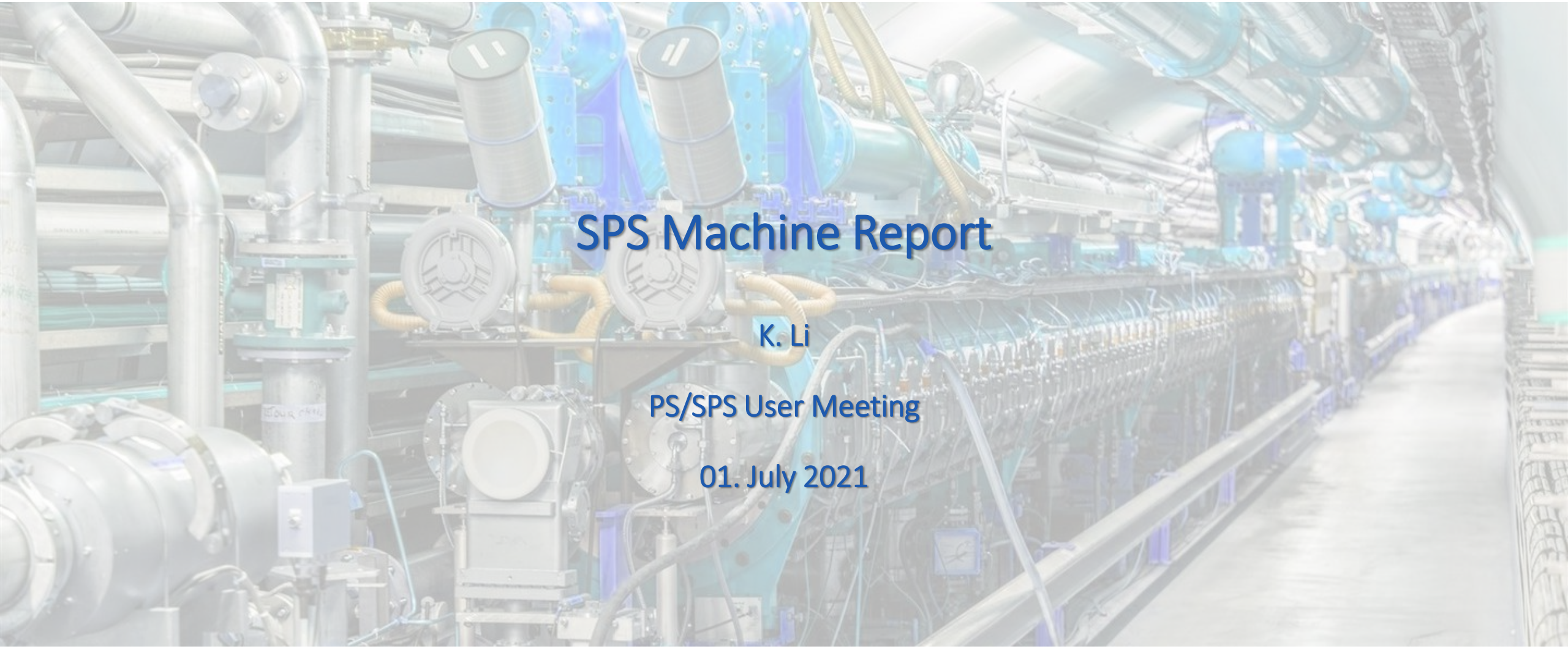


SPS Machine Report

K. Li

PS/SPS User Meeting

01. July 2021

Beam commissioning planning

✓ AWAKE

✓ SFTPRO

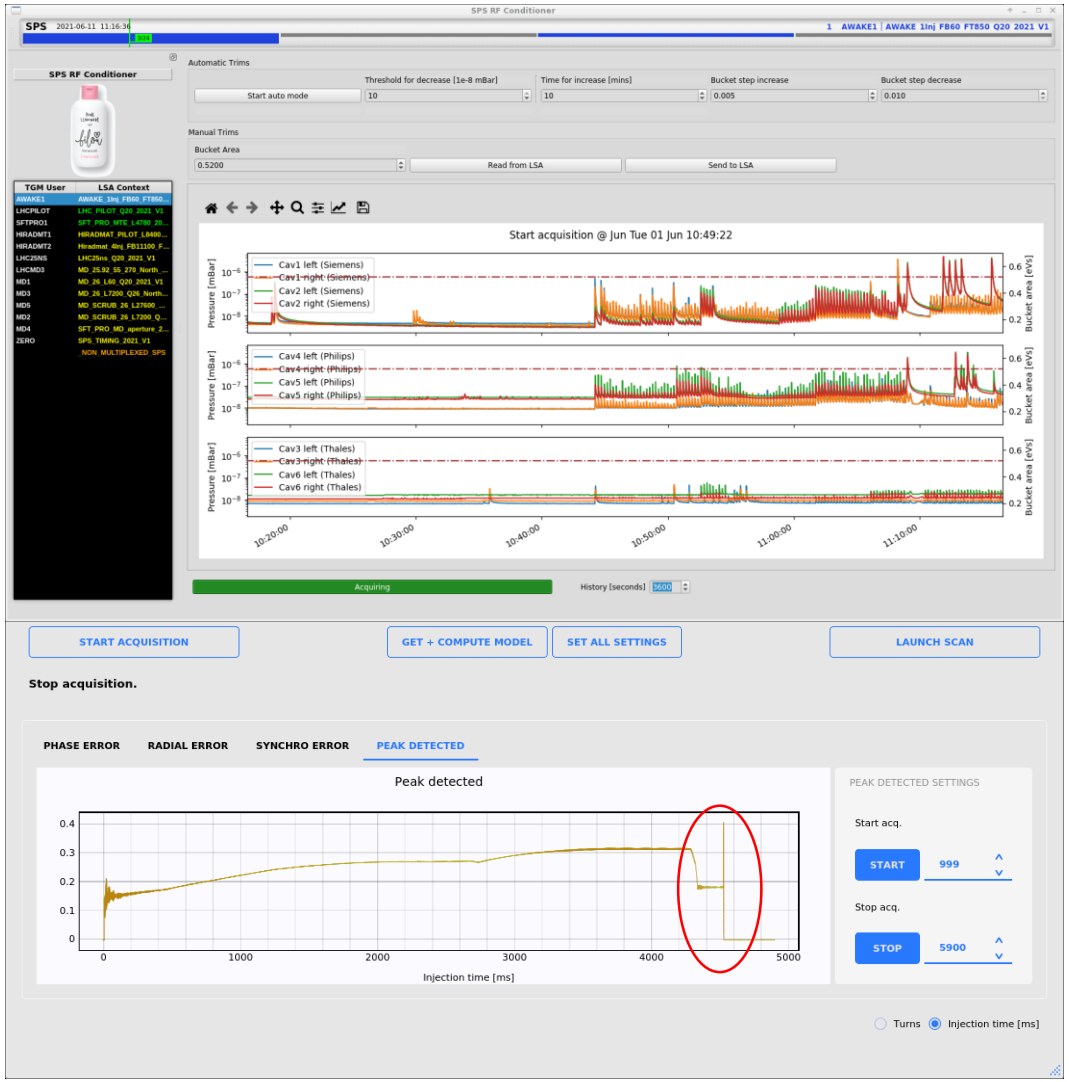
✓ HiRadMat

Status of Physics beams - AWAKE

- AWAKE cycle ready
- Beam intensities were still low at the moment - ~ 1.4e11 ppb
