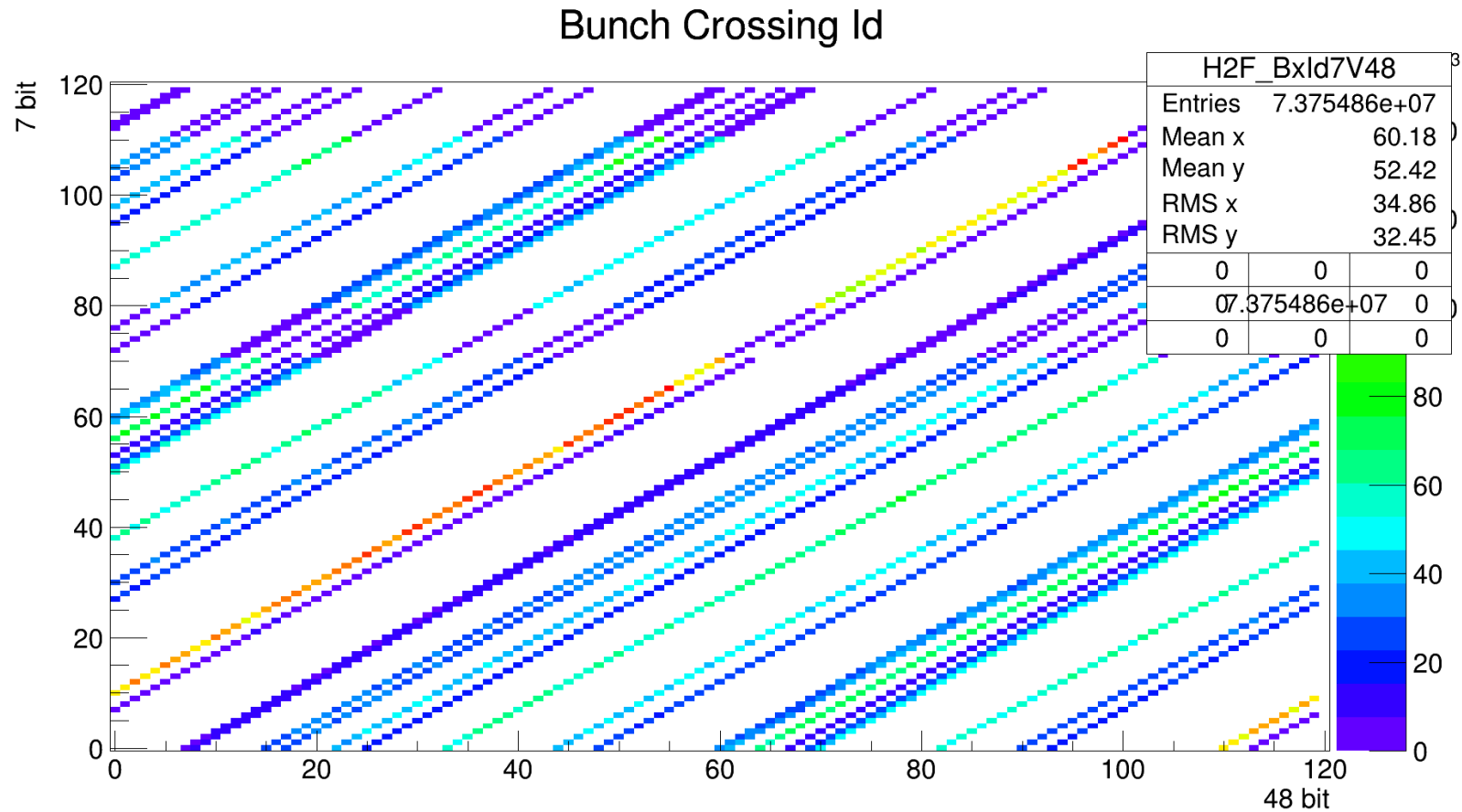
Vertex



BBC vertex normal but some spikes possibly coming from float precision since time difference doesn't have that

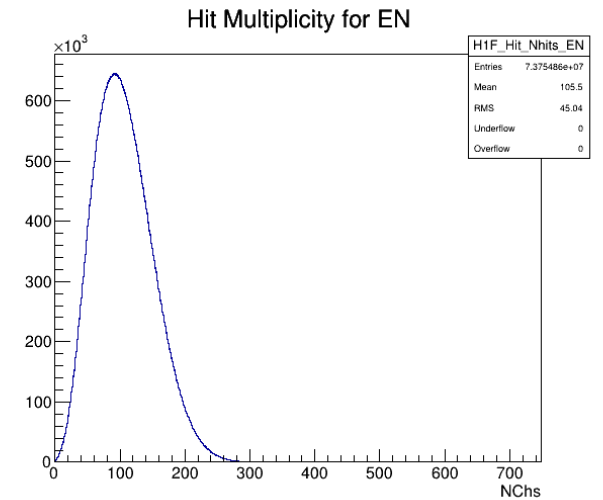
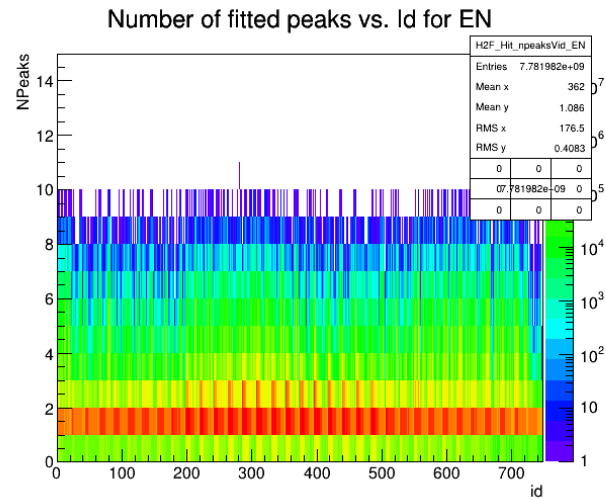
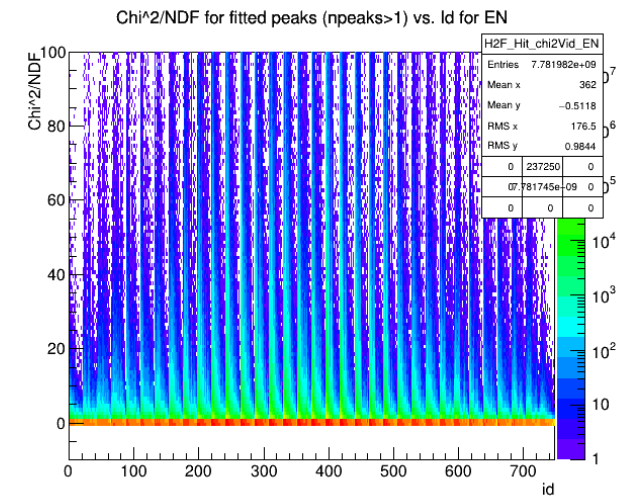
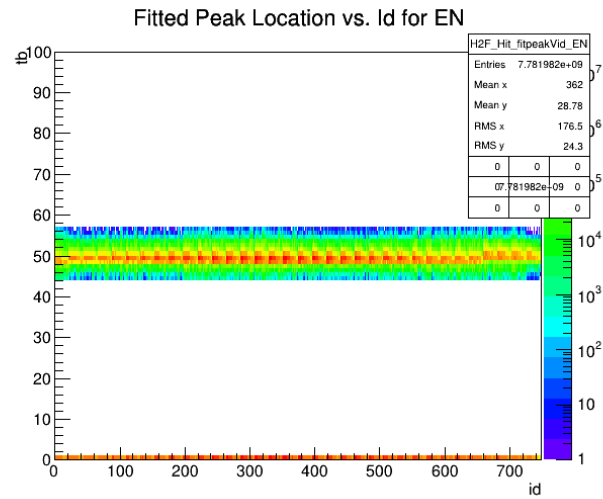
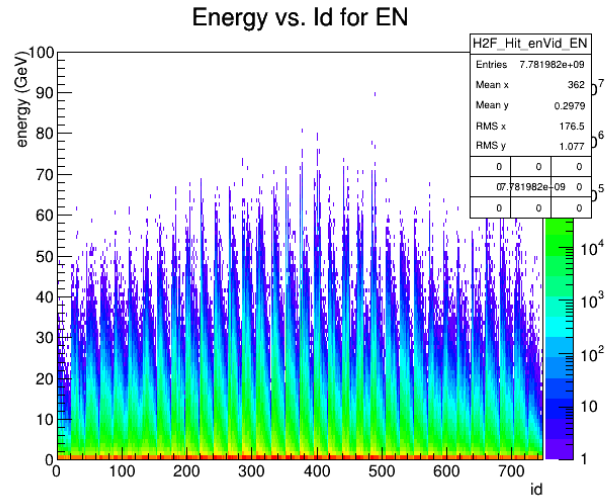
Odd spike at about 20 cm for ZPD vertex

