# ProtoDUNE-VD data/sim production

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DUNE production meeting

Jan 23th, 2025

# Context



## Filling is completed

The nominal level was reached on Monday 20th around noon.
Condensation from NP04 was stopped.
Boil-off from the chimneys was sent to re-condensation.
LAr level is stable since then (from temperature sensors).
LAr recirculation and purification on and stable.
Second LAr pump (for back up) installed last week and ready to be put in operation.

First temperature above the LAr surface
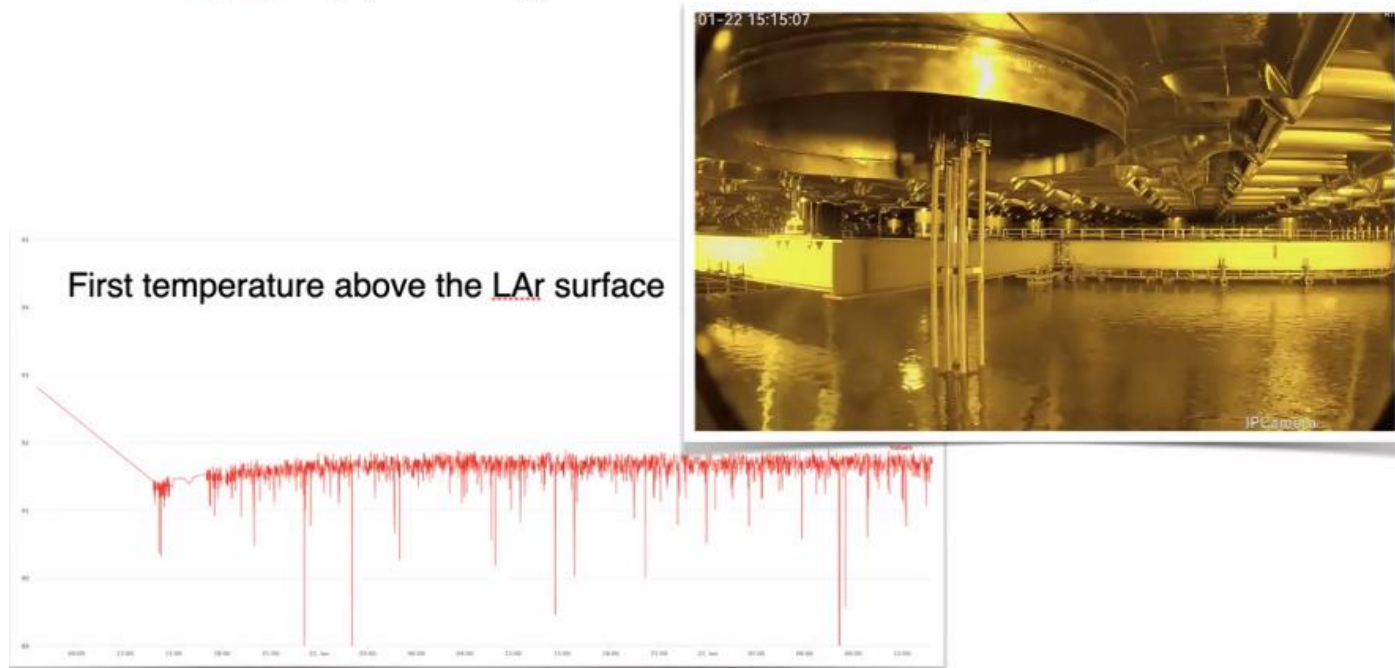
# Jan, 09<sup>th</sup> to-do list

- **I got access to the keepup process scripts Jake used for PDHD (crontab, bash, justin commands, …)**

  - Need to adapt it to PDHD

  - Run tests on Dec. 2024 files

  - Add/test TDE & PDS stream decoders when DAQ will produce complete files (ongoing discussion with Tom Junk)

- **Prepare simulations proposal of:**

  - Cosmics

  - Radiologicals

  - Beam

➢ Also here, Jake's scripts developed for PDHD are available and could in principle be adapted and reused

# Status now

- **I got access to the keepup process scripts Jake used for PDHD (crontab, bash, justin commands, …)**

  - Need to adapt it to PDHD

  - Run tests on Dec. 2024 files

  - Add/test TDE & PDS stream decoders when DAQ will produce complete files – channel mapping getting final

- **Prepare simulations proposal of:**

  - Cosmics

  - Radiologicals

  - Beam

- ➢ Also here, Jake's scripts developed for PDHD are available and could in principle be adapted and reused

