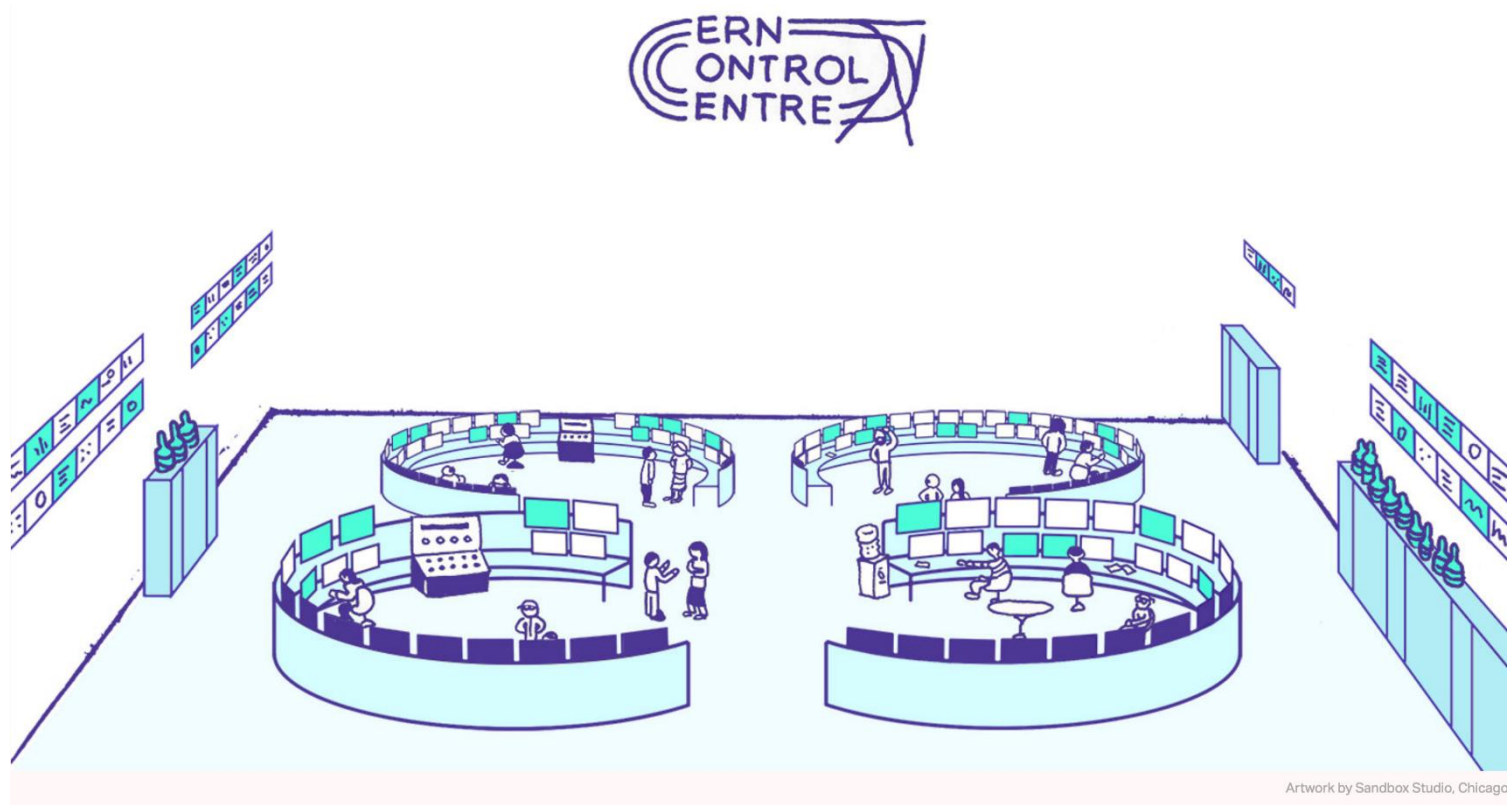




# Feedback from Linac4/PSB/PS/SPS OP



<https://www.symmetrymagazine.org>

# Overview

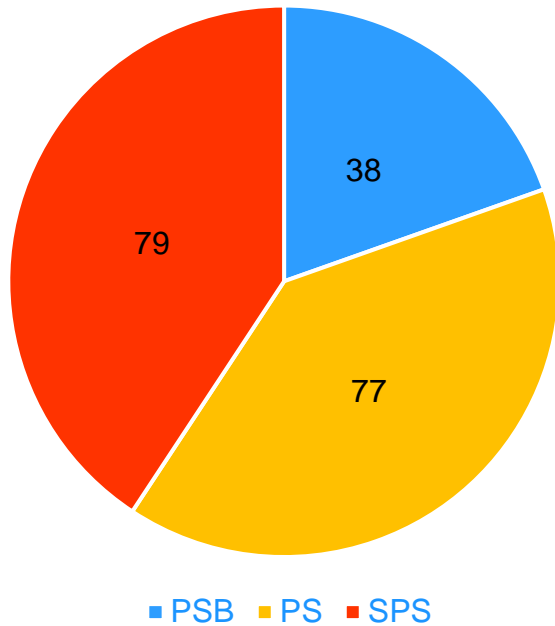
Overall, 2024 went well for MD's, ASM was very useful to prepare beams and sequences.

