

Transition from NP04 to NP02 PDS operation

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On behalf of the NP02-PDS coordination team

Introduction

- NP02 filling is foreseen for the first week of December, with NP02 closing the week of November 25th
- In principle LAr should be above cathode before Christmas
- Need to prepare data taking now
- Experience from NP04 should be very valuable
- Need to understand presence of people at CERN

Things to do in the next two weeks

- Flange closure and tests (see Manuel's talk)
- DAPHNE preparation and DAQ link (see Manuel's talk)
- Laser availability and preparation (see Dante's talk)
- Early run plan:
 - Some ideas exist in the spreadsheet
 - Something more formal will be presented next week

Experience from NP04

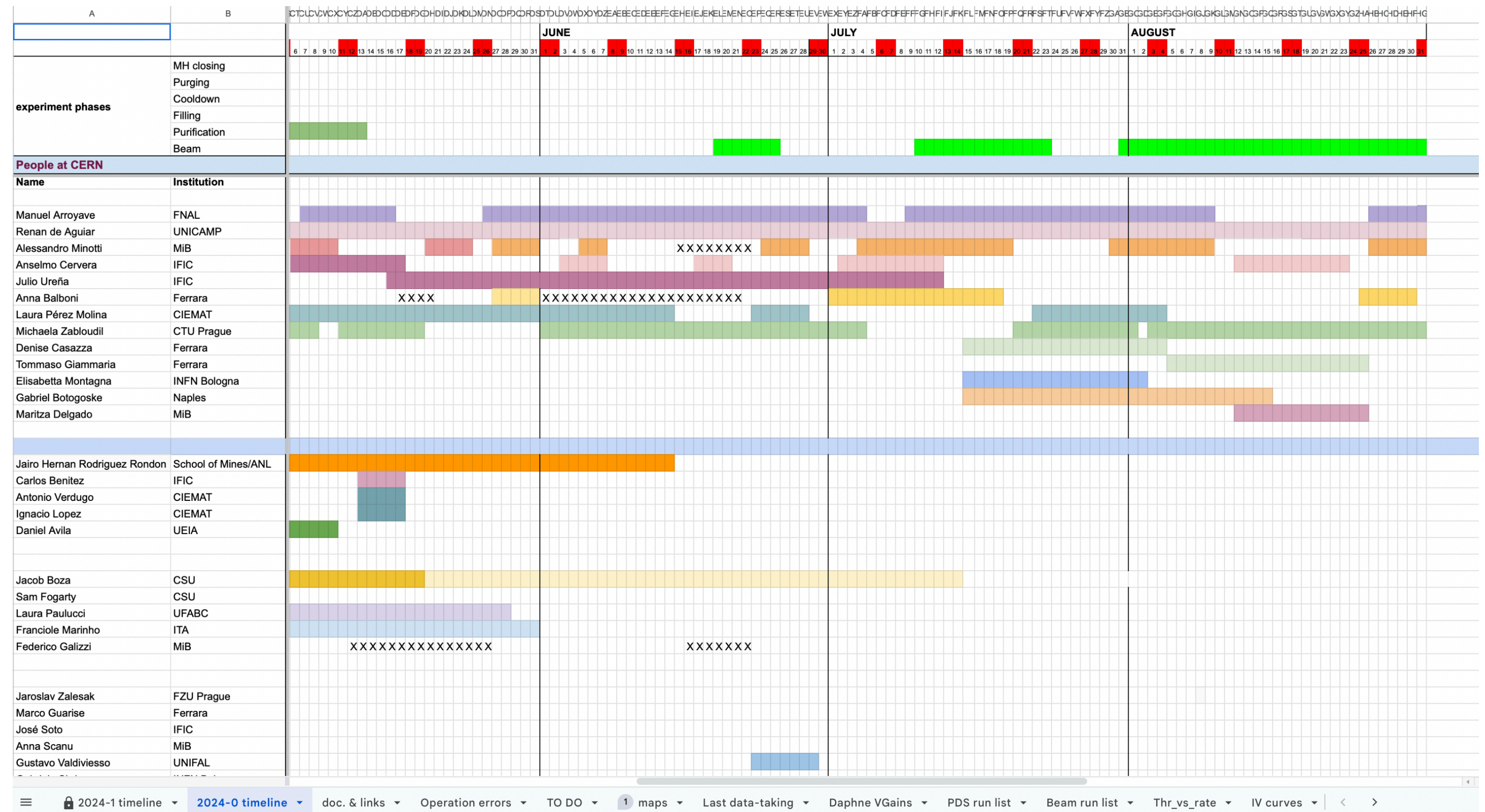
- Bookkeeping
- Communication between people
- Configuration of DAPHNE v2 analog chain
- Configuration of SSP LED calibration system
- DAQ environment
- Data management and decoding
- Waveform analysis (Waffles)