Bunch crossing Id



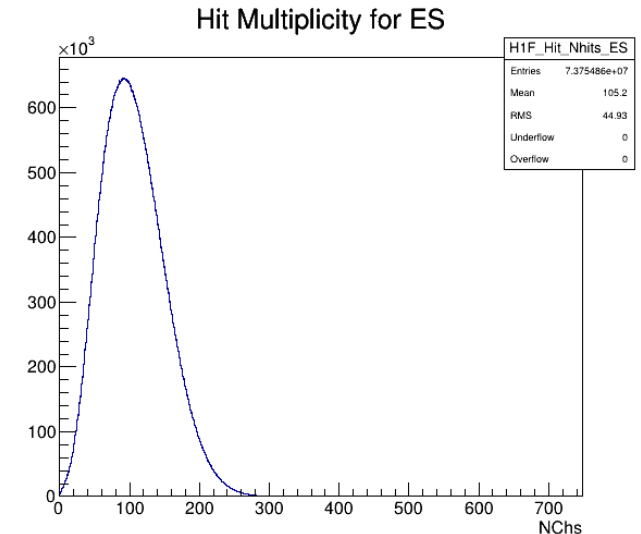
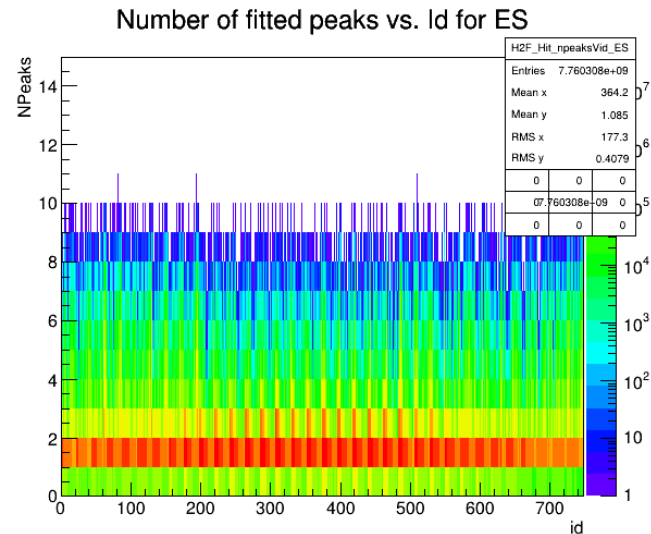
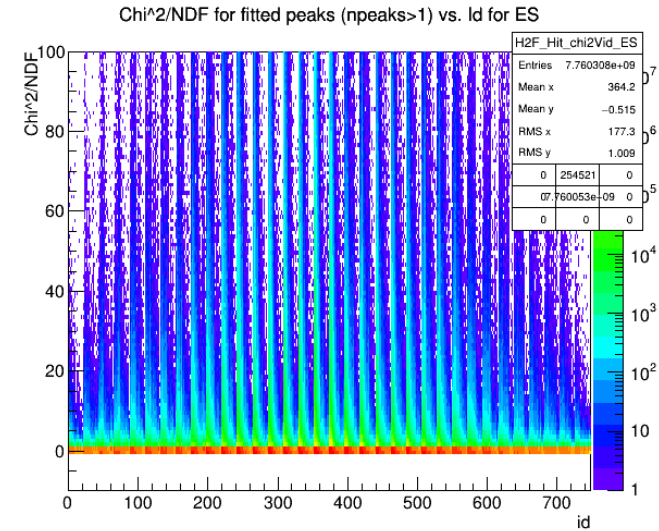
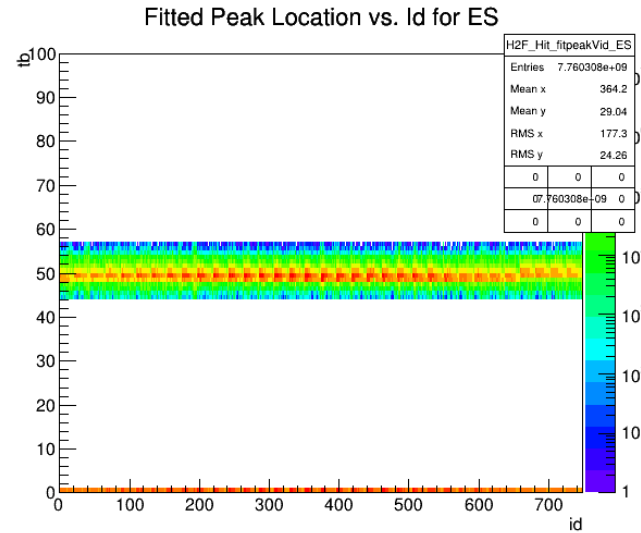
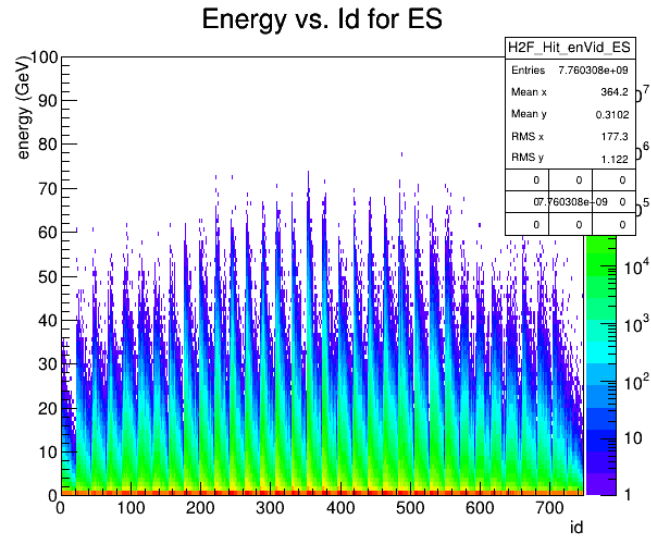
Since many fills lumped together distribution is all over the place but straight lines are normal so we can use to fill spin database from cdev

