

**BE-ABP-CEI**  
**Coherent Effects and**  
**Impedance**

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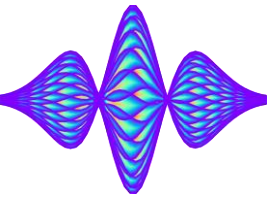
# Coherent Effects and Impedances section (CEI) – general information

Giovanni Rumolo

CEI Section Meeting, 16/05/2024

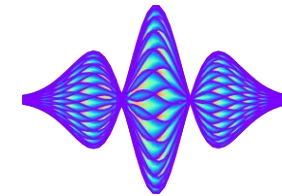
Scientific secretary: Lotta Mether

<https://indico.cern.ch/event/1403174/>



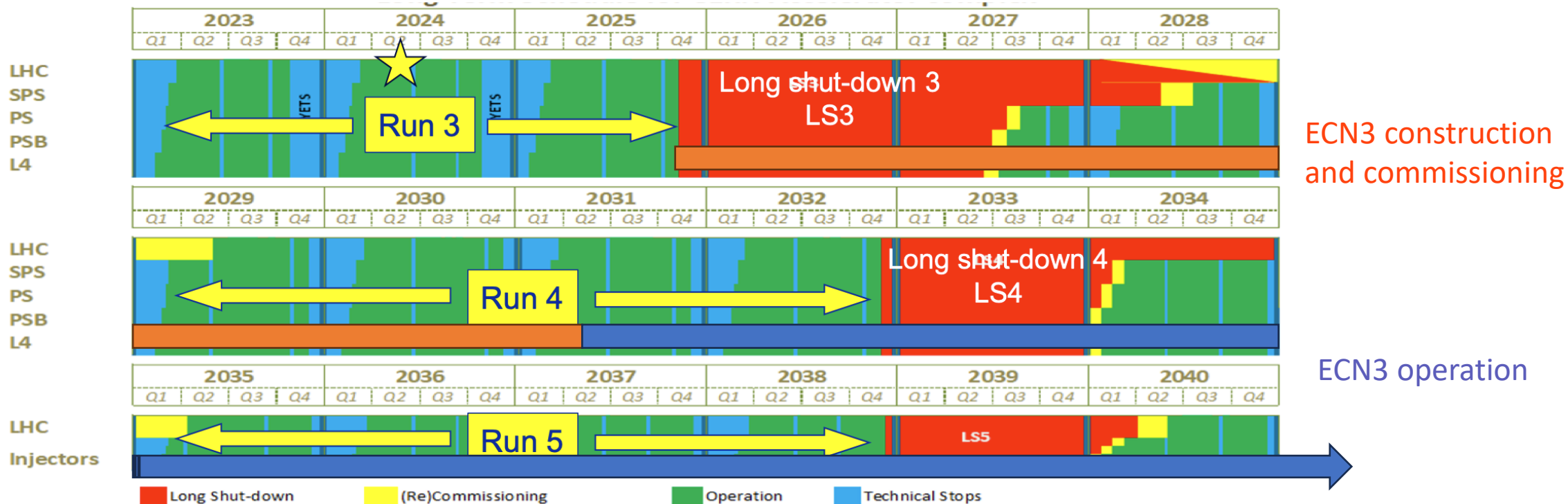
# Arising matters

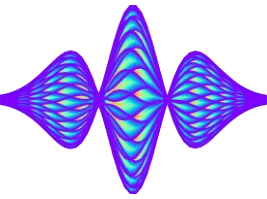
- Date of ABP BBQ finally fixed to 31 May
  - Please let me know if you would like to volunteer for any of the tasks, many thanks already to those who have already volunteered: Elena dIFG, Nicolas, Carlo, Luca, Xavier
  - File for volunteer tasks [here](#)
- CERN relay race
  - Will take place on Thursday 30 May
    - Registrations are open until Tuesday, May 28, 2024. Click [here](#) to subscribe a team
  - The race is a relay in 6 stages : 1000-800-800-600-600-400 metres – need a team of 6 people!
  - All information can be found [here](#)
- Upcoming CERN alumni event of possible interest for those in their early careers
  - On 24 May there will be a Virtual Company Showroom with ESS, the European Spallation Source: <https://alumni.cern/events/146965>