Bookkeeping in NP04

<https://docs.google.com/spreadsheets/d/14fpCjNZFnyq72wugfSGXdAcTrgFroA1Al2In7VeyZiY/edit?gid=1428308861#gid=1428308861>

- We could start from the NP04 approach and improve it:

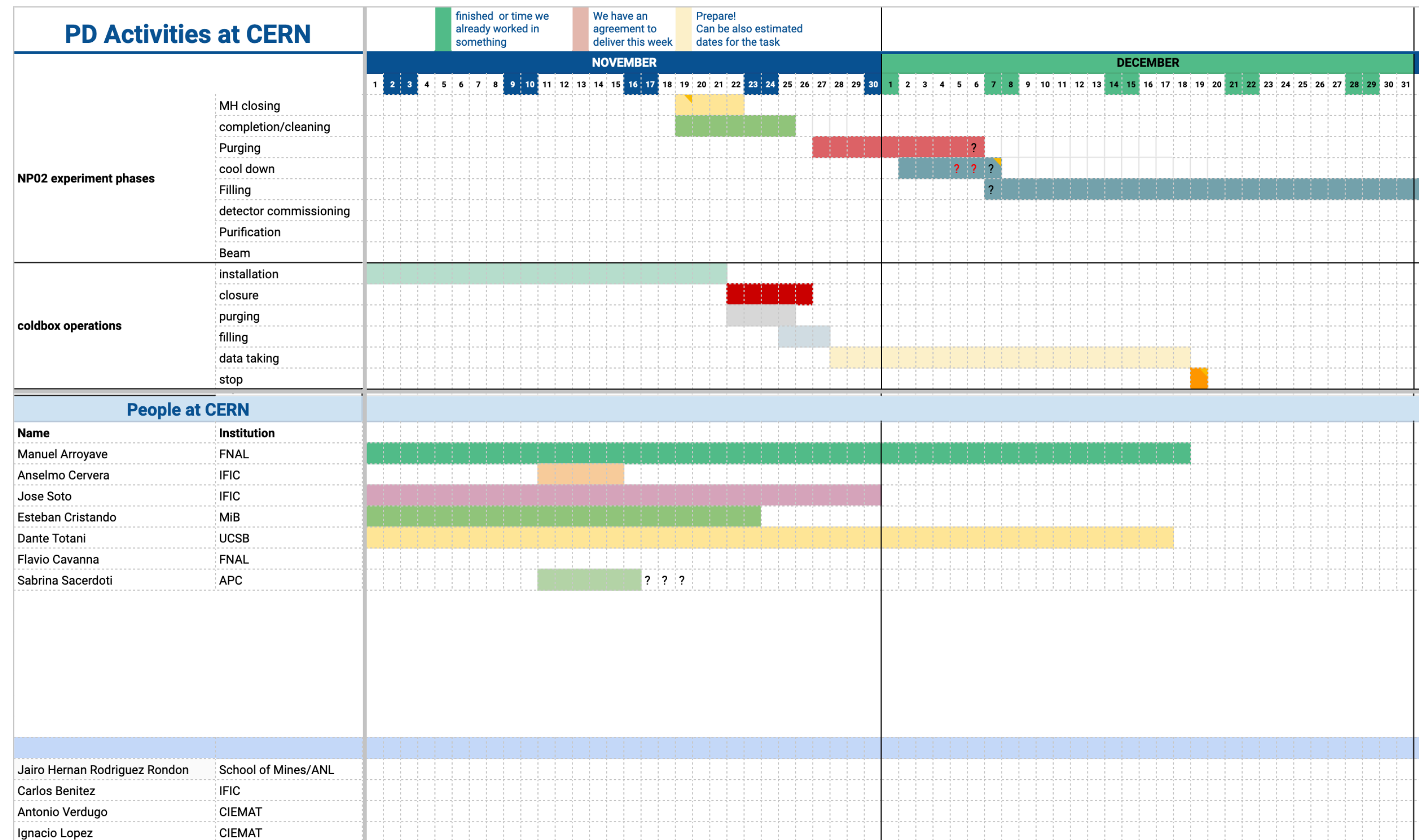
- Timeline
- People at CERN
- Documentation
- Operation errors
- PDS Run List
- IV curves runs
- PDS Maps