Ecal North Hit QA



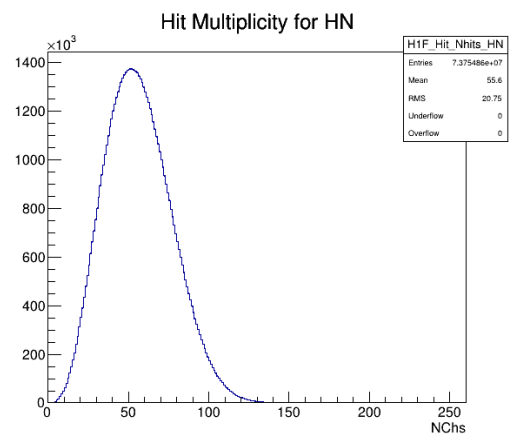
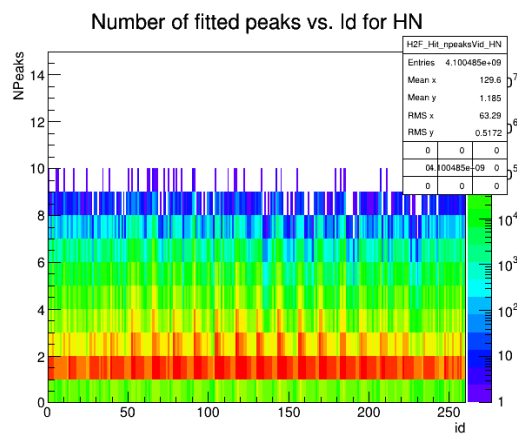
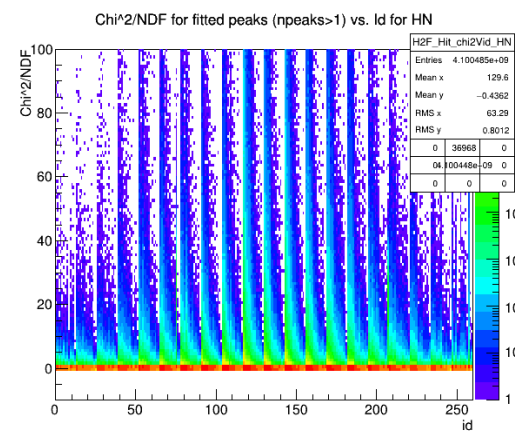
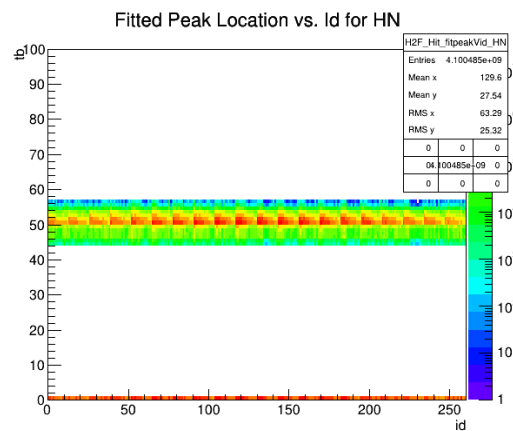
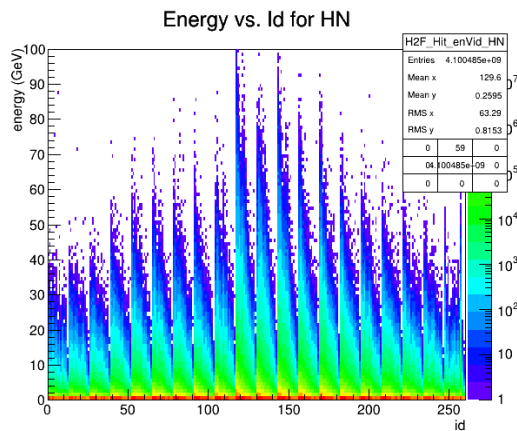
Most everything looks normal but in some rare cases number of fitted peaks goes to 10

Ecal South Hit QA



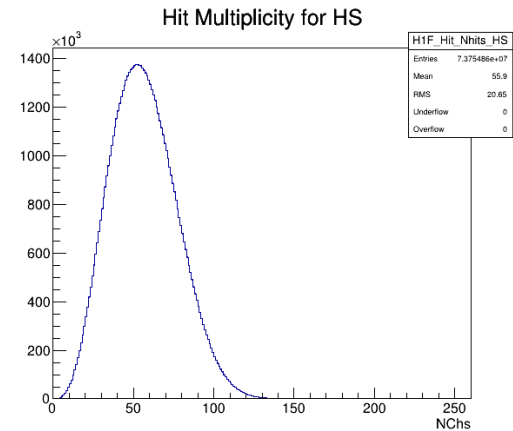
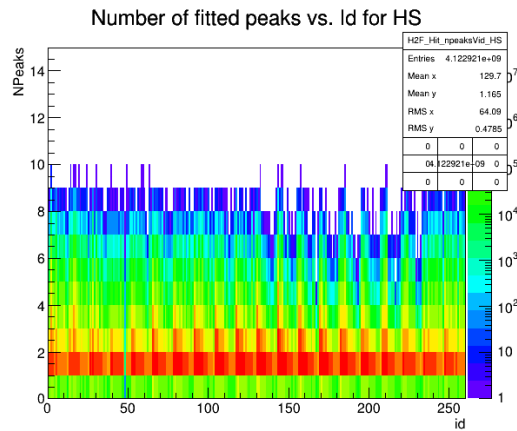
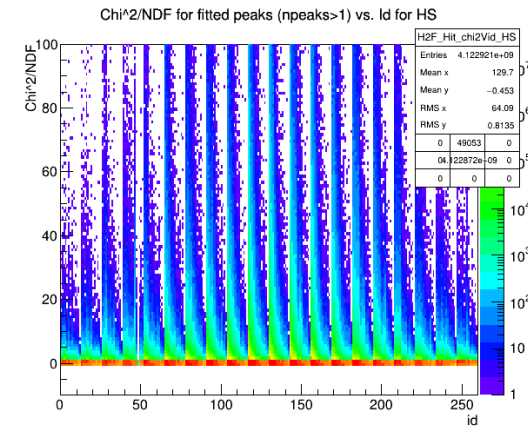
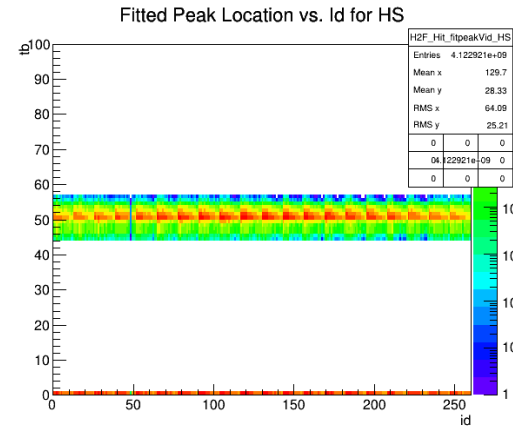
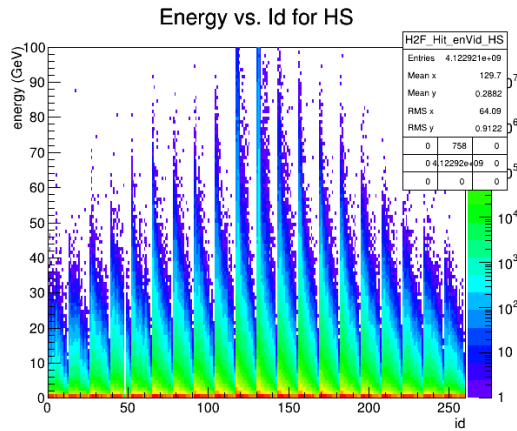
Most everything looks normal but in some rare cases number of fitted peaks goes to 10