# Keepup-process

- **I got access to the keepup process scripts Jake used for PDHD (crontab, bash, justin commands, …)**

  - Jobscript updated to PDVD case

  - Interactive tests with automated metacat query done

    - Works out of the box on Jan 2025 files =)

  - Need to test the grid submission but no forseen showstopper

  - There will be a crontab job running to look for new files twice a day (or with higher repetition if needed/possible)

    - Test planned when the FNAL system will be back online

# Keepup-process

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# ProtoDUNE-VD raw dataset

- A lot of BDE CRP noise monitoring data taken at the moment

**Datasets**

create

Namespace: vd-protodune

Name Match: [_____] Envoyer

| Name | Namespace | Creator | Created | Owner | Flags | Files | Children | Subset |
|------|-----------|---------|---------|-------|-------|-------|----------|--------|
| vd-protodune_35327 | vd-protodune | dunepro | 2025-01-22 02:57:10 UTC | user dunepro | | 280 | | |
| vd-protodune_35325 | vd-protodune | dunepro | 2025-01-21 10:12:16 UTC | user dunepro | | 147 | | |

- Test crontab running on it twice a day every 12 hours – works well

```
[dunepro@dunegpvm10 ~]$ crontab -l
MAILTO='yoann.kermaidic@ijclab.in2p3.fr'

40 3,15 * * * /cvmfs/oasis.opensciencegrid.org/mis/apptainer/current/bin/apptainer exec -B /cvmfs,/exp,/nashome,/pnfs/dune,/opt,/run/user,/etc/hostname,/etc/hosts,/etc/krb5.conf --ipc --pid
/cvmfs/singularity.opensciencegrid.org/fermilab/fnal-dev-sl7:latest /exp/dune/app/users/ykermaid/scripts/keepup/submit_keepup.sh usertests 2>&1 | tee -a
/exp/dune/app/users/ykermaid/scripts/keepup/keepup_cronlogs.txt
```

# ProtoDUNE-VD keepup

- For large datasets processing, see workflows 4798, 4816, 4830

## Workflow 4816

| | |
|---|---|
| Description | PDVD Keepup (2025-01-22T1200 -- 2025-01-22T2400) |
| State | running |
| Message | Moved to running state by justIN |
| MQL | files where created_timestamp >= 2025-01-22T1200 and created_timestamp < 2025-01-22T2400 and core.run_type=vd-protodune and core.file_type=detector and core.data_tier=raw and core.data_stream in (physics, cosmics) |
| Scope | usertests |
| HTCondor Group | group_dune |
| Finding | every 1 hour(s) to 2025-01-24 23:59:59 |
| Next find | 2025-01-23 14:49:01 |
| Submitted by | ykermaid@fnal.gov |
| Created | 2025-01-22 21:40:07 |
| Submitted | 2025-01-22 21:40:07 |
| Started | 2025-01-22 21:40:26 |
| Finished | |
| Events for this workflow | |

### File states per stage

| Stage ID | Files | Finding | Unallocated | Allocated | Outputting | Processed | Not found | Failed |
|---|---|---|---|---|---|---|---|---|
| 1 | 120 | 0 | 0 | 0 | 0 | 120 | 0 | 0 |

### Job states per stage

| Stage | Total | Submitted | Started | Processing | Outputting | Finished | Notused | Aborted | Stalled | Jobscript error | Outputting failed | None processed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 213 | 0 | 0 | 0 | 0 | 205 | 0 | 0 | 8 | 0 | 0 | 0 |

# ProtoDUNE-VD keepup

- For large datasets processing, see workflows 4798, 4816, 4830

- Currently produced under 'usertests' scope but will move it to 'protodune-det-reco' in the next days (S. Timm taking care)