Bookkeeping in NP02

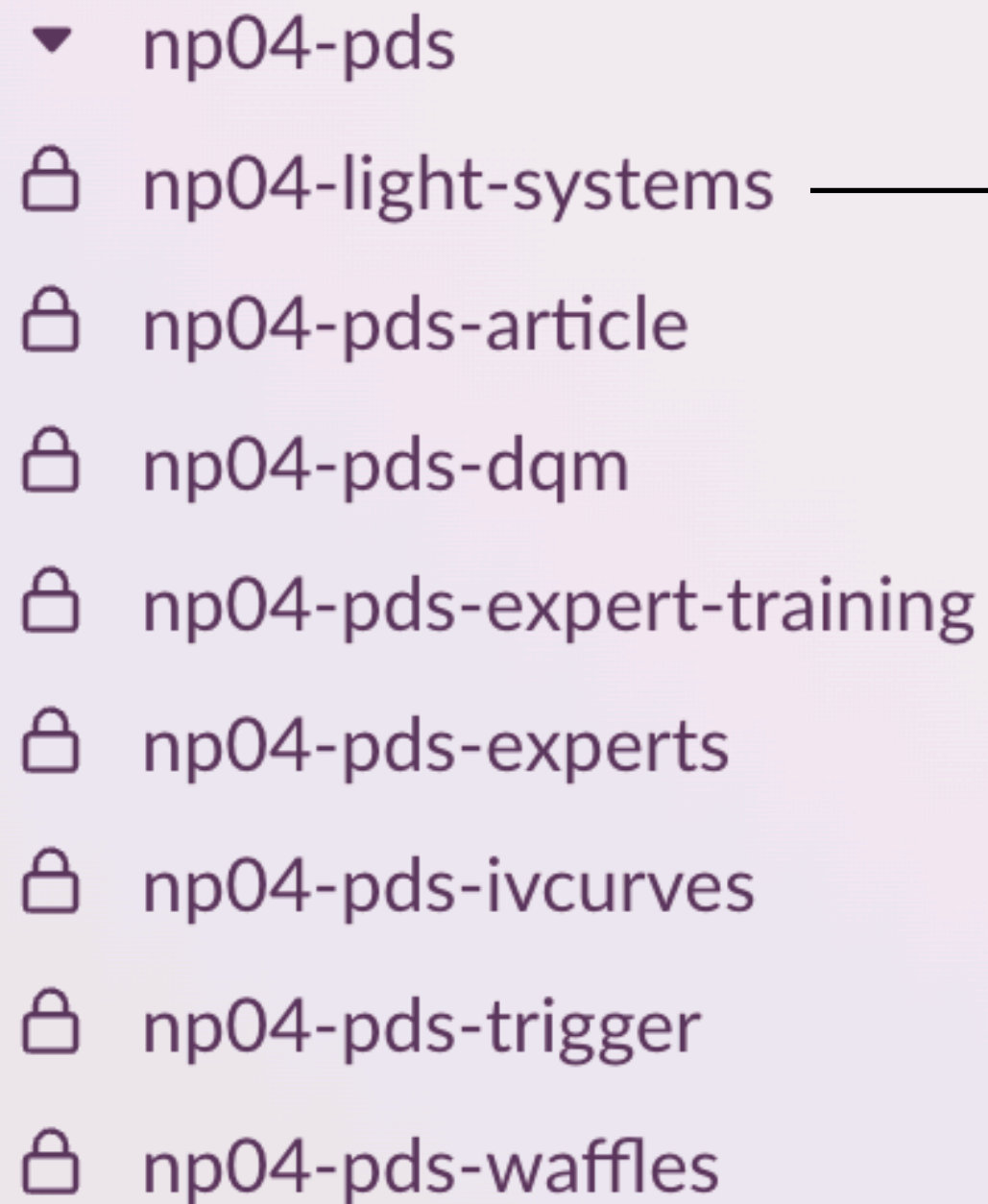
https://docs.google.com/spreadsheets/d/1mSVLv_eun7GeBpL5WRfDL9dl4luVYYt6irewoHAKuu4/edit?gid=1493670459#gid=1493670459

- Sabrina has started putting together a set of spreadsheets based on the NP04 experience
- We are in the process of cleaning up, keeping things from NP04 that can be reused and adding new ones



Communication in NP04

- We have a bunch of slack channels for several topics

A screenshot of a Slack channel list. The channels are listed in a light purple background. The channels are: np04-pds (with a dropdown arrow), np04-light-systems (with a lock icon), np04-pds-article (with a lock icon), np04-pds-dqm (with a lock icon), np04-pds-expert-training (with a lock icon), np04-pds-experts (with a lock icon), np04-pds-ivcurves (with a lock icon), np04-pds-trigger (with a lock icon), and np04-pds-waffles (with a lock icon). An arrow points from the 'np04-light-systems' channel to the text on the right.