Hcal North Hit QA



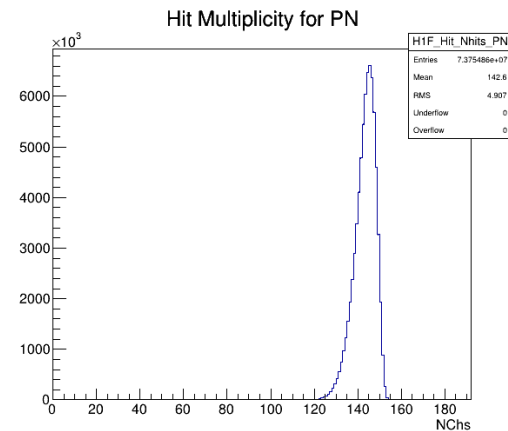
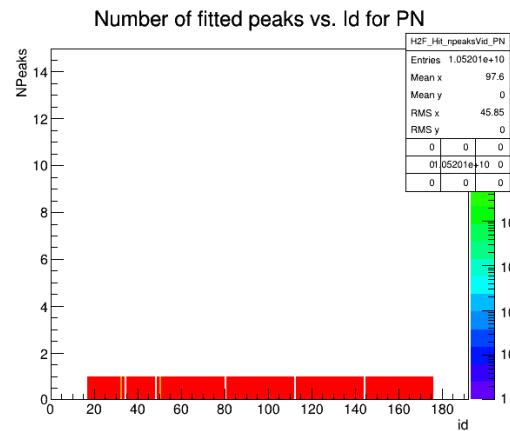
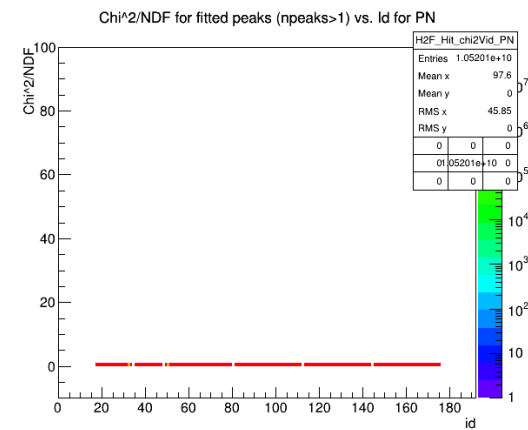
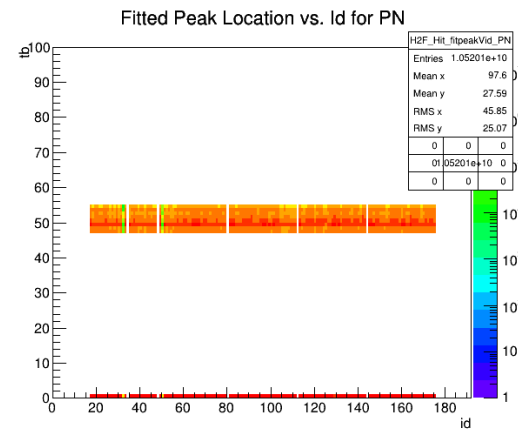
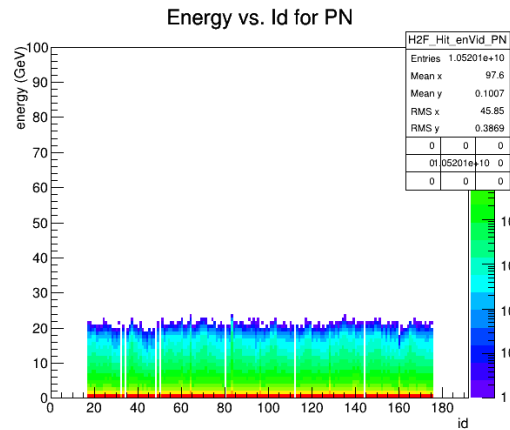
Most everything looks normal

Hcal South Hit QA



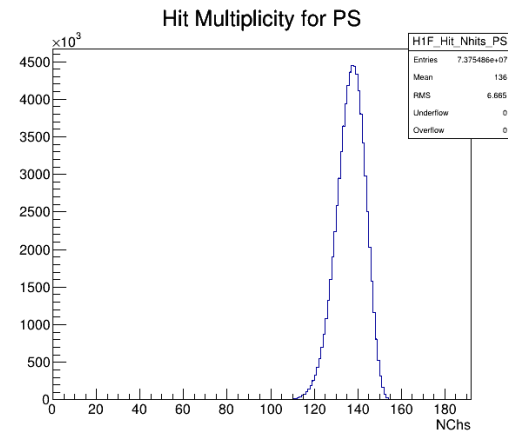
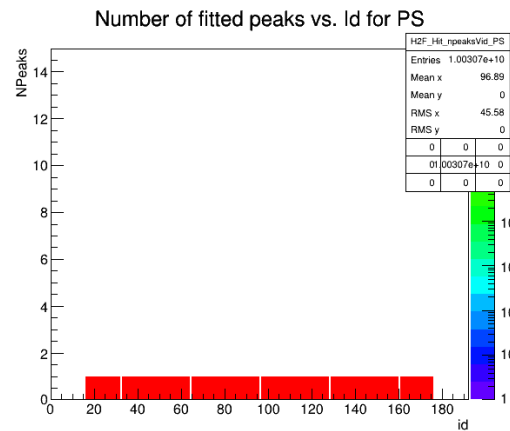
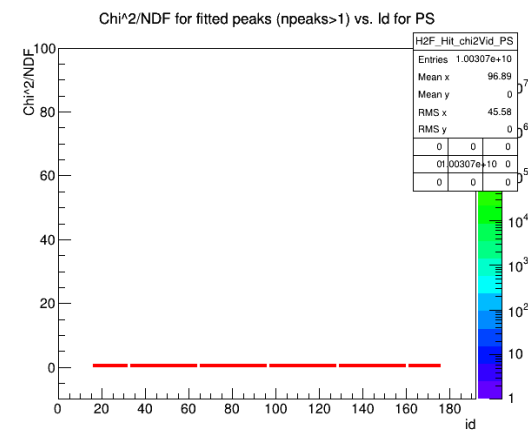
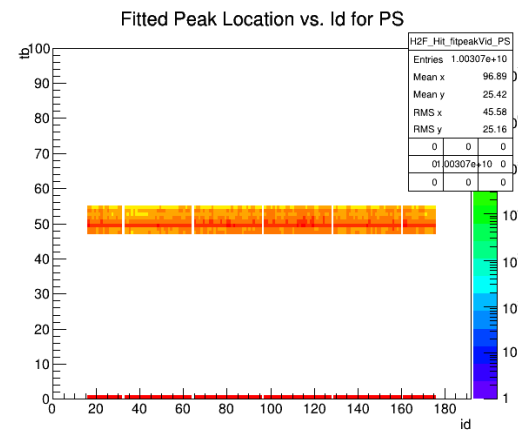
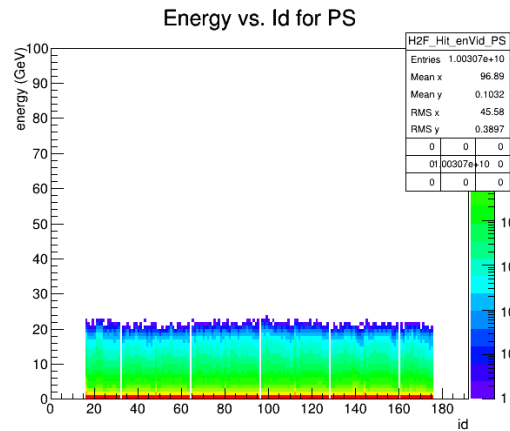
Most everything looks normal

