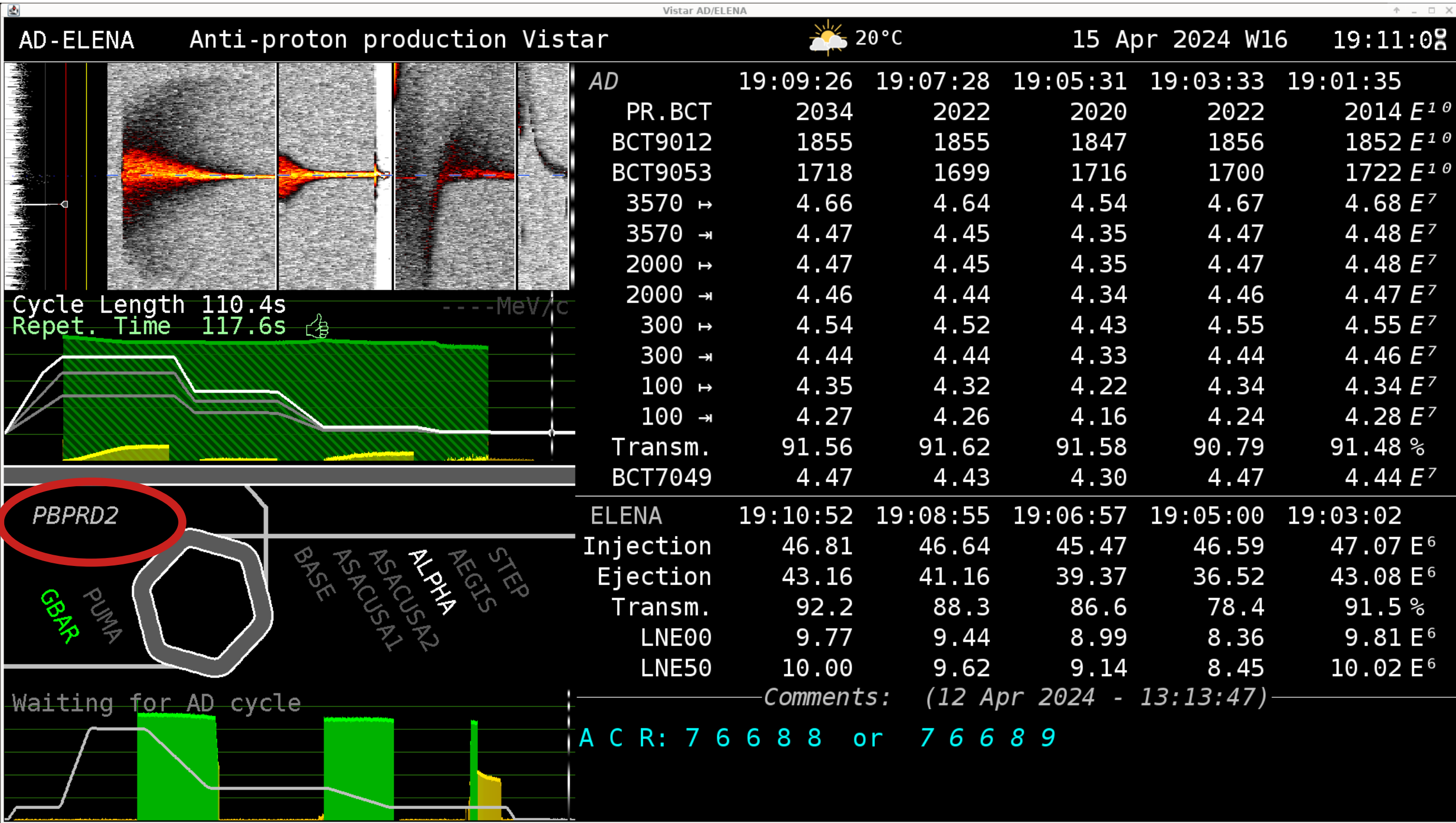




# AD-ELENA status

