OnboardFilter Info Availability

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Status of Filter

• Got latest filter code from JJ
  - Geometry update
  - Better Windows compatibility (with thanks to Navid also)
• Still have to use compiler directives to extract info for TDS
  - JJ is working on a way to put everything we need into a structure
    • We won’t have to touch his code at all once that is done
Status of Info Availability

- Putting a few more things into the structure that already goes in TDS
  - Once it is in the TDS, the user will be able to write a UserAlg that emulates the OnboardFilter
- For persistency, Navid will also put necessary info...
  - (1) into a summary tree in the MeritTuple
  - (2) with detailed info into digi.root
    - A new dictionary file will be provided
TDS and ROOT file Content (proposed)

- In the ntuple summary
  - Number of towers triggered
  - Which towers were triggered (16 bit int)
  - Which ACD tiles over threshold (3, 32 bit words)
  - Energy that the filter sees (same as CalEnergySum)
  - The energy per layer (8 element array)
  - Any tracks found (Boolean: yes/no)
More Content

- **Structure in digi.root**
  - For each triggered tower:
    - Which x layers hit
    - Which y layers hit
    - Locations of x and y layer coincidences
  - For each projection:
    - Whether an x or y projection
    - x layers hit (corresponding to this projection)
    - y layers hit (corresponding to this projection)
    - Starting layer
    - Ending layer
    - Total number of layers hit
    - “intercept” → starting strip number
    - “slope” → number of strips between first layer and second layer hits (clusters)
  - For each x layer:
    - The hit strips (clusters)
  - For each y layer:
    - The hit strips (clusters)