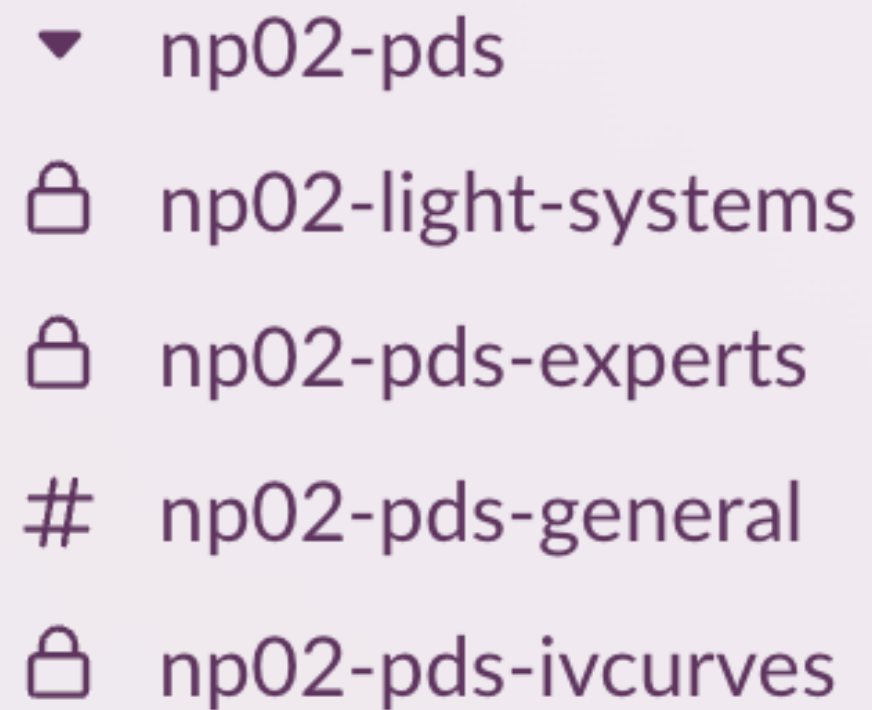
▼ np04-pds
🔒 np04-light-systems
🔒 np04-pds-article
🔒 np04-pds-dqm
🔒 np04-pds-expert-training
🔒 np04-pds-experts
🔒 np04-pds-ivcurves
🔒 np04-pds-trigger
🔒 np04-pds-waffles

With PrM, Ionisation laser and Xavier

Use to avoid interference when operating those systems

Communication in NP02

- This is what we have in NP02 at the moment

A screenshot of a communication channel list. The list contains five items: 'np02-pds' with a downward arrow icon, 'np02-light-systems' with a lock icon, 'np02-pds-experts' with a lock icon, 'np02-pds-general' with a hash icon, and 'np02-pds-ivcurves' with a lock icon. An arrow points from the 'np02-light-systems' item to the text on the right.

▼ np02-pds
🔒 np02-light-systems
🔒 np02-pds-experts
np02-pds-general
🔒 np02-pds-ivcurves