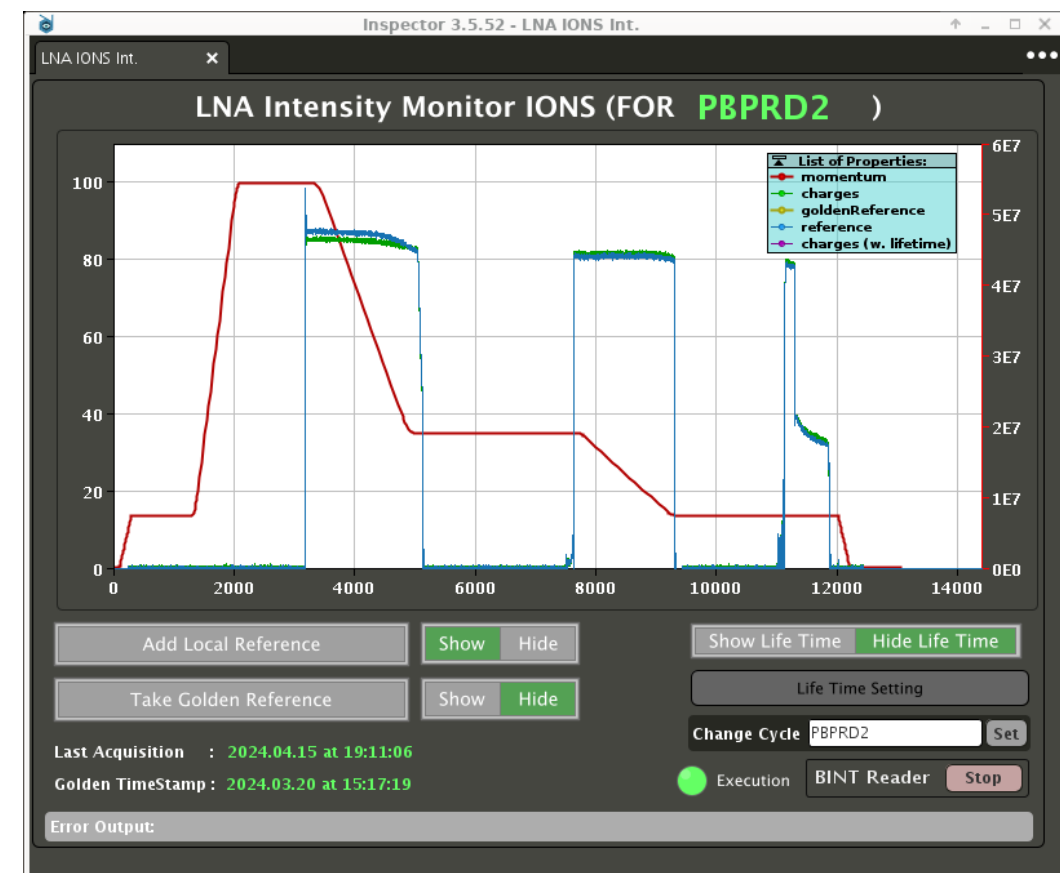
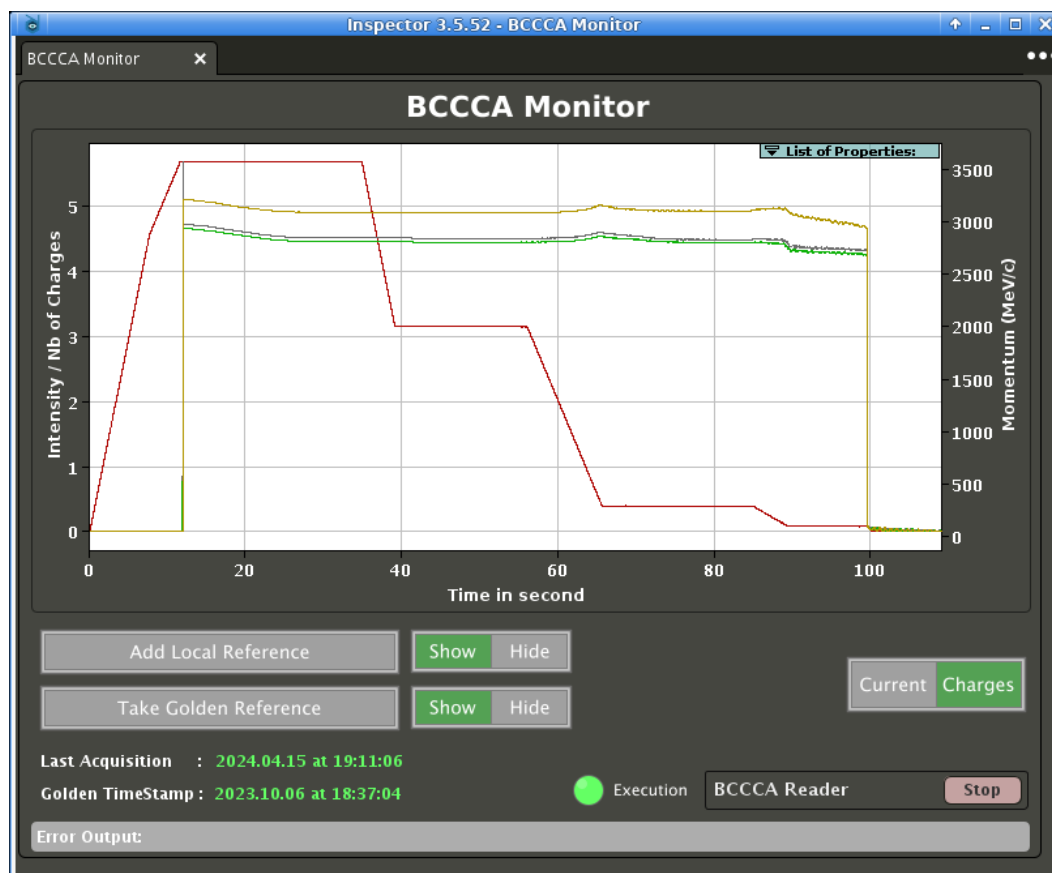