**Dataset usertests:w4798s1p1-DUNE_CERN_EOS**

| | |
|---|---|
| Creator: | dunepro |
| Create timestamp: | 2025-01-22 04:15:02 UTC |
| Updated by: | |
| Update timestamp: | |
| Frozen: | no |
| Monotonic: | no |

| Metadata: | Parameter | Value |
|---|---|---|
| | dune.workflow | {'mql': 'files where created_timestamp >= 2025-01-22T0000 and created_timestamp < 2025-01-22T1200 and core.run_type=vd-protodune and core.file_type=detector and core.data_tier=raw and core.data_stream in (physics, cosmics)', 'user': 'ykermaid@fnal.gov', 'stage_id': 1, 'rss_bytes': 4193255424, 'pattern_id': 1, 'processors': 1, 'workflow_id': 4798, 'file_pattern': '*_pdvd_bde_reco.root', 'wall_seconds': 18000, 'jobscript_image': '/cvmfs/singularity.opensciencegrid.org/fermilab/fnal-wn-sl7:latest'} |

| | |
|---|---|
| Immediate children: | |
| Subsets: | |
| Immediate parents: | |
| Ancestors: | |
| File metadata requirements: | |
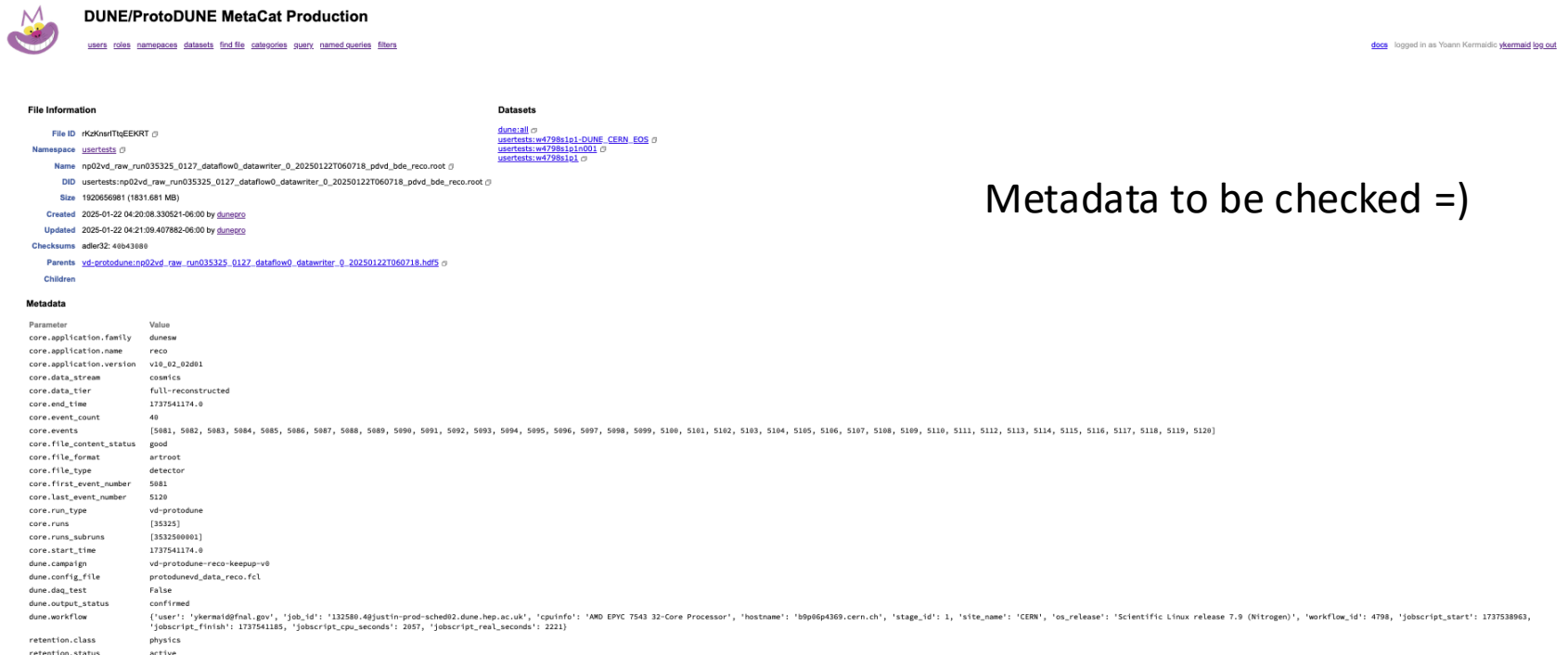
**44/44 (approximate) files**

usertests:np02vd_raw_run035325_0127_dataflow0_datawriter_0_20250122T060718_pdvd_bde_reco.root
usertests:np02vd_raw_run035325_0128_dataflow0_datawriter_0_20250122T061358_pdvd_bde_reco.root
usertests:np02vd_raw_run035325_0129_dataflow0_datawriter_0_20250122T062038_pdvd_bde_reco.root

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Metadata to be checked =)

