

Trigger Filter Algorithm

by Ryan Linehan

You have:

- some # of event files (post-FragmentToDigit) containing...
- some # of triggers

You want:

- Triggers satisfying some trigger/veto config:

“+USTOF+DSTOF+WCI+WC2+WC3-HALO”

or

“+COSMICON+COSMIC”

We now have a trigger filter algorithm that does this.

- Easy to use within an reco/analysis module

How to use it:

Function name: `doesTriggerPassFilter`

Input string with desired filter configuration*:

```
std::string filterConfig = "+USTOF+DSTOF+WC1+WC2+WC3+WC4-HALO";  
bool didTriggerPassFilter = fTrigFiltAlg.doesTriggerPassFilter( theTrigger, filterConfig );
```

`raw::Trigger` object:

Returns true if passed filter, false if did not.

* Format for string must be “+(SomeTrigger)[...]- (SomeVeto)[...]”

Where is this located?

Feature branch:

rlinehan_TriggerFilter

Note: the correspondence between trigger bits (stored in Trigger object) and the physical devices (USTOF, WCI, etc.) is still hardcoded and incomplete

- Currently being upgraded to pull information from database using the DatabaseUtilityT1034 service
- Avoid using the algorithm for 1-2 days while this correspondence is finished.