Our feedback includes:

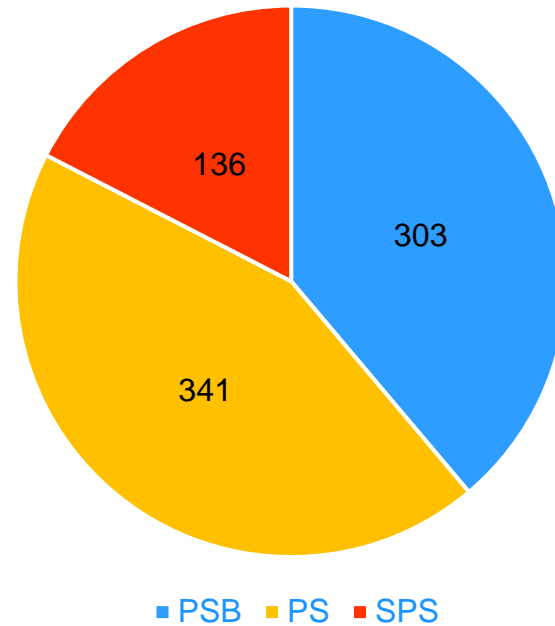
- Some statistics
- Positive points
- Points for improvement
- Some gentle reminder
  - MD request (PS/PSB and SPS)
  - Scripts
- Reminders for Booster/PS MD cycle clean-up

# Some statistics over 2024

194 MD request

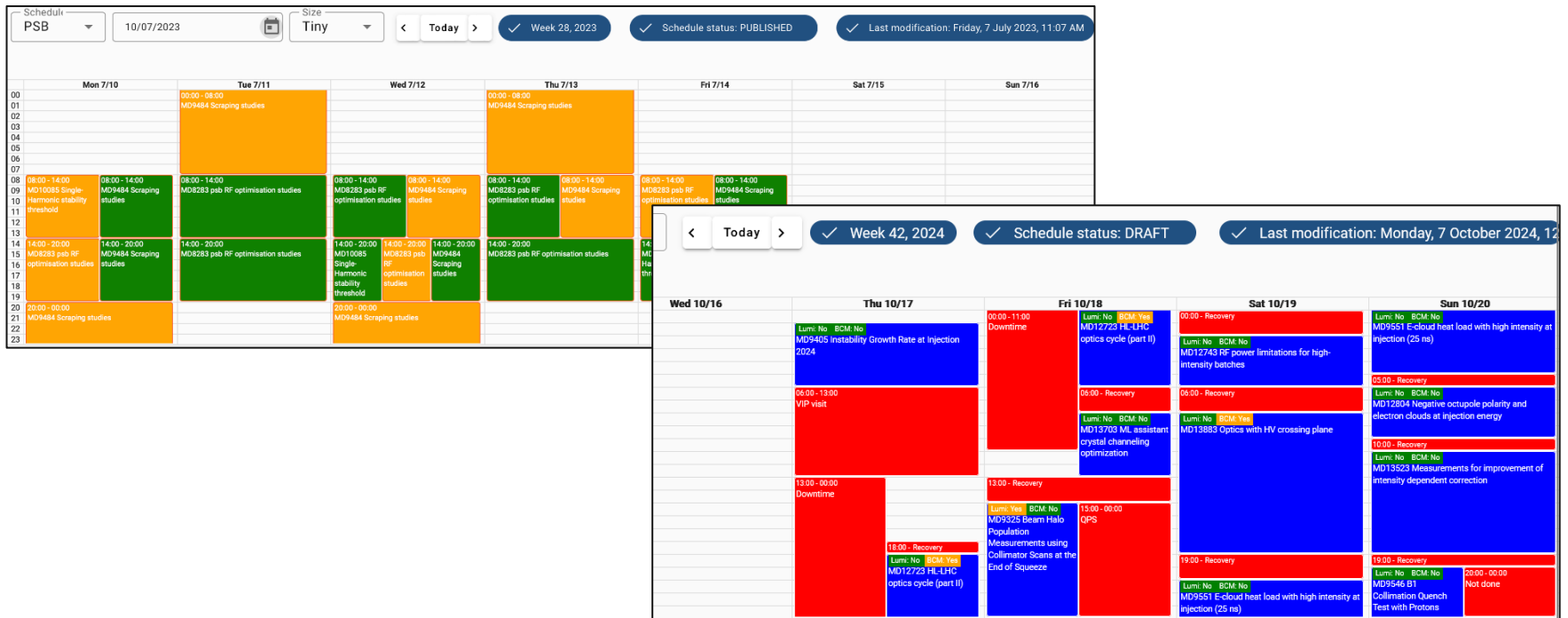


780 assigned MD slots (main)



