

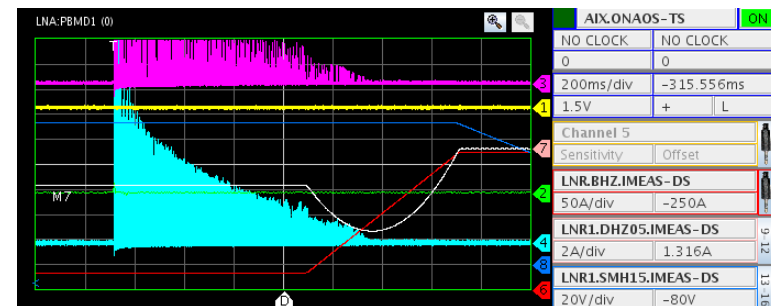
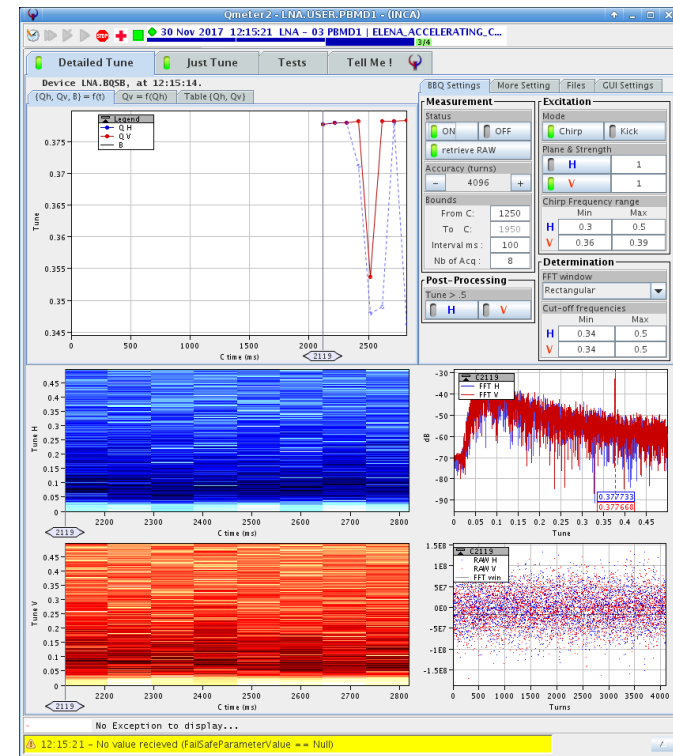


- - Approval of minutes
- - Beam commissioning progress (T.Eriksson)
- - B-train progress and status (M.Buzio)
- - Electron cooler status (L.Joergensen)
- - Next steps, issues & considerations (P.Belochitskii)
- - 2018 plan (T.Eriksson)
- - AOB

Recent progress



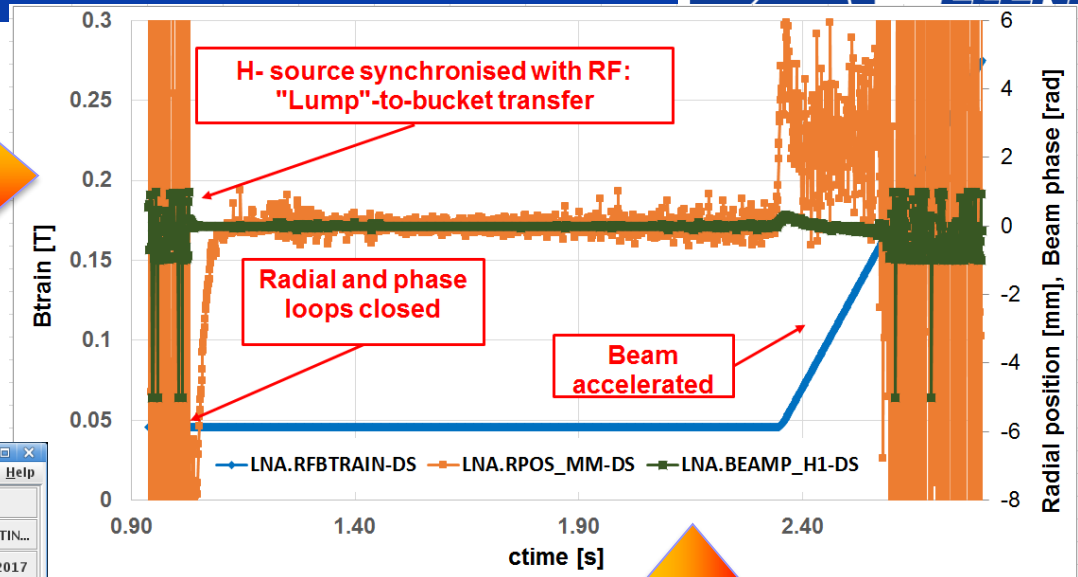
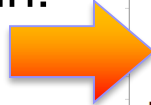
- Good progress during the last few weeks:
 - ~ Half of the planned pbar shifts used
 - Ion source stability/reliability improved – often simple start-up and circulating beam
- H-
 - Orbit corrections and kick response measurements work with only 2E6 H- but still not understood polarity/sign convention issue
 - Influence on beam position on BTV118 by overhead crane observed
 - BBQ tune measurements tested with beam excitation, looks promising! =>
 - Gbar extraction tested, fast deflectors commissioned, beam seen on first SEM. Issues with readout not understood...
 - Lifetime estimations => in the second(s) range
 - RF: phase and radial loop set-up