# Machine performances

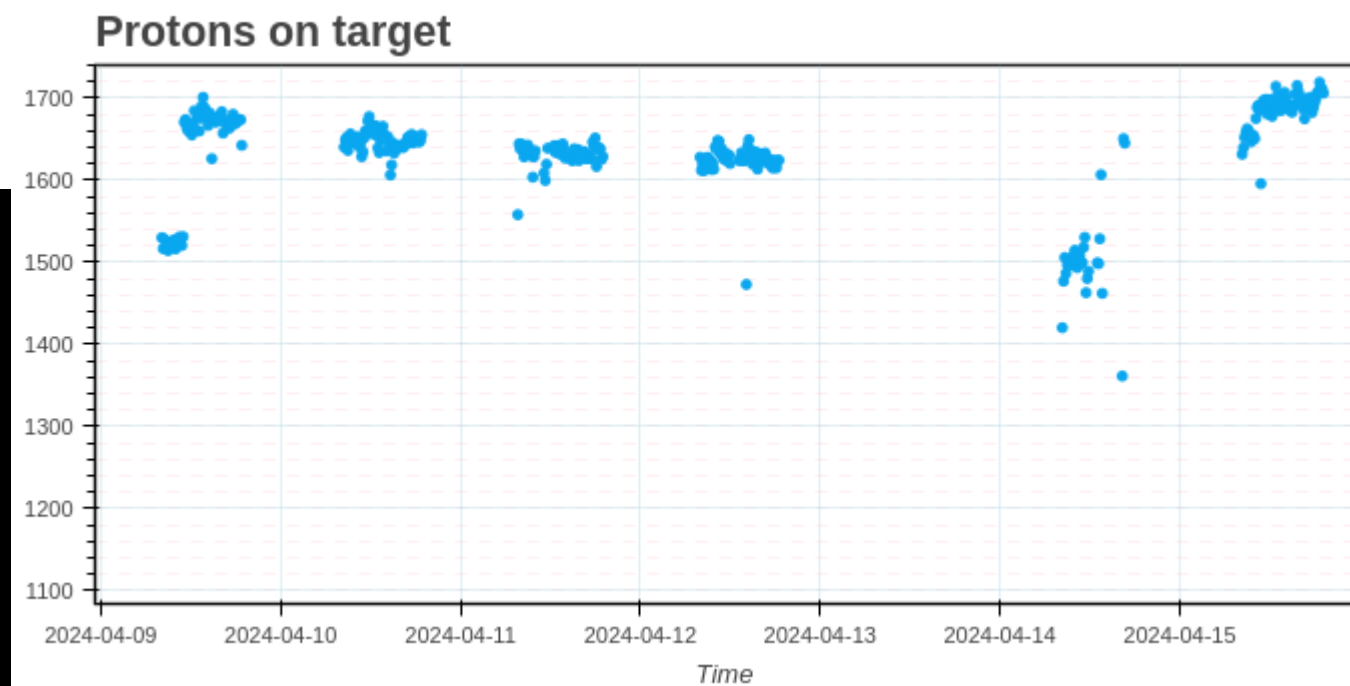
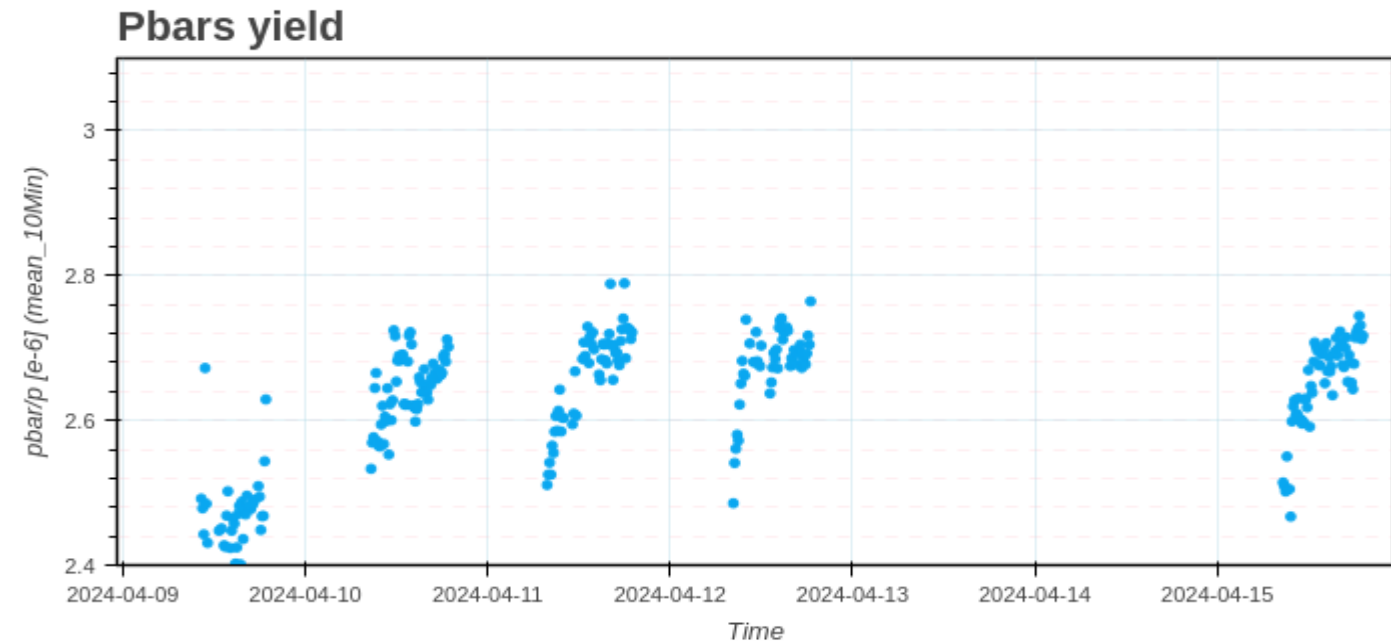


Note: pbars USER for this year is PBPRD2

- Deceleration efficiency:
  - > 90% in AD after sublimation
  - 85-90% in ELENA (pbars) similar to last year but fluctuating
  