# IPP meeting on Wed 8.5.2024

- Discussion on proton sharing among physics users in HI-ECN3 era
  - Analyses by Tirsi and Rende on impact on all physics users + supercycle composition

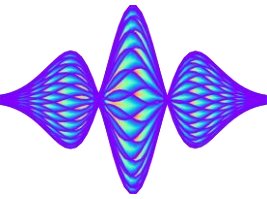




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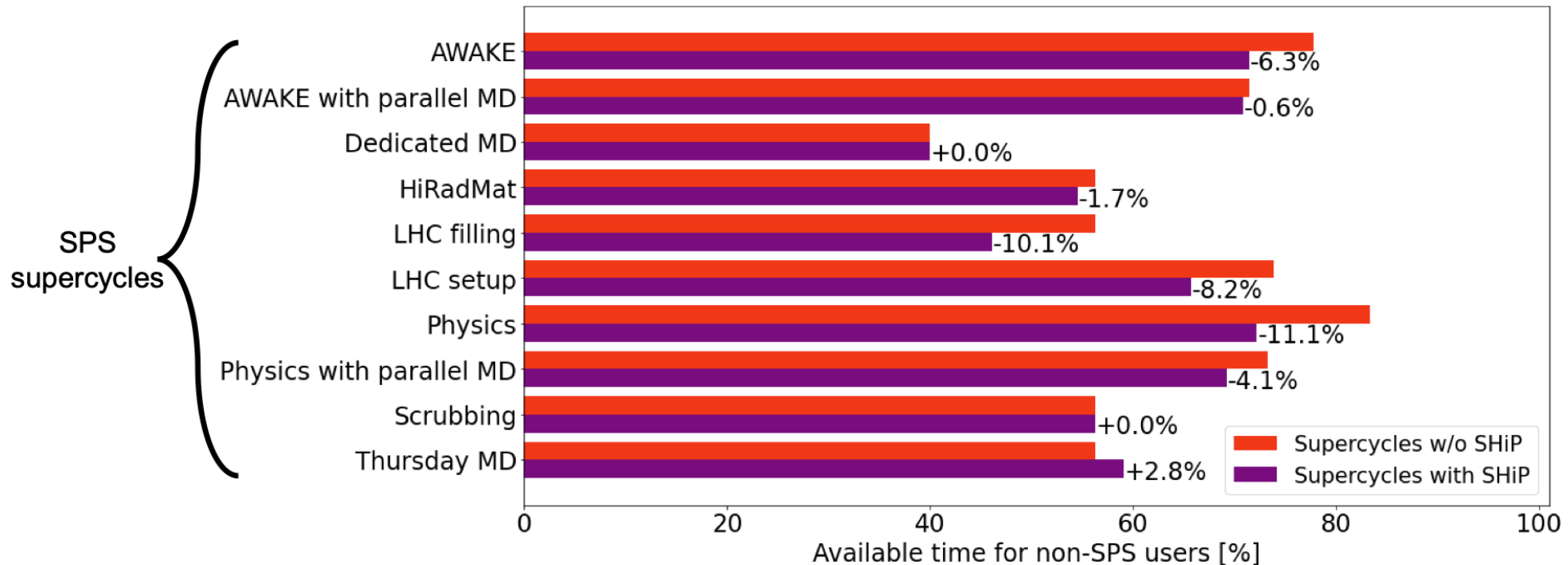
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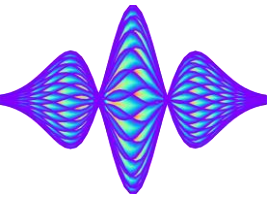
BDF Parameter	Value
POT / year [ $10^{19}$ ]	4.0 (similar to CNGS)
Spill intensity [ $10^{13}$ ]	4.2 (including conservative transmission)
Spill length [s]	~1.0 on a 1.2 s flat-top (longer spills reduce achievable POT)
Spill quality	<i>... let's define the problem directly with SHiP</i>
BDF spills / year [ $10^6$ ]	1.0 (allows $\sim 1 \times 10^{19}$ POT for TCC2)
Vertical emittance	can be as bright as possible for transmission, <b>no splitting</b> : final focus will be adjustable ( $\sim 8 \times 8$ mm spot size, swept on target)
Total POT on BDF	$60 \times 10^{19}$
Duration [years]	15 (to give total POT $4 \times 10^{19}$ POT/year)



