Guido's new ftksim

- Successfully runs at uchicago
- Wrote a python wrapper to automate running
  - Generates config files from templates
  - Checks presence of all maps / inputs
  - Can submit jobs to tier3 cluster
- Plan for this week:
  - Do a few more tests
  - Fully deploy on UC tier3
Antonio's matching

- Extensive modifications to the wrapper
  - Associates barcode to each hit
  - Almost complete rewrite

- Barcode info propagated thru (old) ftksim
  - Results integrated into ftksim_comp ntuple
  - Will be easy to integrate into new ftksim

- New truth association appears robust
  - No dependence on matching cuts!!

- Today: first results using Antonio's matching
Added **green curve**: efficiency with Antonio's truth association

Due to a small bug, Antonio efficiency is only for tracks with $\text{Pt}>3\text{GeV}$

Even with bad performance in $\eta=1.0 – 2.0$, we basically hit 90% at 5M / subregion
Eta=1.0 – 2.0 needs more investigation: will use more narrow eta bins
Note that old truth matching produces very low efficiency in far-eta region (red curve). However, efficiency is good in other methods ==> matching cuts too tight at large eta.
Summary

• New truth assignment from Antonio shows that efficiency is close to maximum-possible theoretical value (computed as fraction of events with at least one 10/11 OR 11/11 road)

• 5M / subregion gives overall efficiency = 90%

• This requires preloading all pattgen patterns, and padding the rest with pat-from-const

• Performance in eta = 1.0 .. 2.0 must be studied in more detail