Beam results: ELENA operation with H⁻ source

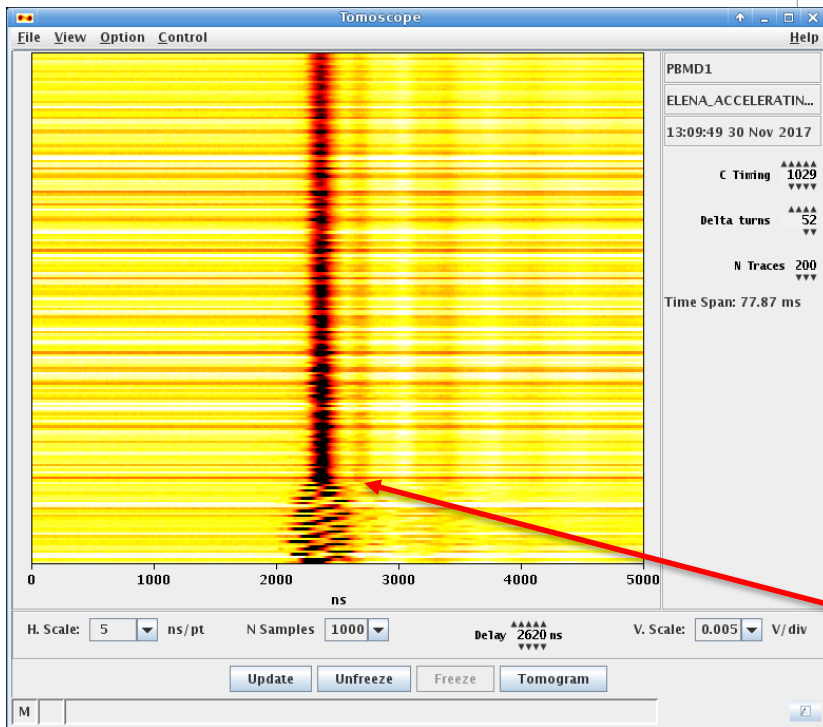


Source clocked with RF train:
"lump" to bucket transfer



Beam (~ 2E6 particles!) kept for 1.2 s on injection plateau @low energy and accelerated for 200 ms with phase + radial loop active.