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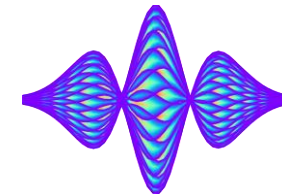
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  - Important loss of available time for non-SPS users (~10%)



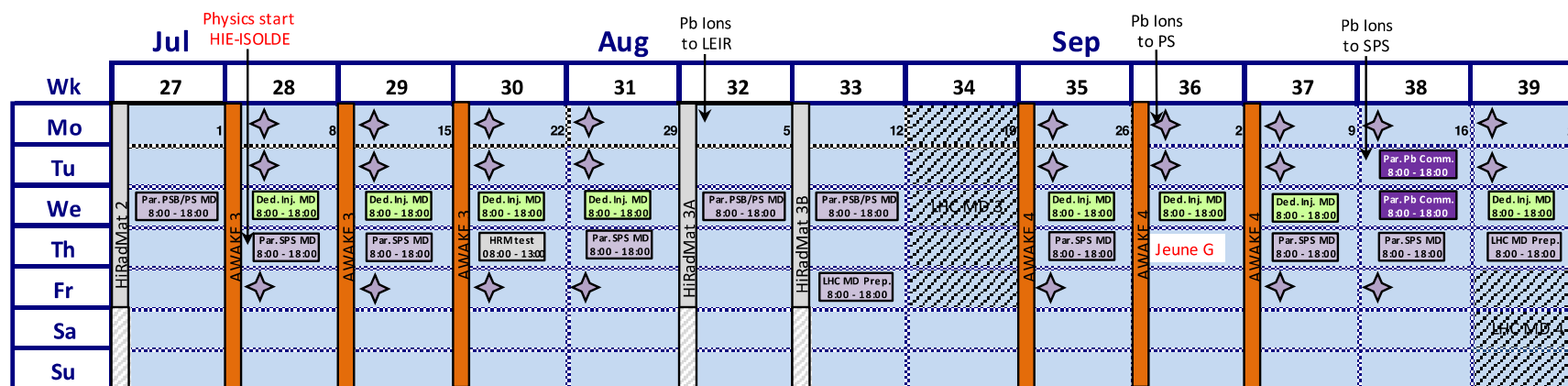
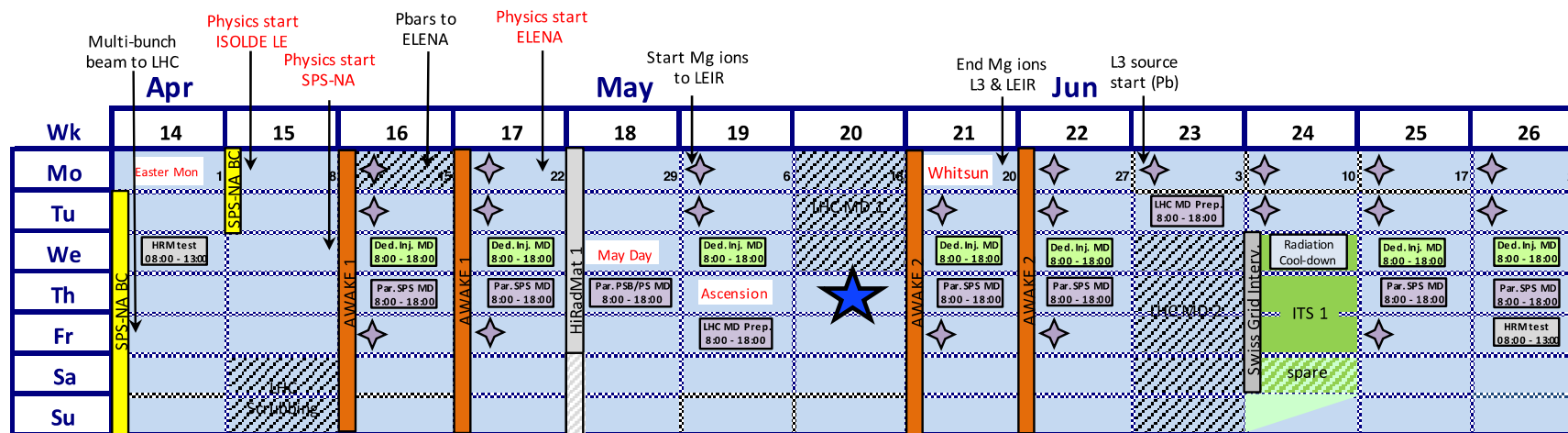