- RF gymnastics set up on AWAKE
- Beams already sent to experiment for tests during BC

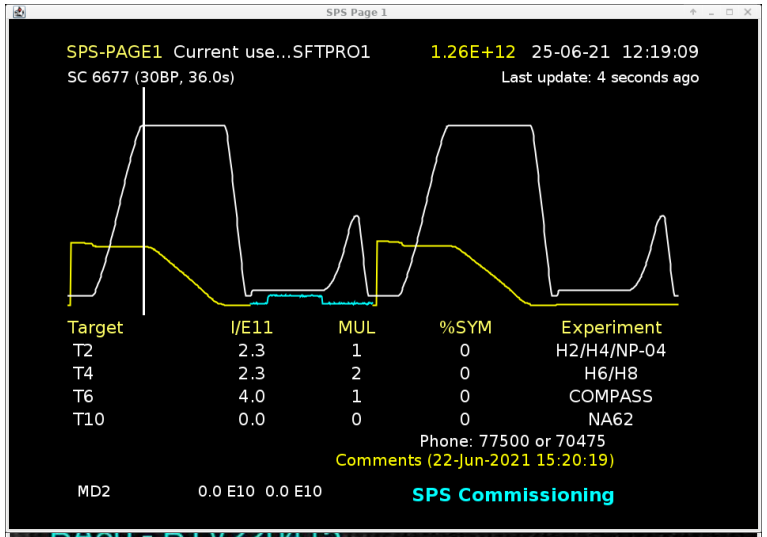
- One main limitation currently is the **maximum cavity voltage** we can ask for, as cavities are still far from full conditioning; trying to condition cavities, but this will take time;