- Intensities:
  - $4.5e7$  injected in AD with  $1.7e13$  protons on target: missing ~5% compared to last year
  - $\sim 4e7$  injected in ELENA (without SEM grids IN), up to  $9e6$  pbars per bunch extracted from ELENA



- Pbar yield need couple of hours to stabilize when start cycling
- Intensity on target changing along the week
- AD to ELENA transmission fluctuating:
  - ELENA deceleration efficiency between 80 and 90%



Browser tabs: ELENA, ADE, Timber, frontend, Vistars

URL: <https://op-webtools.web.cern.ch/vistar?usr=ADE>

Customer Portal, Red Hat, Red Hat Products D..., Red Hat Enterprise ..., Red Hat Developer ..., Red Hat Container ..., Red Hat Hybrid Clo..., Timber

LogBook, HELP

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AD-ELENA Anti-proton production Vistar 9°C 16 Apr 2024 W16 11:54:18

AD	11:52:38	11:50:28	11:48:19	11:46:09	11:43:59
PR.BCT	2052	2043	2047	2039	2052 E <sup>10</sup>
BCT9012	1881	1874	1869	1877	1865 E <sup>10</sup>
BCT9053	1705	1709	1691	1702	1706 E <sup>10</sup>
3570 →	4.50	4.55	4.46	4.57	4.48 E <sup>7</sup>
3570 →	4.33	4.39	4.29	4.42	4.33 E <sup>7</sup>
2000 →	4.33	4.39	4.30	4.43	4.33 E <sup>7</sup>
2000 →	4.32	4.38	4.28	4.42	4.32 E <sup>7</sup>
300 →	4.40	4.47	4.37	4.50	4.42 E <sup>7</sup>
300 →	4.30	4.35	4.25	4.40	4.31 E <sup>7</sup>
100 →	4.20	4.25	4.15	4.28	4.21 E <sup>7</sup>
100 →	4.13	4.13	4.06	4.19	4.11 E <sup>7</sup>
Transm.	91.88	90.83	90.89	91.67	91.77 %
BCT7049	4.33	4.30	4.18	4.37	4.31 E <sup>7</sup>

ELENA	11:54:04	11:51:55	11:49:45	11:47:36	11:45:26
Injection	37.08	37.12	36.28	37.49	36.74 E <sup>6</sup>
Ejection	31.28	33.84	33.72	28.88	33.03 E <sup>6</sup>
Transm.	84.4	91.2	92.9	77.0	89.9 %
LNE00	5.26	5.62	5.71	4.87	5.45 E <sup>6</sup>
LNE50	0.00	7.08	7.13	6.15	7.01 E <sup>6</sup>

Comments: (12 Apr 2024 - 13:13:47)