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Can already have LArSoft based monitoring =)
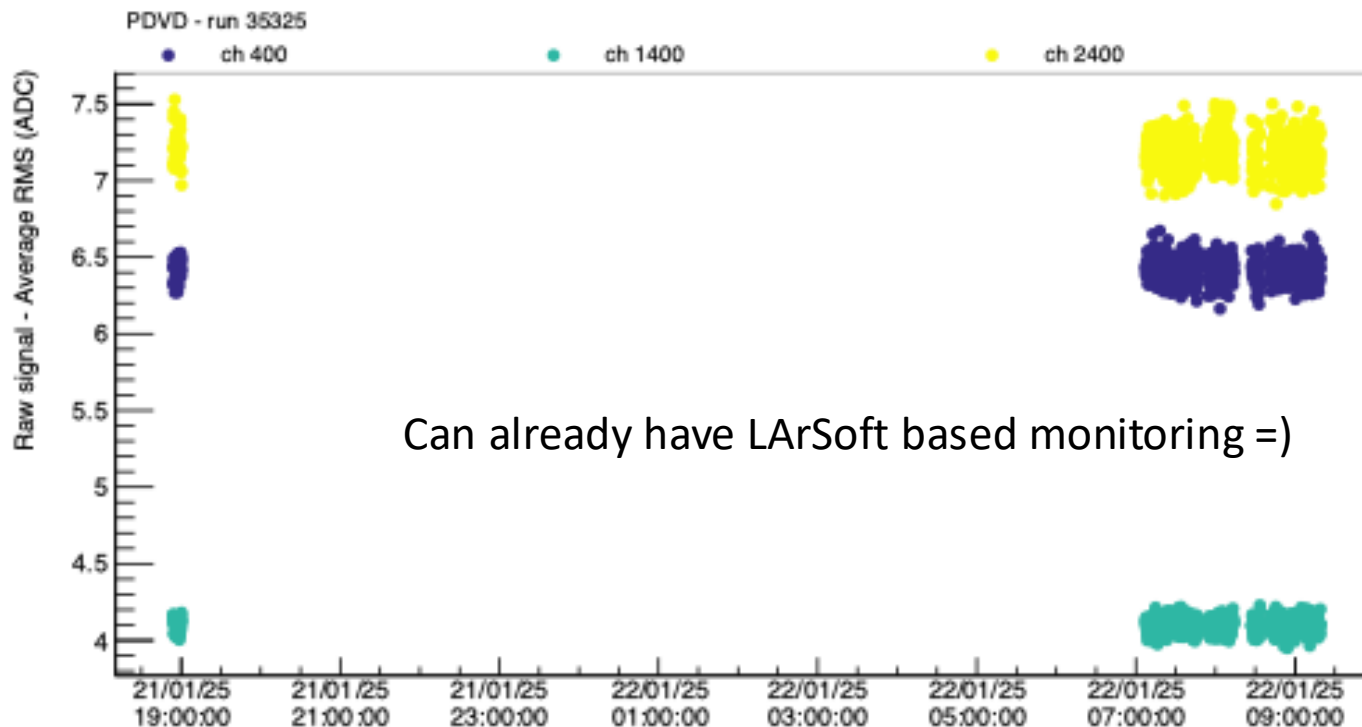
# ProtoDUNE-VD keepup

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- Added a new set of keepup reco FHICL files à la PDHD

  - standard_reco_protodunevd_keepup.fcl

  - standard_reco_stage1_protodunevd_keepup.fcl

  - Includes dedicated filename:
    *outputs.out1.fileName: "%ifb_reco_stage1_%tc_keepup.root"*

- **Need to organize ourselves to reach stable operations** (volunteers for checking justin, metadata, file prod. completeness) Jake remains in the loop + Jeremy(PhD@IJClab) + …

# Simulation proposals

- Also here, Jake's scripts developed for PDHD are available and will be adapted and reused

- Samples

  - **Cosmics** (ready)
    https://github.com/DUNE/dunesw/blob/develop/fcl/protodunevd/gen/gen_protodunevd_cosmics_radio.fcl

  - **Radiologicals** (ready – using DUNE-FD activities)
    https://github.com/DUNE/dunesw/blob/develop/fcl/protodunevd/gen/gen_protodunevd_allradio.fcl

  - **Beam** (work to be done to adapt the PDHD one to PDVD)

- Had to verify Space Charge Effect but proposals document will be prepared as soon as possible