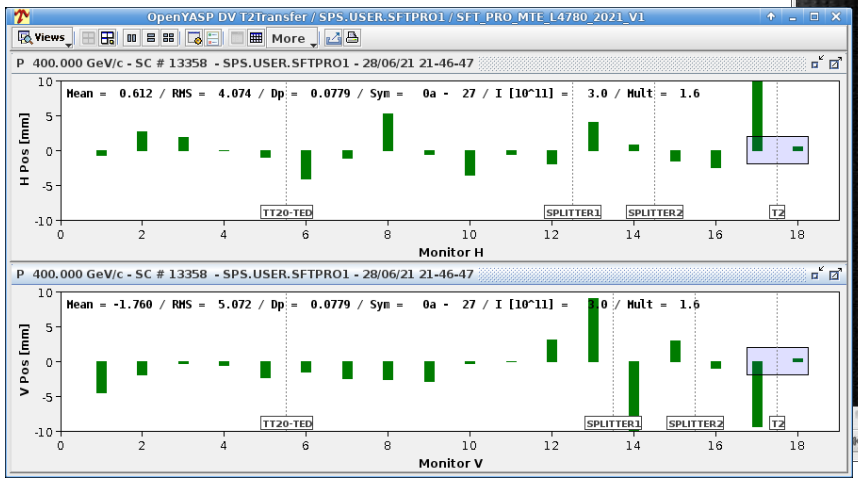
- First AWAKE delivery foreseen for **21. July**; initial period **will also require further setting up, tuning and optimization of beam on our side**;



Status of Physics beams - SFTPRO

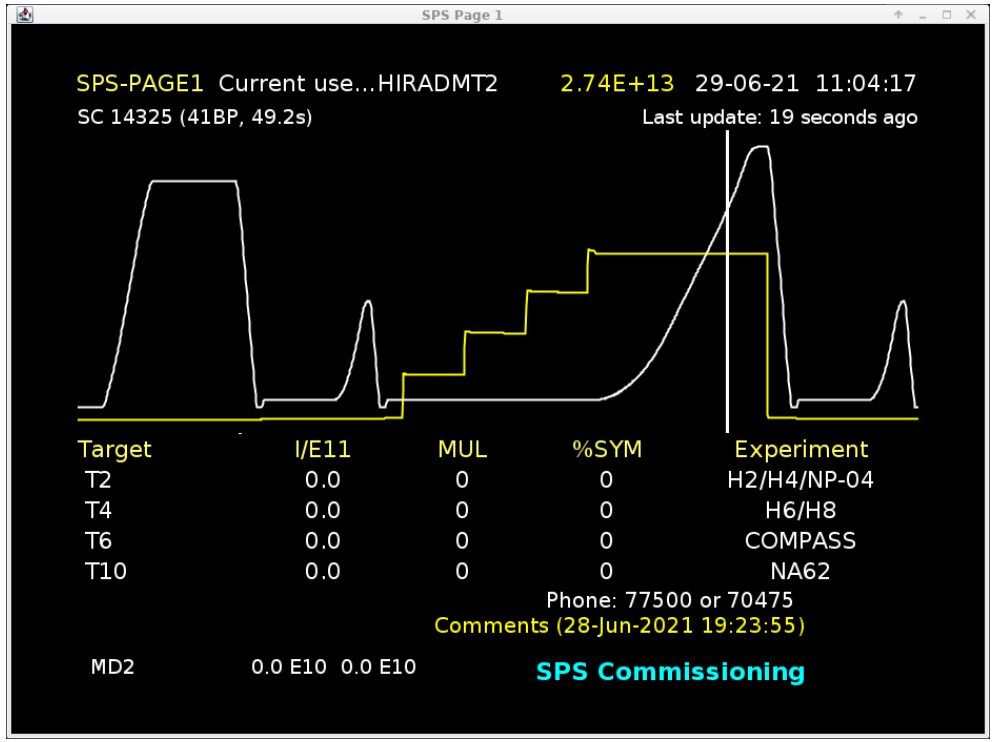
- SFTPRO cycle ready;
- Intensities up to 5e12 for the moment; already took 2 injections;
- Slow extraction (COSE), spill, 50 Hz correction all set up;
- Now **steering to targets**; this has proven difficult as instrumentation is not fully operational at all places (BSMs) – we are partially flying blind; access this morning by BI experts to investigate; this needs to be solved before we can finalize steering;
- Need to coordinate with NA at the same time as steering to targets is incompatible with access;
- NA physics start on **12. July**;