Loops damping bunch oscillation

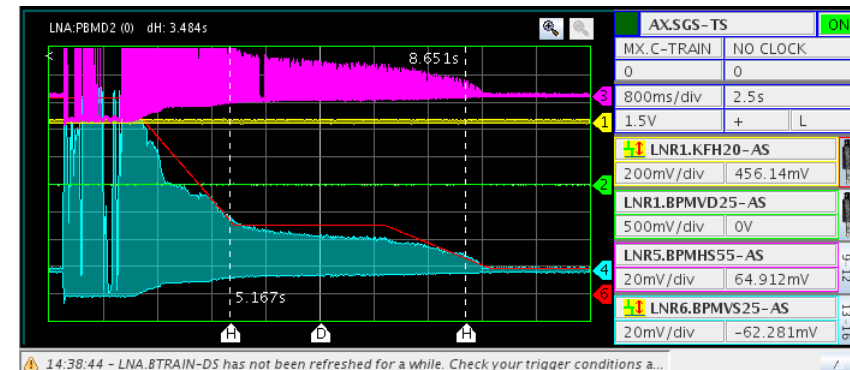
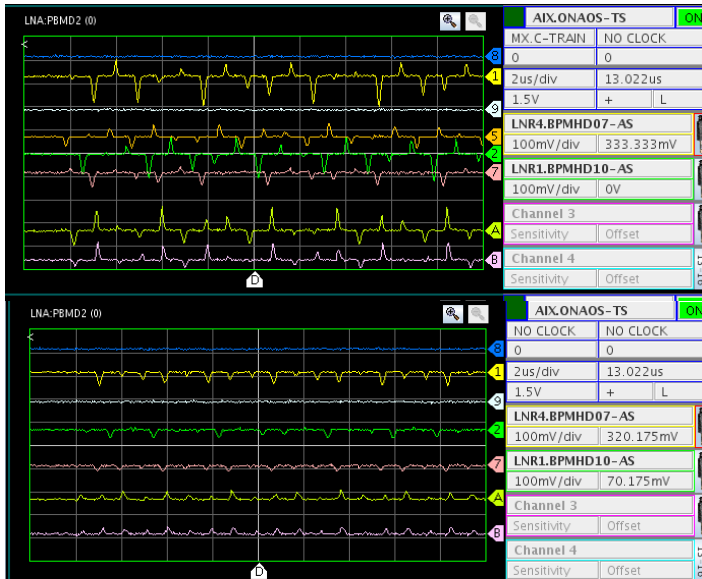
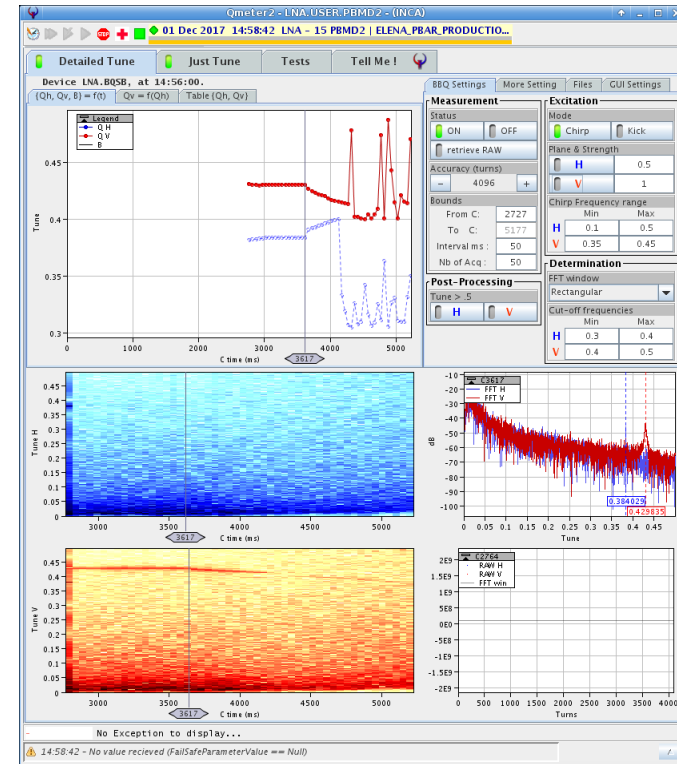