Preshower North Hit QA



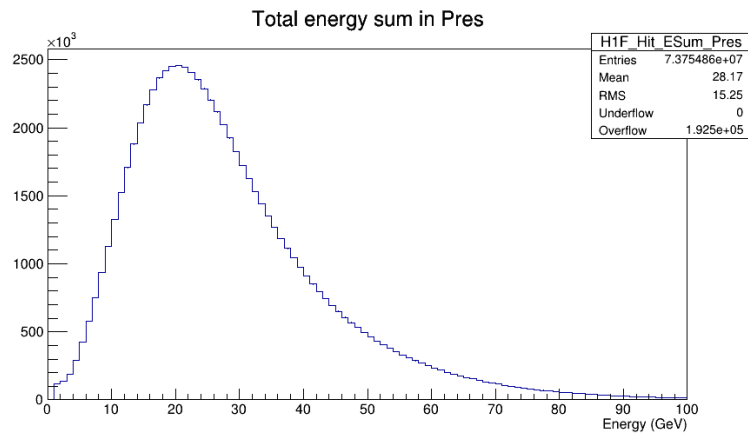
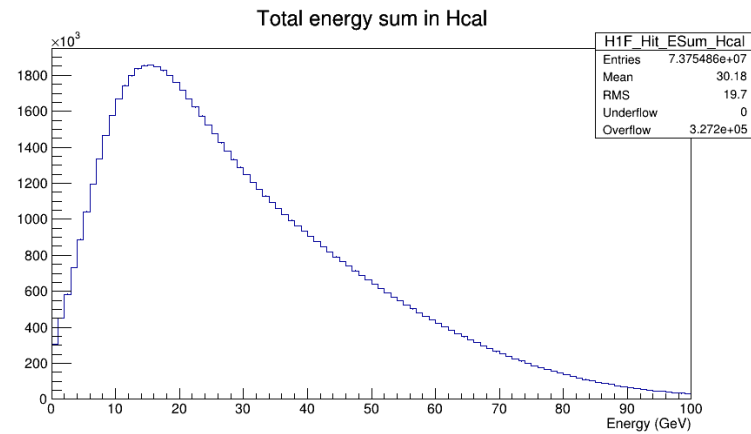
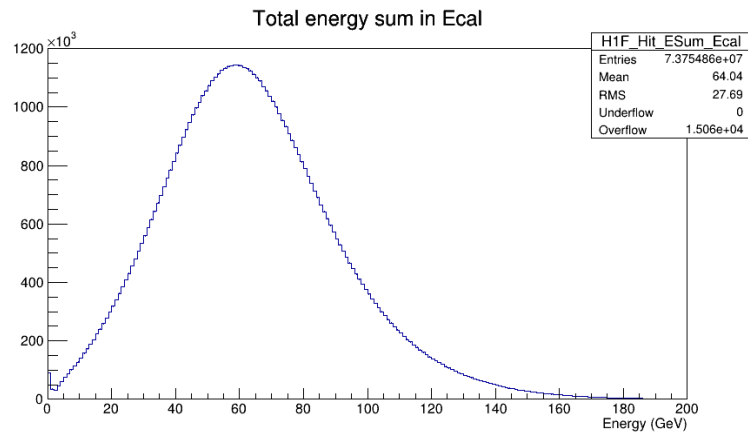
Looks normal.
Preshower energy is
not calibrated but
shape is normal

Preshower South Hit QA



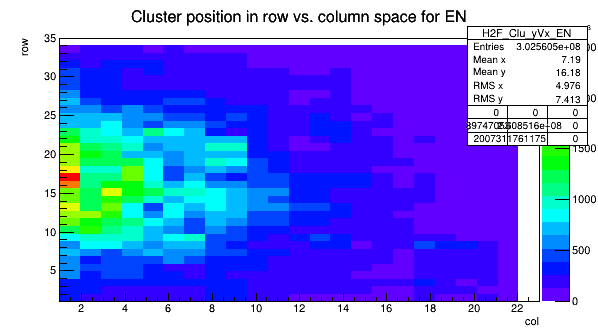
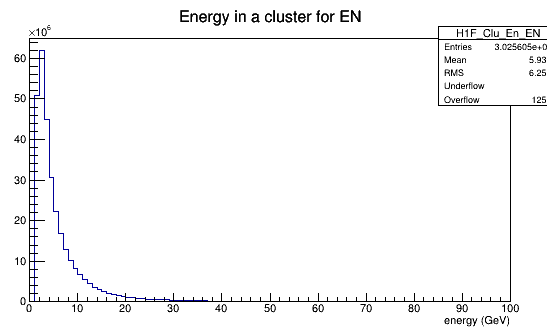
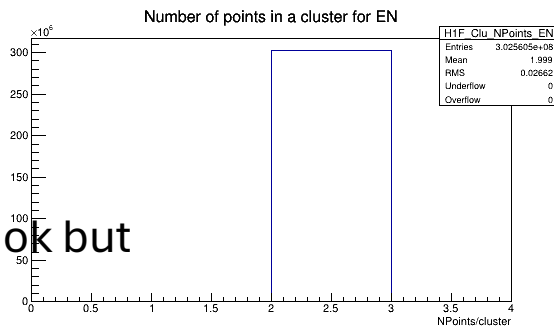
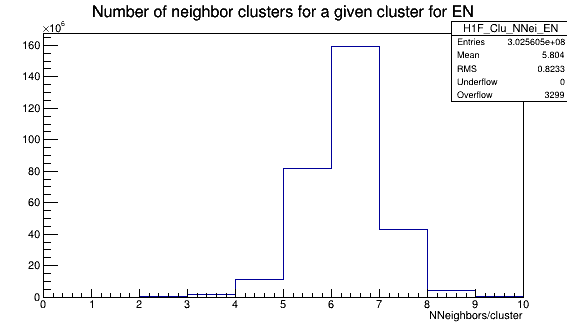
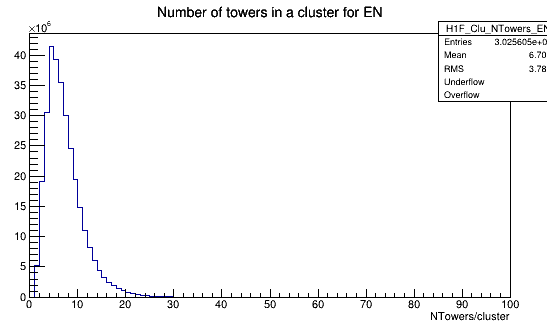
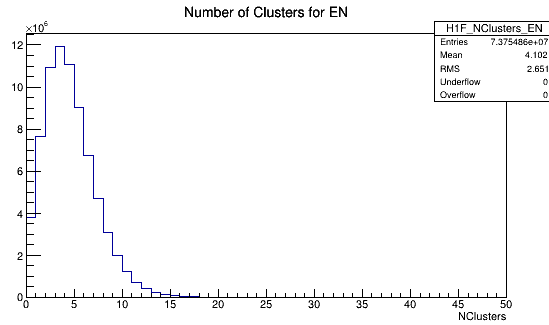
Looks normal.
Preshower energy is
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Total Energy

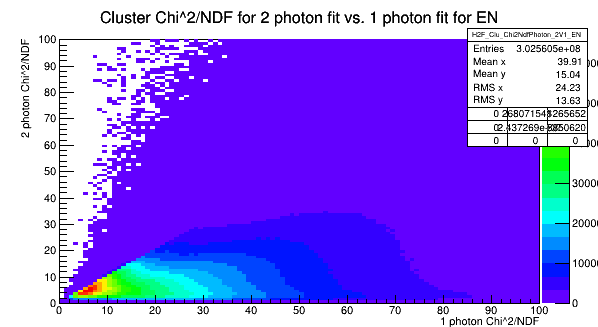
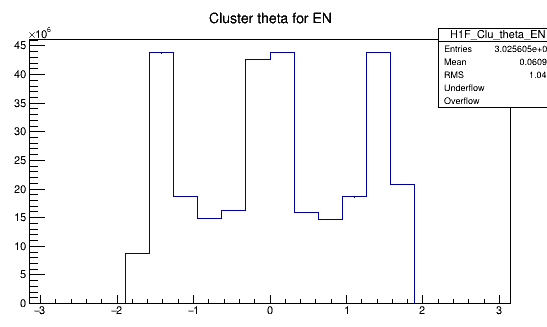
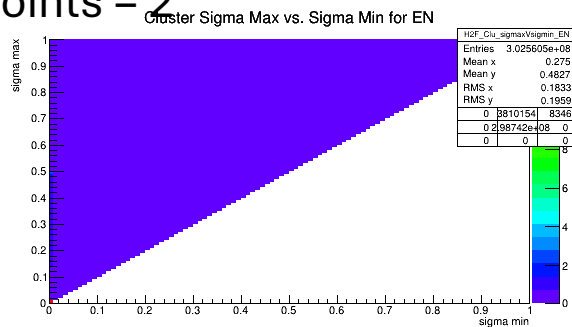