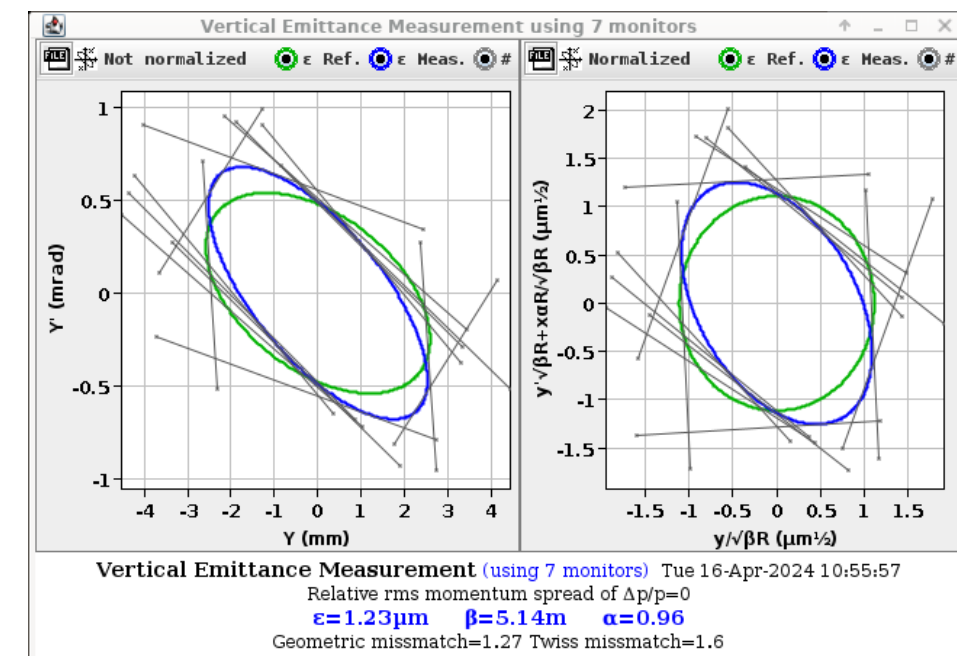
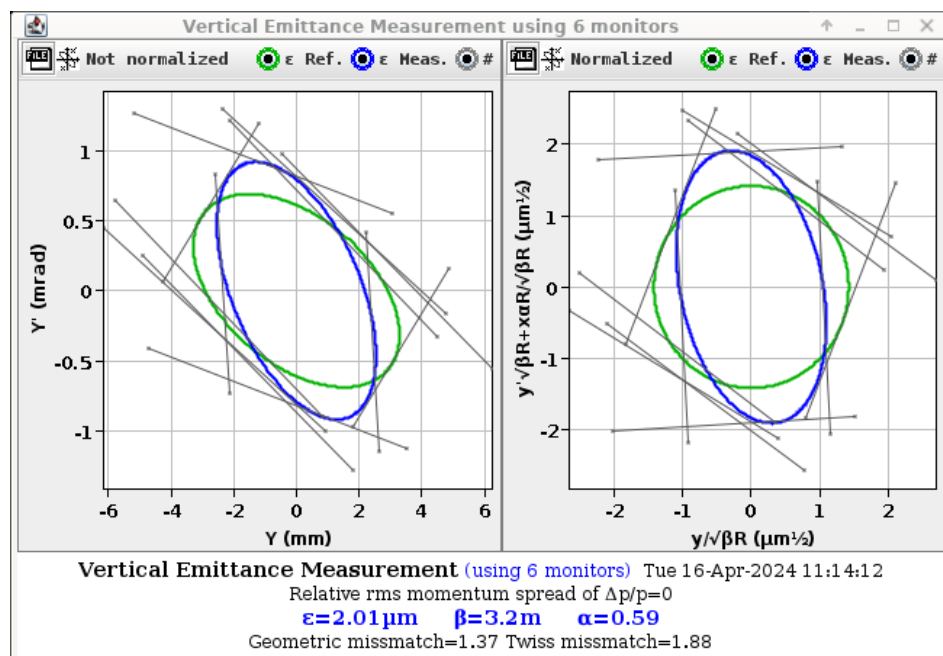
