

HERD 2024 Beam Request

2023-12-14

2024 Injectors Schedule

- **The Research Board decided on 6 December:**
 - The 5.5 weeks of Pb ion running until LS3 to be share over 2024 and 2025 with a Pb ion run at the end of each year.

Experimental facility	Start Physics	End Physics	Duration 2024 [days]* Ver. 0.4a	
ISOLDE	08.04.2024	28.10.2024	199	
nTOF	25.03.2024	28.10.2023	213	
PS East Area p ⁺	18.03.2024	28.10.2023	220	
PS East Area Pb ions	14.03.2024	28.10.2024	14	
SPS North Area p ⁺	10.04.2024	20.06.2024	78	165
	24.06.2024	26.09.2024	87	
SPS North area Pb ions	30.09.2024	28.10.2024	28	
ELENA (AD)	22.04.2024	28.10.2024	185	
AWAKE	12.04.2024	30.09.2024	70	
HiRadMat	29.04.2024	25.09.2025	20 (+8 contingency)	

* 4-day TS deducted, but not MD time etc. deducted

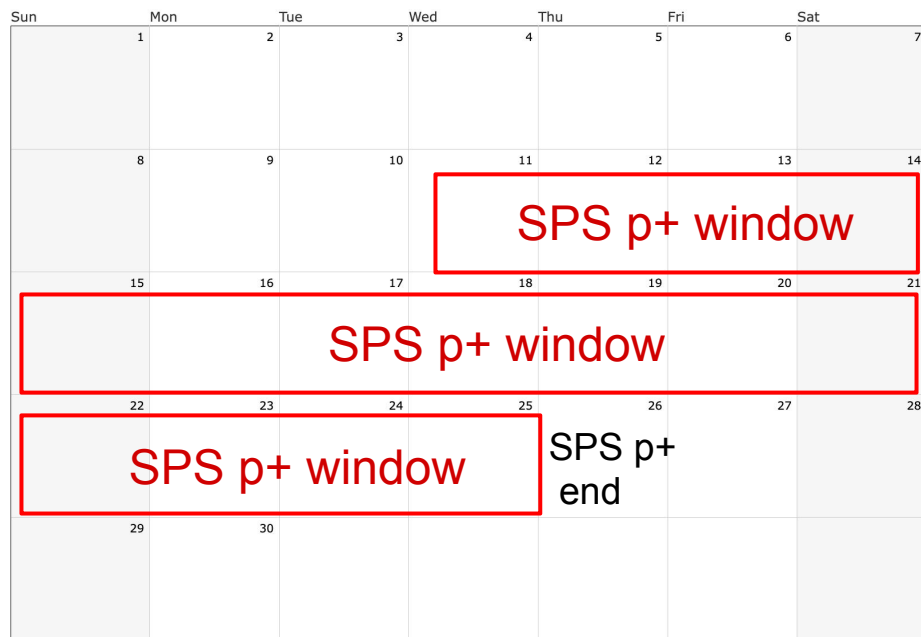
information from several groups

sys.	prototype	beamline and purpose	time constrain	trigger protocol	supporting table
LYSO array	2023 prototype + calibration LED	sps p+, primary p+ for e/p separation	not before September	I2C	using the 2023 table, which stored at CERN
camera	2023 prototype + fully-customized camera	ps, mu/e- to test new camera	not before October		
main trigger	2023 prototype	no special requirement	not before September		
PSD-CN	2023 prototype+ upgrade readout systems	sps/ps charged particle, L0 trigger, uniformity;			
SCD-CN	2023 prototypel+ some new modules	sps ion, chargeZ performance			
STK	one module	sps/ps charged particle, L0 trigger;			
TRD	2023 module; replace working gas and ASIC	ps e- and hardon , TR performance			
PD					
PSD-EU					
SCD-EU					
FIT					

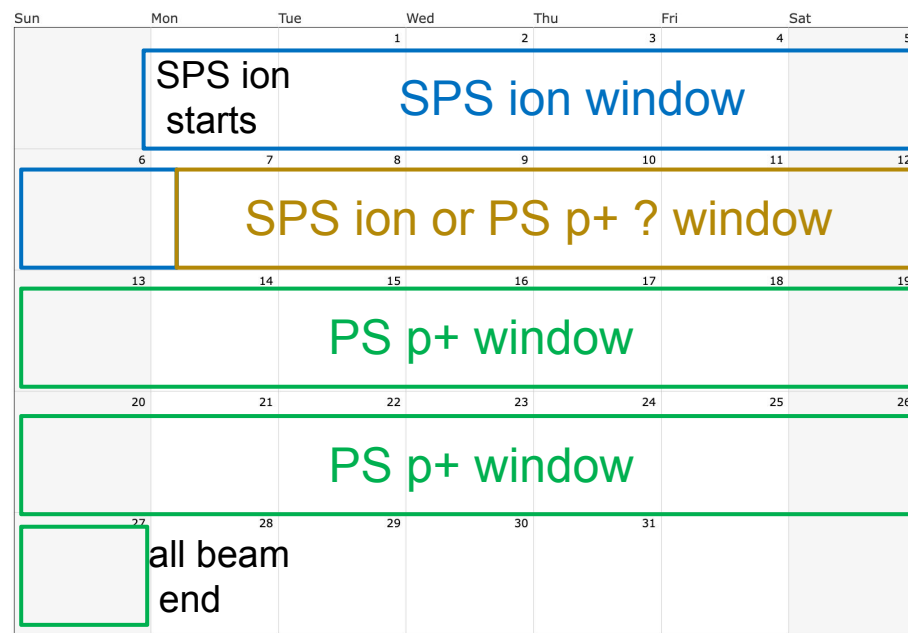
proposal for beam request

- ▶ beam time
 - ▶ not before September
 - ▶ start SPS proton at mid-September, 1week, main user
 - ▶ move to SPS ion right after, 1week, main user
 - ▶ transfer to PS proton, 2 weeks, main user
 - ▶ necessity of requesting beam as secondary user?

September 2024



October 2024



beam requirements

- ▶ **sps p+, 1 week**
 - ▶ primary proton, for CALO e/p separation (strong)
 - ▶ H2/H4
- ▶ **sps ion(Pb), 1 week**
 - ▶ abundant fragmented ions
 - ▶ apply to H8 based on the DAMPE/VLAST experience?
- ▶ **ps, 2 weeks**
 - ▶ e-, 0.5 - 5 GeV/c
 - ▶ charged hadron ~ 10 GeV/c
 - ▶ muons, 5 GeV/c, for new camera calibration if possible
 - ▶ T9

open issue

▶ CALO

- ▶ comprehensively-customized camera will possibly be ready at early October. On-site replacement and test the devices by using electrons at PS, after SPS p+ and ion.
- ▶ requirements of CALO-PD and time constrains, e.g. the first user of SPS ion period for 1 week
- ▶ if new camera not ready, no need to transfer CALO to PS and TRD+other systems participant PS.
- ▶ **common(compact) structure for PSD/SCD?**
- ▶ **common DAQ?**