More energy in Ecal than Hcal but
Hcal calibrations are still not
finalized

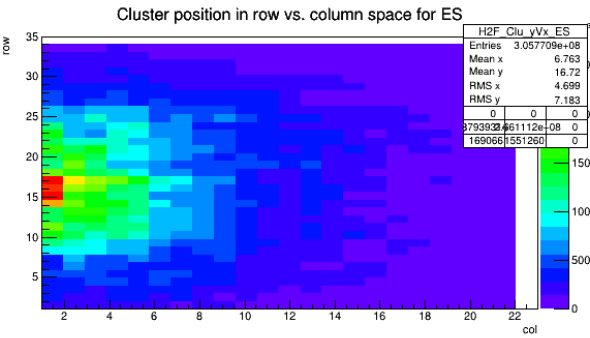
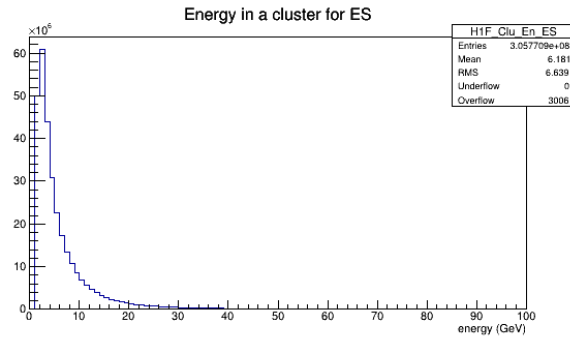
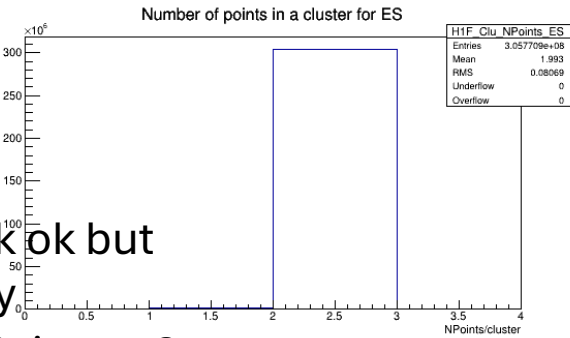
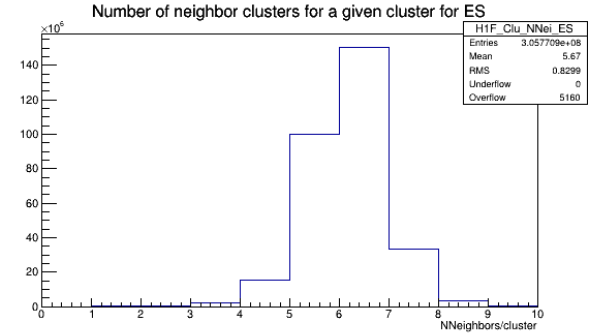
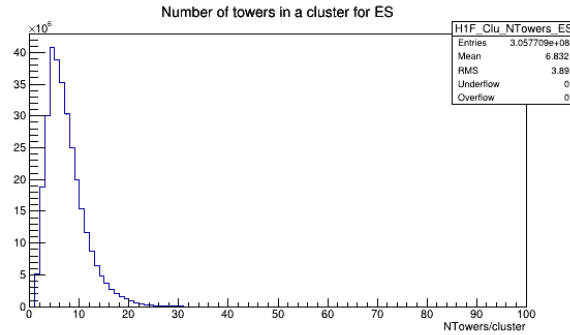
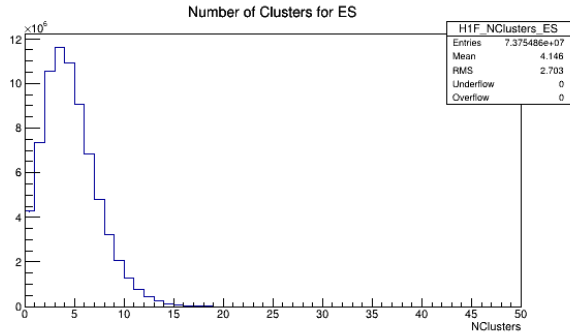
Ecal North Cluster QA



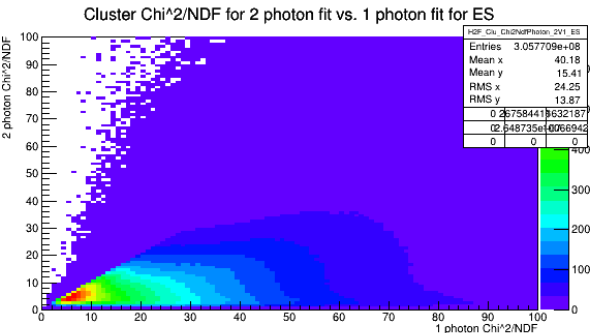
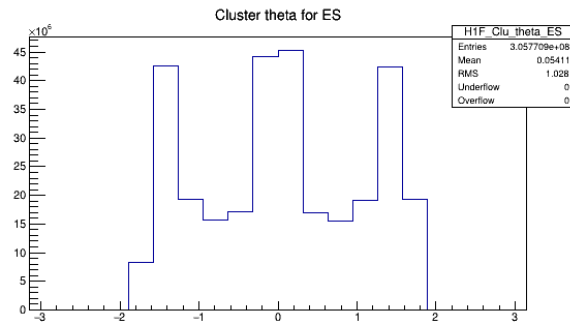
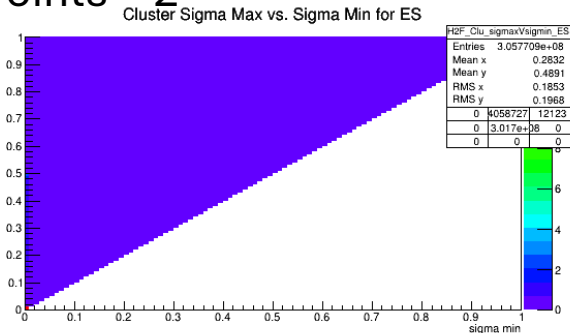
Most things look ok but seeing too many clusters with nPoints = 2