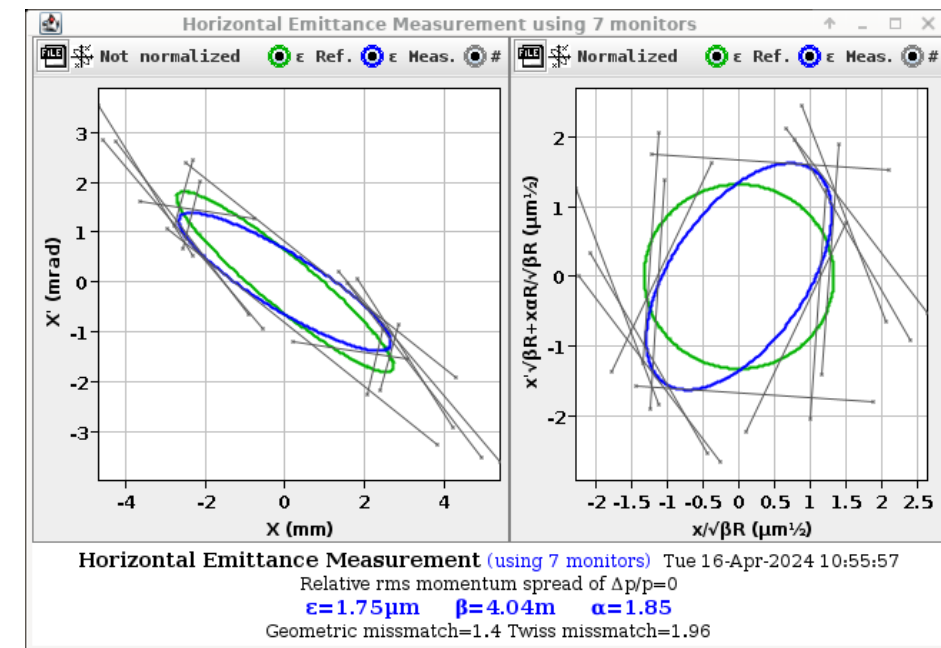
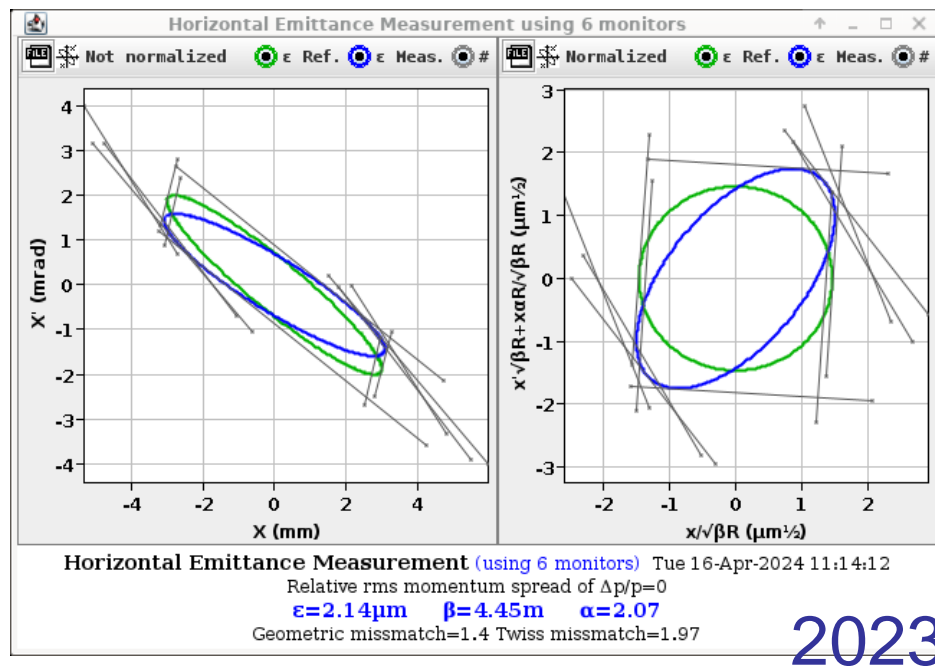
A C R: 7 6 6 8 8 or 7 6 6 8 9

