

Validation of results on He/HFO in view of a dedicated publication : plan & status

Review of efficiency code(s) :

- CNAF official reco code (from binary to “debug tree”)
- Dedicated efficiency code by S.Boi.

2 main critical aspects :

- Efficiency, streamer fraction and cluster multiplicity are not obtained in a consistent way (different codes and/or different cuts). -> Difference in efficiency between CNAF eff. code and dedicated code (tuned for streamer % computation) ~10%
- Streamer are not $\ll 1\%$, but of the order of 10% (50/50 mixture)

Debug/improve actual code. Main changes:

- New clusterization algorithm
- New calibration procedure (simultaneous time/space calibration)
- New selection cuts

At present the code can extrapolate streamer and efficiency simultaneously. Difference in efficiency between CNAF eff. code and dedicated code below 2%

Further optimization/automatization of the code, target discrepancy below 1% (**ONGOING**)

Validation on a larger set of runs (at present I'm using a PISA run with 50/50 mixture @ eff. plateau, worst condition in terms of reconstruction).

Recompute efficiency for the selected efficiency scans (2 telescopes, ~4 mixtures)

Re-reco of PISA data after fix of DST producer -> New plots of parameter distributions (beta, Theta, ToF,...) (**ONGOING**)