Recent progress



Pbars

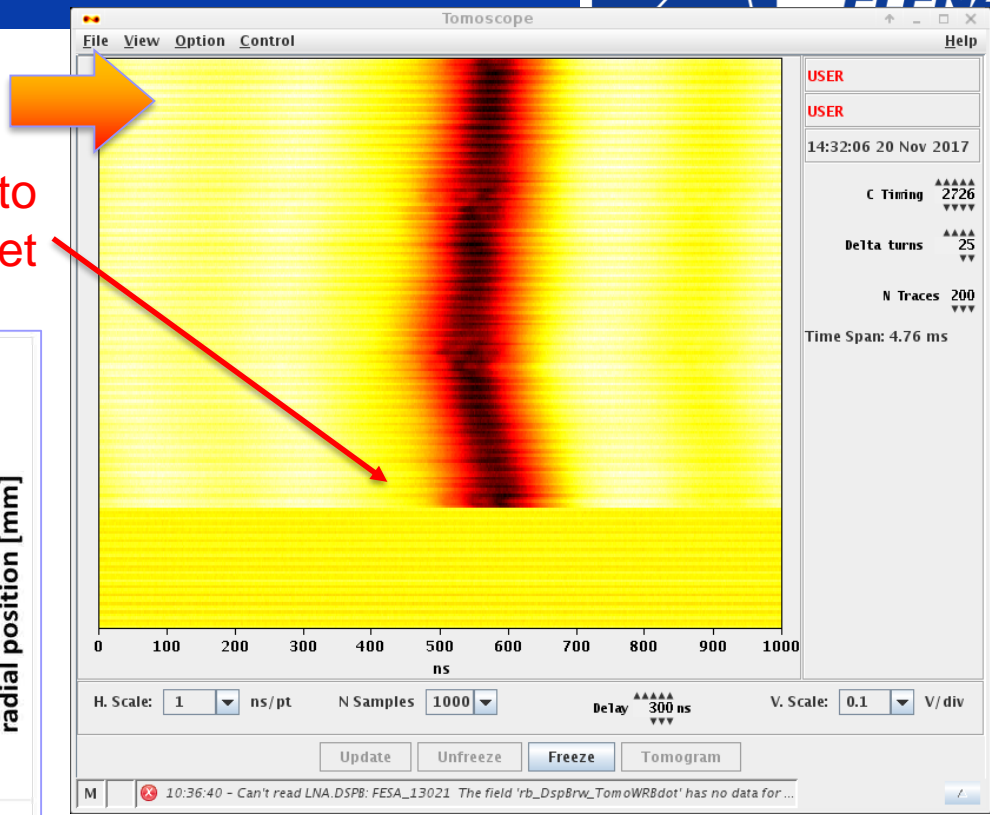
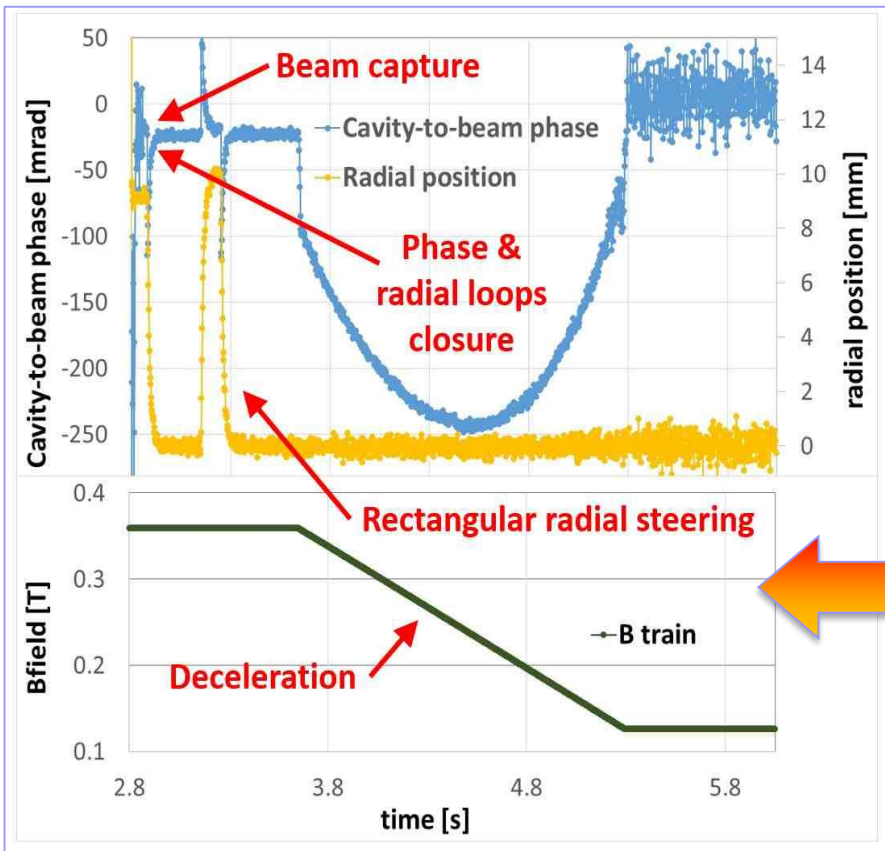
- Bunch to bucket RF LL set-up and operational
- BBQ tunes, clean H and V signals (with excitation) at injection plateau + part of ramp
- Coherent oscillations at injection reduced with new program.
- After initial QFND scan (some) beam makes it down to (almost) 100 keV !