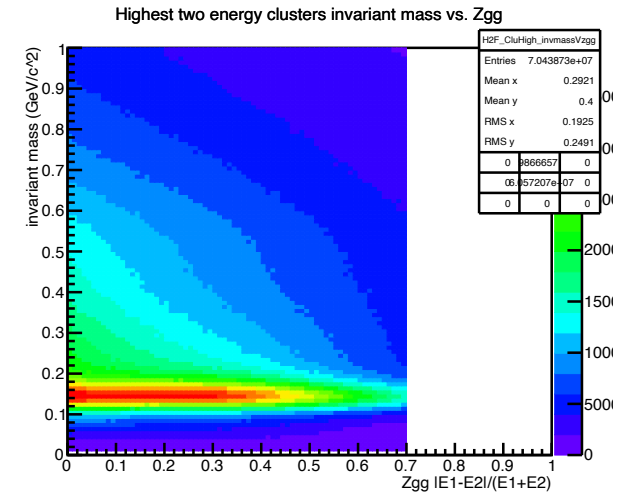
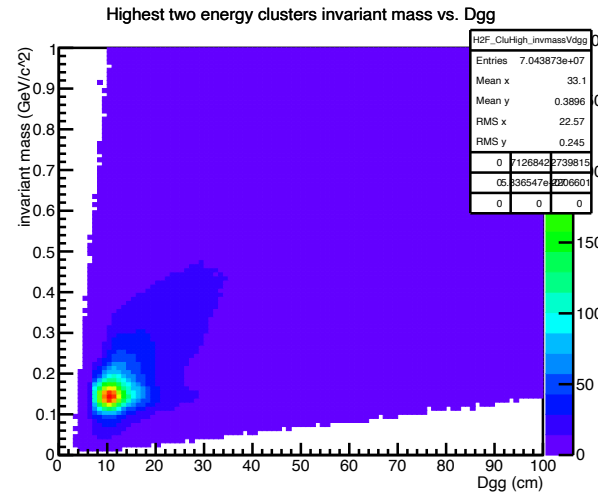
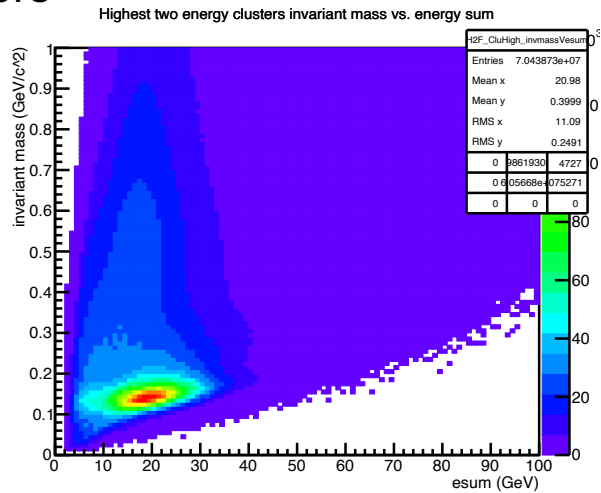
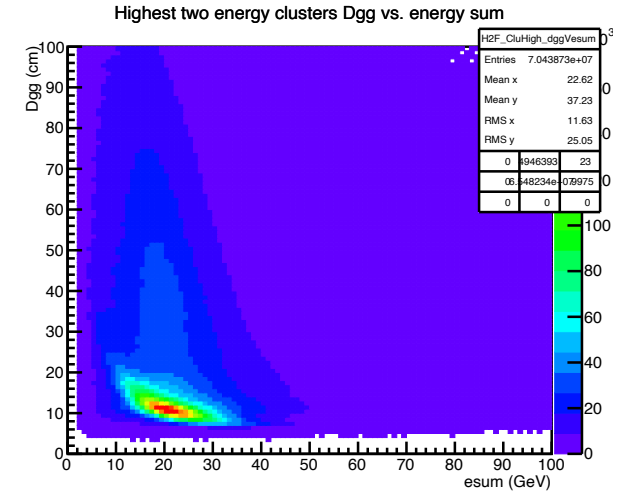
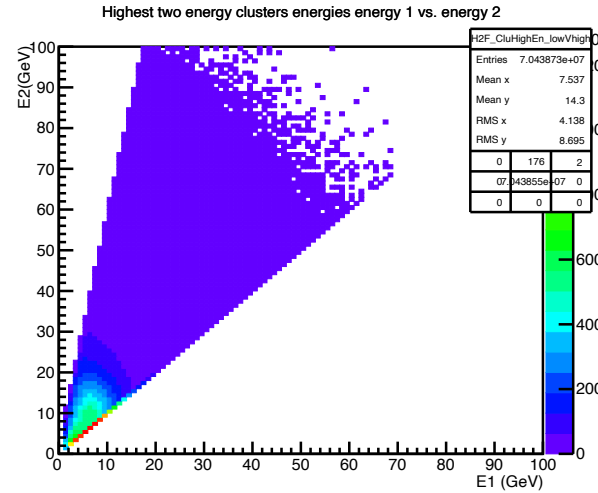
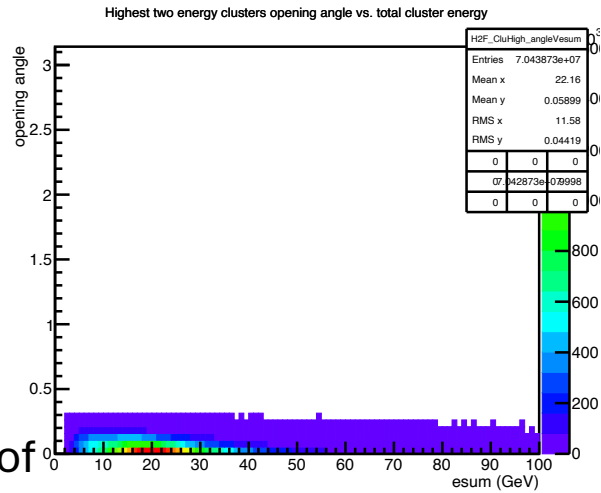
Ecal South Cluster QA



Most things look ok but seeing too many clusters with nPoints = 2



Cluster Pi0 Reconstruction

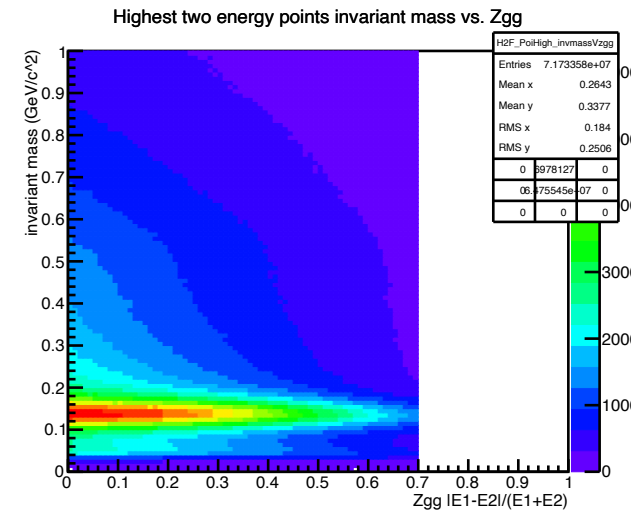
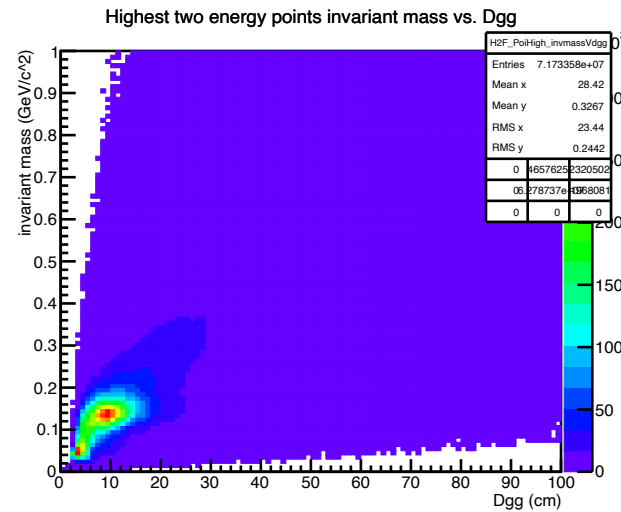
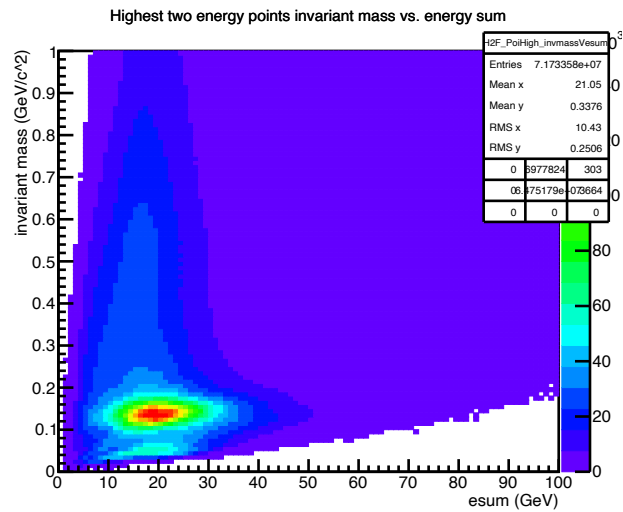
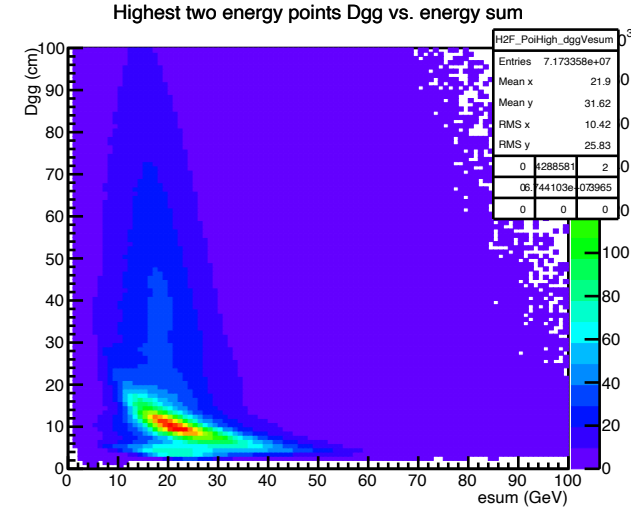
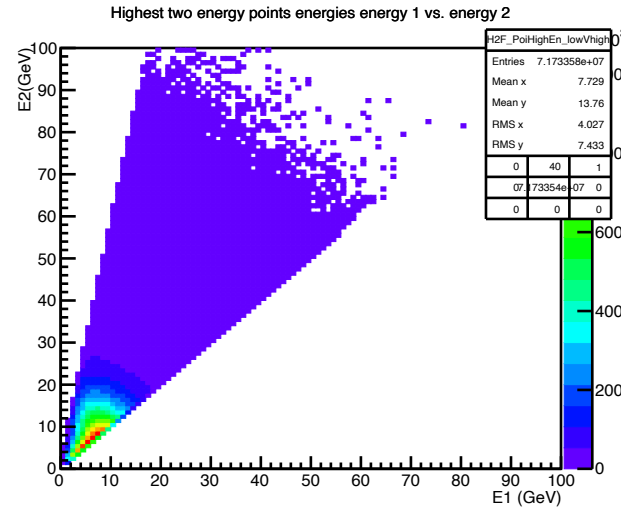
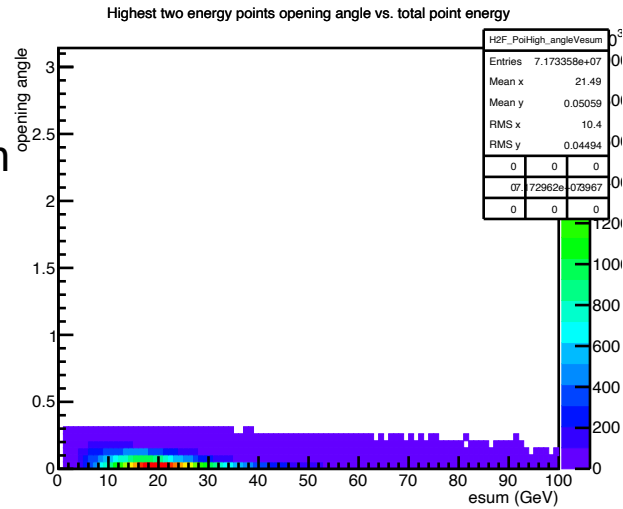