# Positive Points

- MD-user autonomy during **their** MD.
- MD-user informed operation crew upon completion of their session.
- MD-information available in **ASM**.
- A weekly MD coffee discussion was introduced every Friday
- Good improvement of the LHC MD block preparation

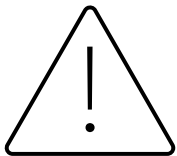


# Points for improvement

- Reminder : Use ASM to express special needs, such as:
  - Required number of (SPS)-injections
  - Need for **instrumentation** (Tomoscope, WS...)
  - MD could affect the **physics** (being at the limit of BLM, RF power,...)
- Fill in ASM earlier, ideally by Wednesday evening for upcoming week.
  - If you don't know which cycle you have to enter, contact MD link person
- Keep the same MD number during the year for a same subject of study

# Some gentle reminder

- Parallel MDs in all machines take place every weekday during working hours (08:00-20:00). There is always one available MD cycle in PSB, PS and SPS
- Having a cycle assigned as “spare” does not guarantee to have it played
- When LHC is filling, even in dedicated, MD beams could be affected
- Don't hesitate to contact the MD link person for specific needs or questions
- Inform the CCC when you need your beam and when you have finished



**For preparation, specific/exotic beams required a minimum of 15 days to be generated and tested. Inform via email the MD link person or MD coordinators as early as possible**

Also, keep in mind that some longer preparation times are expected at the beginning of the year, as the 2024 cycles are expected to be slightly different after the restart.

# MD request (PS/PSB)

Create your request and select the beam you need; it can be an operational beam or an existing MD beam  
If in doubt, contact the MD link person

The screenshot shows a web form for creating an MD request. It is divided into two main sections: a top section for beam selection and a bottom section for request details. Red arrows point from the text on the right to specific fields in the form.

**Beams section:**

- Three rows, each with a checked box for "Use a clone of the beam".
- Each row has a "Type" dropdown menu set to "2 selected".
- Each row has a "PSB user" text field.
- Row 1: PSB user is "LHC25A\_3eVs\_2024".
- Row 2: PSB user is "LHC25B\_3eVs\_2024".
- Row 3: PSB user is "LHC25#72b\_3eVs\_24".

**Request details for [Name] section:**

- Remarks: [Empty]
- Beam specification: LHC25
- MD contact persons: [Empty]
- Participants: [Empty]
- MD type: Parallel
- Particles type: Protons
- Beams section:
  - PSB user: MD11349\_LHC25A\_3eVs\_2023
  - PSB user: MD11349\_LHC25B\_3eVs\_2023
  - PS user: MD11349\_LHC25#72b\_3eVs\_23
- Attach MD summary: [Empty]
- Assigned slots:
  - 16-09-2024 08:00 - 16-09-2024 14:00 (6 h) Logbook
- Buttons: Edit, Mark Inactive, Print

Use a clone of the required beam when creating the request. MD link person will then create the clone with the right MD number and correct the MD request with the new name



# MD request (SPS)

## Request details for MD12203

**MD title:** Tune scans with high brightness single bunch beam

**Remarks:**

**Beam specification:** Single bunch INDIV (MD12203\_LHCINDIV\_VdM\_2024 in the PSB) with  $1.4e11$  p/b injected in the SPS. Transverse emittances around 2.5  $\mu\text{m}$ .

**MD contact persons:**

**Participants:**

**MD type:** Parallel

**Particles type:** Protons

Beams

**PSB user:** MD12203\_LHCINDIV\_VdM\_2024

**PSB user:**

**PS user:** MD12203\_LHC#1b\_INDIV\_Chroma\_24

**SPS user:** MD\_26\_L7200\_Q20\_North\_Extraction\_2024\_V1

The more details we have, the more efficient we will be

Give as much information as possible :  
number of injections,  
number of bunches,  
intensities...

Use a clone of the required beam for the PS and PSB.