With PrM, Ionisation laser and Xavier

Use to avoid interference when operating those systems

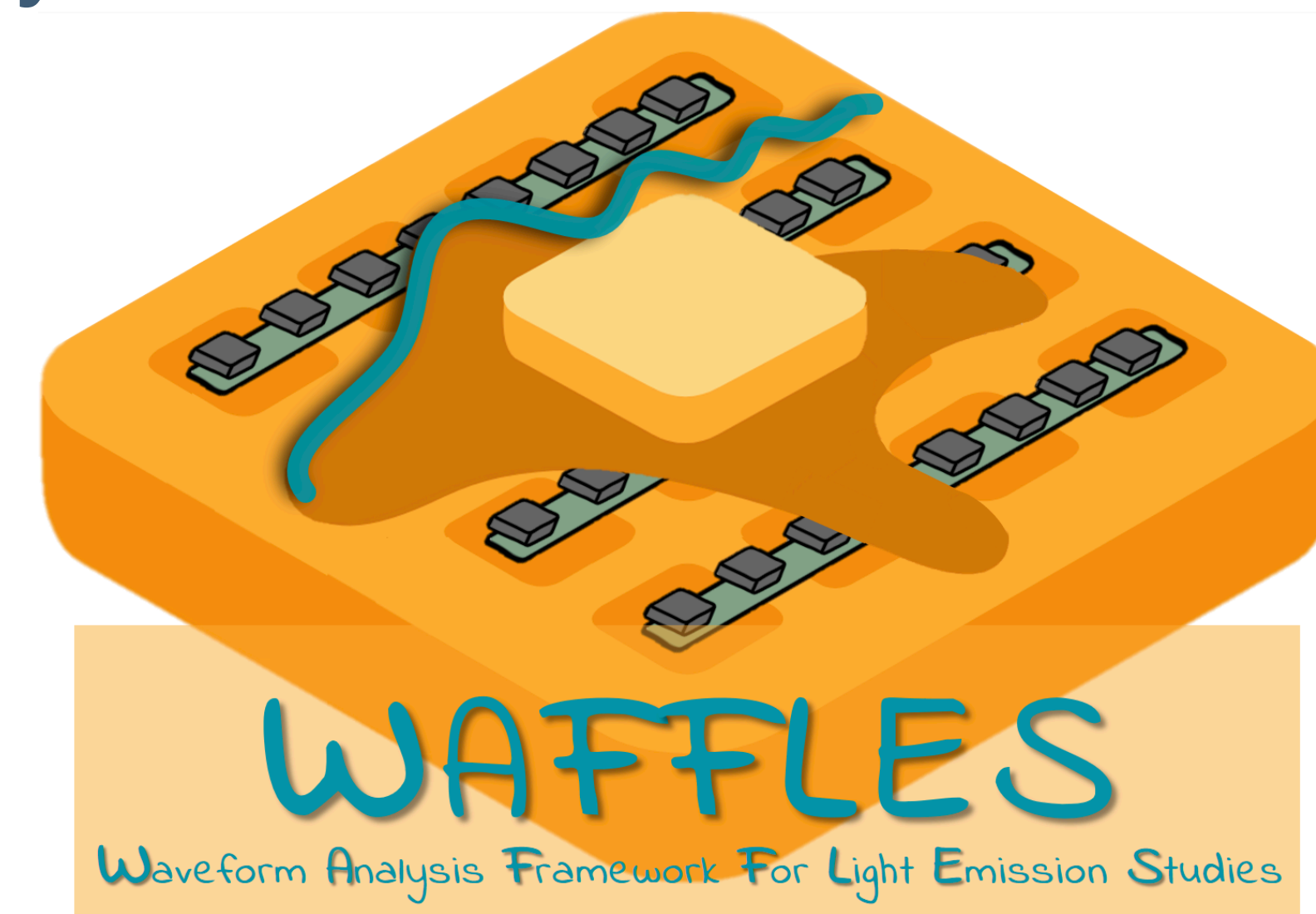
- Only np02-pds-general is open. The other channels are for people actually doing the work and can be joint by invitation only

DAPHNE and DAQ training

- There are few people able to interact with DAPHNE within the NP04 environment, with different level of expertise
- We will need to form more people for NP02, mainly people staying at CERN, which can help Manuel:
 - On call expert during data taking
 - Launching LED calibration and IV curves runs
 - DAPHNE optimisation runs
 - etc

Quick Look at data and performance evaluation

- We put a lot of effort in developing a framework able to handle this
 - Raw data decoding, wave form analysis tools, plotting tools, etc
- WAFFLES is detector agnostic and should be straight forward to use it in NP02
- We have almost 10 people formed in WAFFLES, but not all of them will continue in NP02 → We need a tutorial for new analysers
 - Aim to have that tutorial by the end of November



People at CERN

- Important to have people at the beginning (Nov-April) since it is then when most of the preparations will be done
 - Commissioning of DAPHNE and LED calibration system
 - Code preparation (hopefully we can reuse many things from NP04)
 - Early performance evaluation
 - DAPHNE optimisation for stable data taking
- Stays above 2 months preferred since training takes a month

Meetings

- NP04 operation will come to an end in about three weeks and Thursday's meeting will disappear soon
- Most discussions about ongoing NP04 PDS analyses have been already migrated to the **ProtoDUNE PDS Sim/Reco meeting** on Monday at 16:30 (CERN time), run by José Soto

<https://indico.fnal.gov/category/1550/>

- This meeting is only announced in the **dune-proto-sp-dra@listserv.fnal.gov**, which you should subscribe
- We are currently moving to NP02 operation, with meetings on Friday at 16:00 CERN time

<https://indico.fnal.gov/category/1440/>