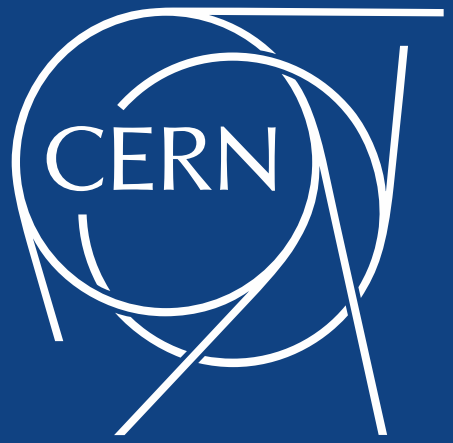


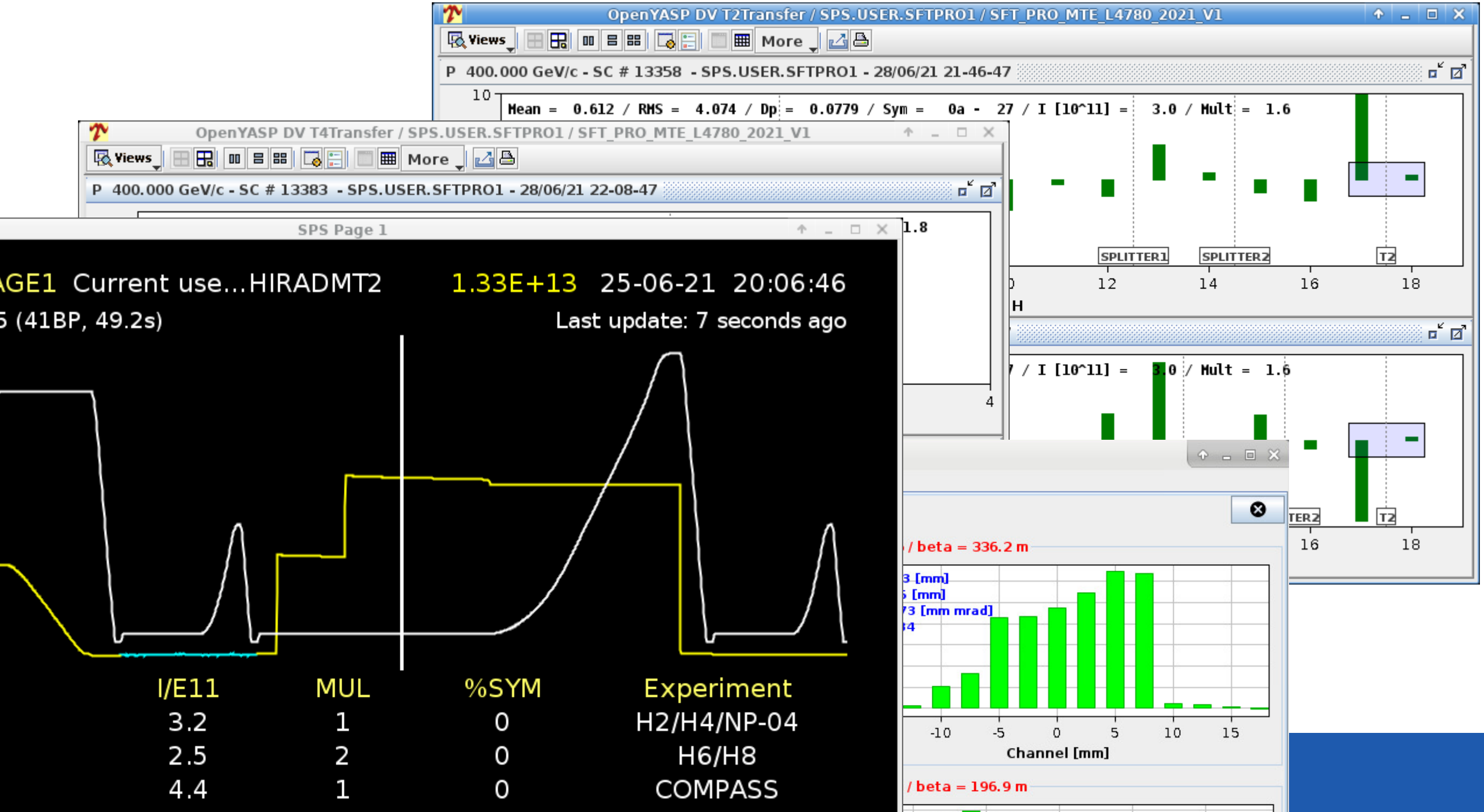


Status of Physics beams - SFTPRO

- HiRadMat cycle ready;
- Machine well scrubbed; limitations were mainly vacuum in different sectors and MKD; now still limited by MKD vacuum;
- Ramped up 4 injections of 72 bunches to 440 GeV; intensities being **pushed towards 1.2e11 ppb** at flat top;
- First HiRadMat experiment scheduled for **9. August**;




CERN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SPLITTER1
SPLITTER2
T2
OpenYASP DV T4Transfer / SPS.USER.SFTPRO1 / SFT_PRO_MTE_L4780_2021_V1
P 400.000 GeV/c - SC # 13383 - SPS.USER.SFTPRO1 - 28/06/21 22-08-47
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I/E11
MUL
%SYM
Experiment
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0
H2/H4/NP-04
2.5
2
0
H6/H8
4.4
1
0
COMPASS
/ beta = 336.2 m
Channel [mm]
/ beta = 196.9 m