

# ND DATA SELECTION STATUS

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ND US DAQ

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- Not much actual code development this week (some progress with fixed data input).
- Went to run some tests, pulled develop - merge conflicts.
- Spurred on to merge ND timing trigger code I have already. Confident enough in the tests done so far to open PRs.
- Open PRs in minidaqapp, dfmodules and readout repositories - have requested reviews from relevant people.
- Inspecting selected data / interpreting output hdf5.
  - ▶ Reached out to Kurt B.
  - ▶ Adam Abud, Giovanna and Wes have been working on a reader application.
  - ▶ Currently in a private repo outside DUNEDAQ but is being moved to DUNE-DAQ/hdf5libs.



- Feed in known data, make sure that data is selected, make sure it is saved to hdf5.
- Focussing on known input.

```
usage: pacman-generator.py [-h] [--explain_modes] [--input_file INPUT_FILE] [--mode MODE] [--n_file_evals N_FILE_EVALS] [--n_pacman N_PACMAN] [--n_messages_total N_MESSAGES_TOTAL] [--n_messages_group N_MESSAGES_GROUP]
Warning in <TCanvas::Resize [--group_interval GROUP_INTERVAL] 0 to 10

optional arguments:
  -h, --help            show this help message and exit
  --explain_modes        Print an explanation of the running modes.
  --input_file INPUT_FILE, -i INPUT_FILE width changed from 0 to 10
                        Input h5 file.
  --mode MODE           Canvas: ResRunning mode, can take values [0-4]. Pass --explain_modes to this script for a full explanation of different modes.
  --n_file_evals N_FILE_EVALS
                        Canvas: ResNumber of times the input file is looped through.
  --n_pacman N_PACMAN   Canvas: ResNumber of PACMAN cards.
  --n_messages_total N_MESSAGES_TOTAL
                        Canvas: ResTo be used with --mode 1. Total number of messages sent during one loop of input file.
  --n_messages_group N_MESSAGES_GROUP
                        Canvas: ResTo be used with --mode 1. Total number of messages sent at once at intervals of --group_interval.
  --group_interval GROUP_INTERVAL
                        Canvas: ResTo be used with --mode 1. Time interval between groups of messages being sent.
root [2] .q
```

```
root [1] new TBrowser
(TBrowser Running mode 0:10
root [2] You will send all of the messages in the input file individually atk drawn objects.
Warning in intervals of 1 to 3 seconds drawn randomly. If you specified --n_messages_total,
--n_messages_group or --group_interval, this will be ignored.
Warning in <TCanvas::ResizePad>: Canvas_1 height changed from 0 to 10
Running mode 1:
Warning in For each loop of the input file you specified, you will send groups of messages
Warning in of size, split by intervals of 1 and totalling the numbers you specify using
--n_messages_total, --n_messages_group and --group_interval.
Warning in <TCanvas::ResizePad>: Canvas_1 height changed from 0 to 10
Running mode 2:
Warning in For each loop of the input file you will send a single message.
Warning in If you specified --n_messages_total, --n_messages_group or --group_interval, this will be ignored.
Warning in Running mode 3: zePad>: Canvas_1 height changed from 0 to 10
For each loop of the input file you will send 10 total messages individually
Warning in spaced by 1 second. d: Inf/NaN propagated to the pad. Check drawn objects.
Warning in If you specified --n_messages_total, --n_messages_group or --group_interval, this will be ignored.
Warning in Running mode 4: zePad>: Canvas_1 height changed from 0 to 10
For each loop of the input file you will send 50 total messages in groups of 5
spaced by 1 second.
root [2] If you specified --n_messages_total, --n_messages_group or --group_interval, this will be ignored.
root [2] .q
```

Merged into  
lbrulibs  
develop



- Asher reached out about contributing to CERN coldbox running.
- Writing / implementing a cosmic trigger on timeline ~ 3 weeks.
- Josh / Phil put me in contact with developer of the cosmic trigger for ProtoDUNE single phase.
- Step 1: how much of the code can be reused and port that over to DUNEDAQ.
- After that will have a greater appreciation of whether I actually have the time to complete the task.