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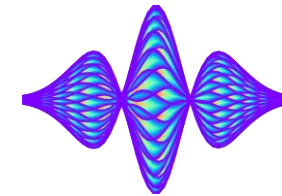
- Discussion on proton sharing among physics users in HI-ECN3 era
  - Analyses by Tirsi and Rende on impact on all physics users + supercycle composition
  - Important loss of available time for non-SPS users (~10%)
    - Explore how to increase the intensity on ISOLDE (more ppp with same number of cycles)
    - Explore more intensity per shot to TOF (little margin on dedicated, more to be gained on parasitic)
    - Explore possibly higher intensity to ECN3 (or NA), which would have the potential to alleviate the supercycle composition
    - Explore strategies to use unused PSB rings when serving PS (e.g. serving ISOLDE and TOF on the same cycle)



# 2024 injectors schedule v2.0



- This week LHC MDs and no dedicated or long parallel MDs in the injectors
- Preparation of BCMS beam across the chain
- Need to carefully compare standard and BCMS all along the chain in the 3x 36b configuration
  - Switch to BCMS into LHC sometime early next week



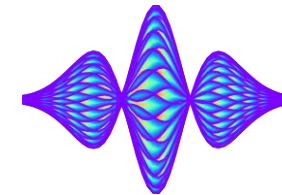
# 2024 LHC schedule v2.0

	Apr			May			Jun						
Wk	14	15	16	17	18	19	20	21	22	23	24	25	26
Mo	Easter 1	8	15	22	29	6	13	Whitsun 20	27	3	10	17	24
Tu							MD 1						
We		Interleaved commissioning & intensity ramp up			1st May								
Th						Ascension	VdM program				TS1		
Fr		Cryo reconfig.								MD 2			
Sa		Scrubbing									Swiss Grid Interv.	spare	
Su													

