

# FilterAlg: Final Report

- Consists of 3 files added to the OnboardFilter package
- Duplicates 15 of 16 OnboardFilter vetoes
  - Veto number 16 ("skirt" veto) is not coded
- This project uncovered 2 significant flight software bugs!
  - One is already fixed. OnboardFilter will be updated soon.

# Performance

- Nearly 100% agreement between FilterAlg and OnboardFilter
  - Vetoes 25 and 24 do not agree 100% with OnboardFilter because of an OnboardFilter bug
    - OnboardFilter misses a veto about 1% of the time
    - JJ will supply a fix
    - Trust FilterAlg over OnboardFilter
  - Just discovered: 1 false veto #29 for every 400 correct veto #29s, or 1 false veto for every 3000 overall (basing this on 50K backgndavgpdr events).
    - Will supply a fix

# Using FilterAlg

- Add one line to Gleam basicOptions right after OnboardFilter and FilterTracks are called:  

```
Triggered.Members += {"FilterAlg"}
```
- Refer to the documentation for info on jobOptions and code details
- "m\_vetoword" can be written to MeritTuple
  - Same format as FilterStatus\_HI for easy comparison

# Necessary Updates

- Veto 16 is not coded
  - Recommendations on how to add it are included in the documentation
- Will update OnboardFilter when vetoes 25 and 24 are fixed
  - Until then, trust FilterAlg
- Will update FilterAlg when the Veto 29 bug is fixed
- Navid is working on putting OnboardFilter/FilterAlg primitives into ROOT files