Getting good reconstruction of Pi0s from clusters

- Good calibration

- Mostly good Pi0s from points except at low energies
- Similar to Cluster distribution

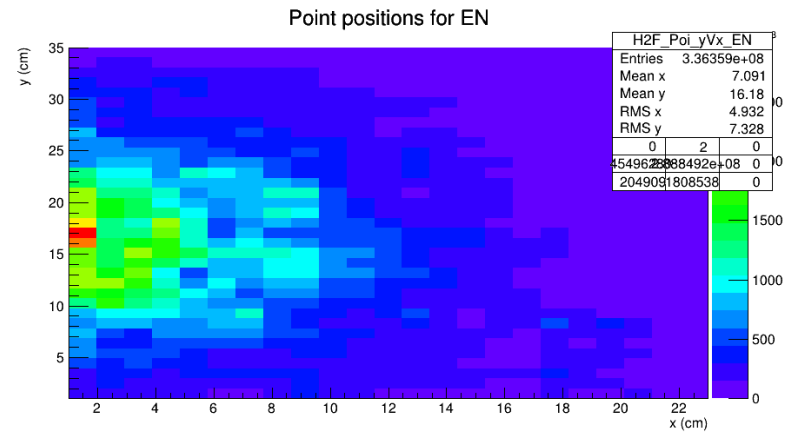
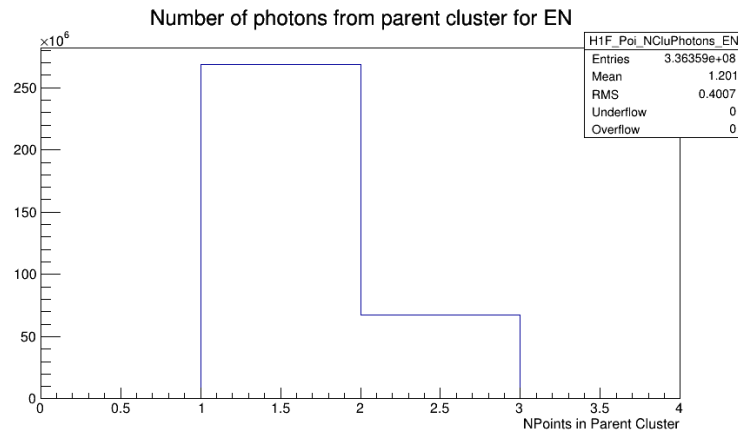
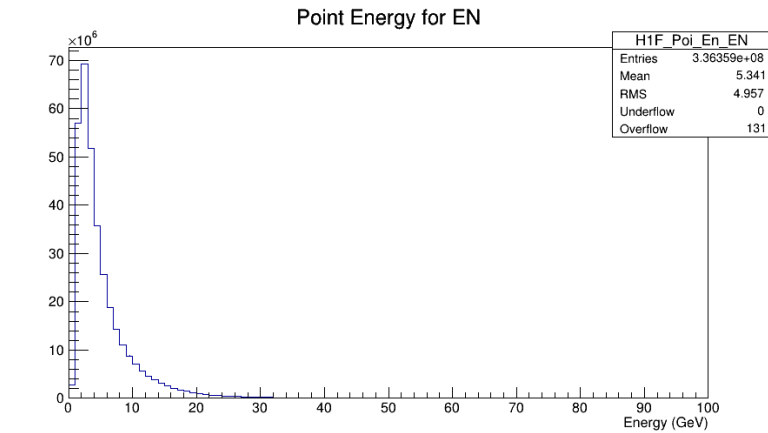
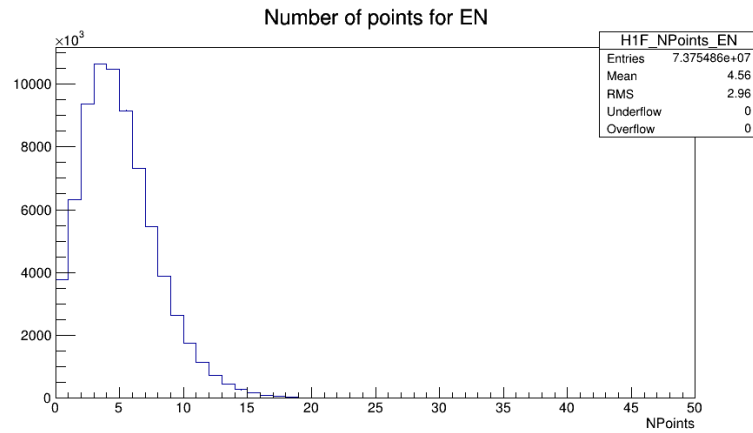
Point Pi0 Reconstruction



Conclusions and next steps

- VPD vertex was missing because "btof" option was not included in initial BFC options
- EPD hits are missing as well because "epdHits" option missing
- Asked to add these options in starting with and including run 23050001 VPD and EPD hits should be there
 - Looking into getting vertex info from EPD as well
- Spin information needs to be filled in database
 - I am generated Bx7 vs Bx48 id histograms to help with this
- Most everything else looks ok
- Want to start making pi0 trees for A_N analysis

Ecal North Point QA



Ecal South Point QA