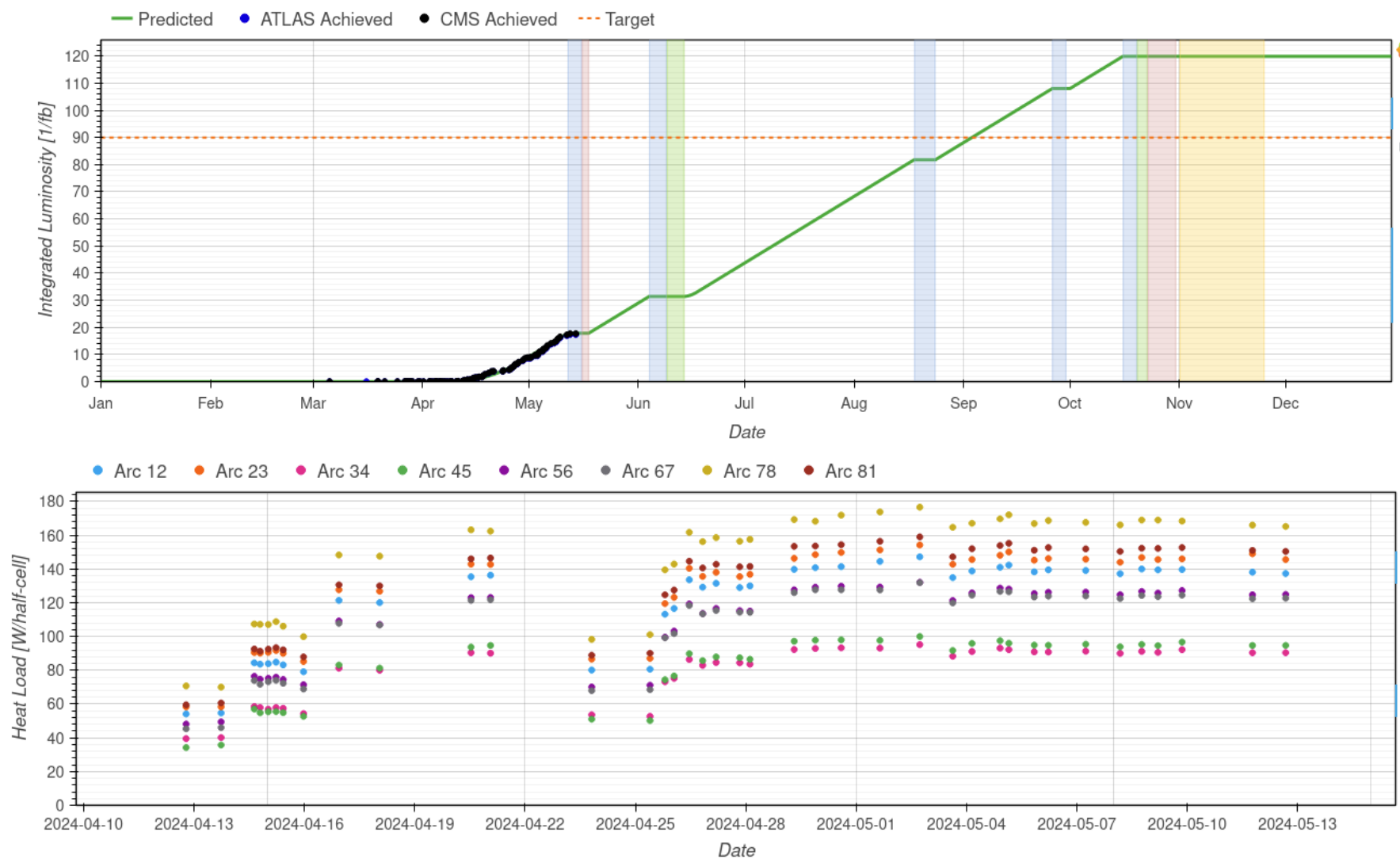
	Jul			Aug			Sep			Oct			
Wk	27	28	29	30	31	32	33	34	35	36	37	38	39
Mo	1	8	15	22	29	5	12	19	26	2	9	16	23
Tu													
We								MD 3					
Th										Jeune G.			
Fr													
Sa													MD 4
Su													

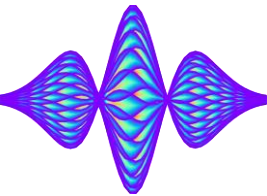
- Mon-Wed this week there were LHC MDs
  - Schottky measurements for single bunches of various intensities
  - Tune shift with new IR7 optics
- Currently VdM run
- Return to physics production tomorrow afternoon





# Where we are standing for LHC: Lumi & heat load





# Where we are standing for LHC: Intensity and emittance