For SPS, don't use the clone, only few users have a clone (only physic user like SFT and Awake for dedicated MD, but not the short MD cycles)

# MD running with scripts

- Communication between participant and operators
  - What the script is doing
  - “How to” guide, in case
  - End of script notification
- Leave a note on the console that runs the script
- MD request should be done for script running overnight on MD

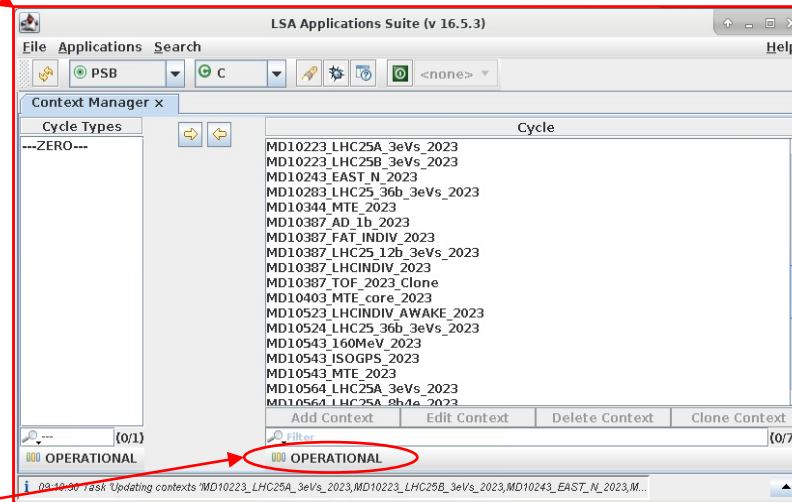
## For UCAP developers

- If you have developed a UCAP to assist with your MD analysis that could benefit OP, your code may be of interest to some UCAP developers on the OP team
- Feel free to reach out to the MD link person to be connected with our development team

# Booster/PS MD Cycles Clean-Up

- LSA\_db is made up of 6 directories:
  - **MD / Operational / Test / Archived / Reference / Obsolete**

LSA\_GUI



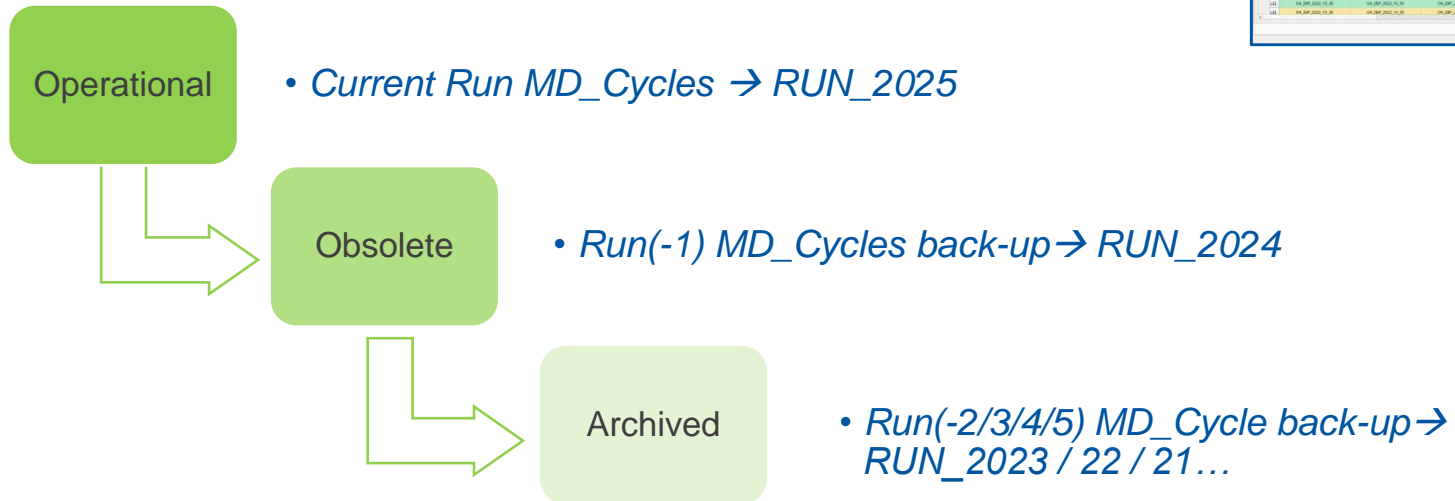
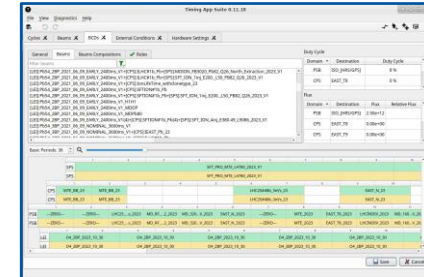
Directory

- During the RUN, MD Cycles are saved in LSA\_db → in **MD or OPERATIONAL Directory**.

# Booster/PS MD Cycles Clean-Up

- Every end of RUN a **clean-up** of the Operational directory is made:
  - **ease the daily work** of the operation team during the next Run;
  - MD users use  **fresher**  setting after the YETS, EYETS break;
  - avoid LSA-db overload ( in **Timing App Suit** as well);

*Your obsolete MD Cycles **are not lost**, however.*



# Question ?