AD and ELENA recommissioning status
Pbars back in ELENA

- First injection on Monday, beam extracted to LNE on Thursday evening:
  - minimum setting-up to go to the next steps and identify potential problem
  - Nominal beam from PS, only half intensity extracted from ELENA
Commissioning steps

- Repair of the QMAIN2 power converter completed on Monday:
  - Nominal operation OK + test couple of hours at max current DC
- Injection tests in AD on Monday:
  - Pbars IN with settings of end of 2021 for DI, septum and injection kicker
  - Got circulating beam during heat run of QMAIN2!
- Circulating beam on Tuesday:
  - Bunch rotation, stochastic cooling at 3.5 GeV/c
  - Some hick-ups to control RF cavity
  - Beam decelerated and cooled up to 300 MeV/c
- Beam extracted from AD on Wednesday:
  - Copy of Hminus cycle for pbars
    - Orbit and working points setting optimized
    - New LLRF timings in place
  - HV switch of e-cooler not ON because of vacuum spike:
    - E-beam ON during deceleration to 100 MeV/C
- Beam to ELENA and extracted to LNE50/01 on Thursday
  - Ajustement of injection synchro
  - First correction of injection oscillation
- Access in AD to fix connection problem on SC amplifiers + test of the pause on Friday
Some doubts on BCCCA reading:
- Reasonable measurement with low intensity
- Problem when increasing intensity
  - BCCCA giving zero but BCT7049 giving $1.9\times10^7$
  - TPU measurement giving $3.5\times10^7$ and
  - ELENA TPU $2.5\times10^7$

BI expert investigating:
- Related to beam losses?
Couple of issues

- Access in AD to fix connection of stochastic cooling amplifiers to the kicker

- Problem with the 2 GeV notch filter observed with measurement without beam on Friday morning:
  - Will be fixed today

- LNI.BSGW0060 not triggering with pbars injection
  - BI investigating

- Problem with AD finemet cavity servo loop

- HV switch of e-cooler not active:
  - e-beam on during the ramp 300 MeV/c → 100 MeV/c
  - Vacuum spike when switching ON
## Week planning

<table>
<thead>
<tr>
<th></th>
<th>Main activities</th>
<th>Parallel activities</th>
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</thead>
</table>
| **Monday** | • 2 GeV notch filter investigation:  
- beam to 2 GeV plateau only  
• 3.5 GeV stochastic cooling setting-up/measurement  
- injection only | • AD IPM : test with MCP on ?  
• Optimization of DI, septum,kicker  
• HV switch of e-cooler ? |
| **Tuesday** | • Morning: 5 bunches extraction from PS tests:  
- no beam for AD/ELENA setting-up  
• Afternoon: stochastic cooling  
- machine in pause | |
| **Wednesday** | • deceleration/capture  
• Orbit and tune measurement in AD | |
| **Thursday** | • Stochastic cooling at 2 GeV/c | |
| **Friday** | **Users request:**  
- No beam magnetic field pulse over night and WE for BASE precision measurement:  
  - Proposal is machine NOT pulsing this week between 22h and 7h  
- LNE51 commissioning with Hminus/pbars:  
  - Beam permit to be signed | |
<table>
<thead>
<tr>
<th>AD cycle</th>
<th>Activity</th>
<th>Duration [working days]</th>
<th>From</th>
<th>To</th>
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<td>Steering, Quad scan</td>
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**ELENA**

H minus operation

| injection setting-up          |                                             | 1                       | 21 April 2022          | 22 April 2022          |