Waiting for AD cycle

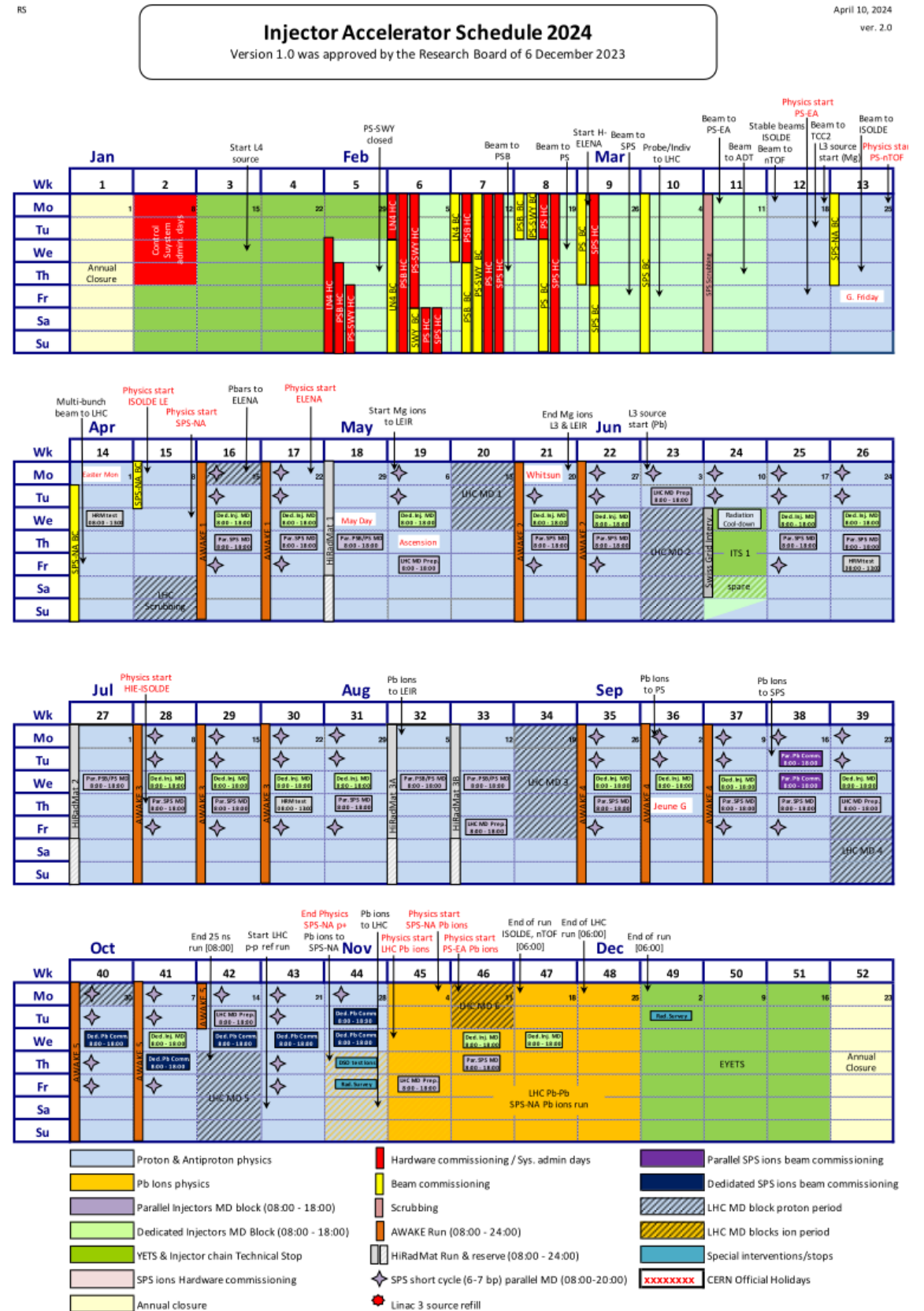


## Emittances:

- 1.8/1.3  $\mu\text{m}$  in H/V, closer to nominal than last year (new working point in ELENA)
- Same longitudinal as last year



- Start of physics 22/04:
  - We may need a but oftime during working hours to check your line trajectory
  
- 2024 injectors schedule revisited (to be approved at the IEFC this week):
  - physics run till 2<sup>nd</sup> of December
  - 3 days TS week 24: restart of physics on Friday evening!!!
  
- We will still request Wednesday for Machine Development
  
- Operation of the Hminus source during working hours in parallell of Pbars cycle



- Finalize beam commissioning in AD and ELENA with pbars
- Continue MDs on Hminus cycle
- Optimization of AD injection line to recover the missing few % intensity:
  - Cannot be done with pulsing only during working hours
- Note: no pbars send if beam permit is not signed!

<b>GBAR Linac</b> Beam Permit Approved	<b>LNE01 / STEP</b> Initiated	<b>LNE02 / AEGIS</b> Initiated	<b>LNE04 / ALPHA</b> Initiated
<b>LNE05 / ASACUSA</b> Initiated	<b>LNE07 / BASE</b> Initiated	<b>LNE50 / GBAR</b> Beam Permit Approved	<b>LNE51 / PUMA</b> Initiated
<b>T10 beam line</b> Beam Permit Approved	<b>T11 beam line</b> Beam Permit Approved	<b>T9 beam line</b> Beam Permit Approved	