Beam results: ELENA operation with pbars



Successfully deployed in ELENA bunch to bucket transfer from AD (~ 3.2E7 pbars) **Bunch transferred into ELENA waiting bucket**



Pbars also captured and decelerated (phase + radial loop) until beginning of the second ramp.

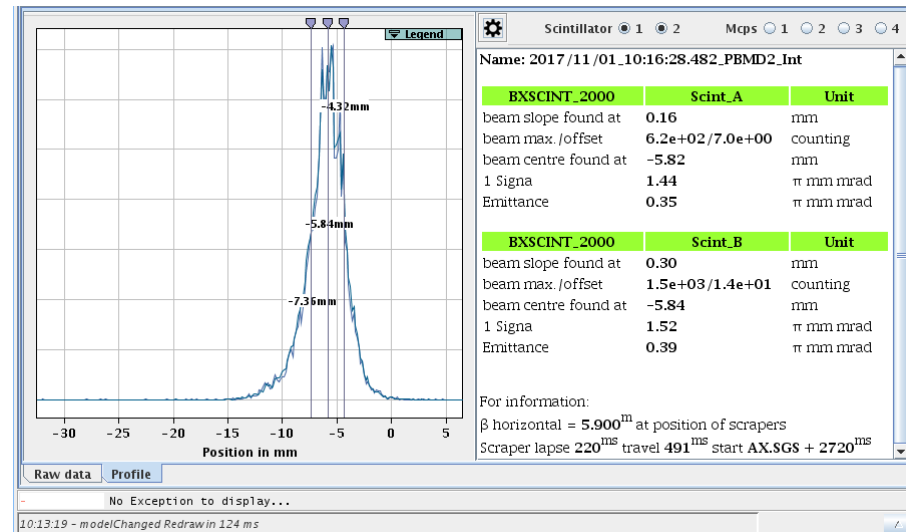
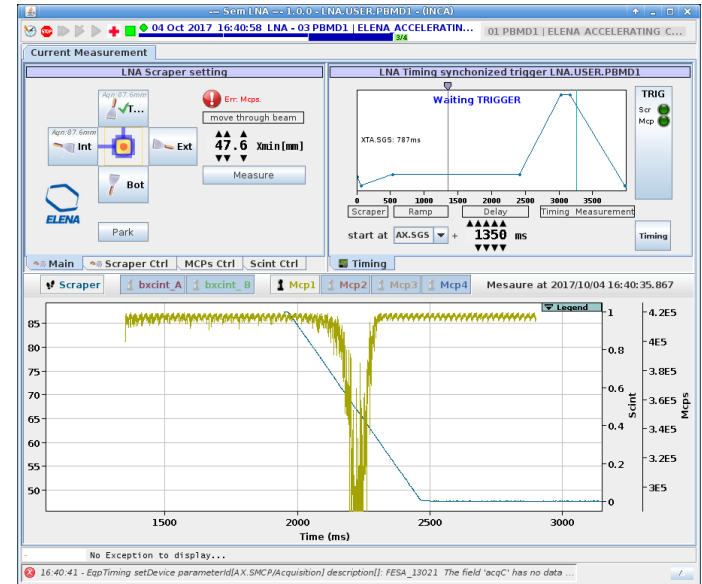


Recent progress



H-/Pbars

- Nice beam profiles seen using scraper system
- SMH15 ppm operational
- B-train calibration(s) – see Marco Buzio talk



ELENA Beam Commissioning 2018

– general plan & immediate next steps



- Consolidation of injection line and injection into ring
 - Improved reproducibility of injection – efficiency should be increased (H-)
 - Further studies to understand and empirically improve line and injection
- First 85 keV beam (H⁻ and/or protons) for GBAR
 - Requires profile monitors – 2 out of 3 installed. No readout electronics yet...
 - Setting up of RF synchro for Gbar H- ejection
 - Gbar vacuum issue...
- Pbar xfer from AD
 - Set-up RF synchro
- (Acceleration) Deceleration
 - Setting up of LL RF; phase and radial loops
 - LPU signal quality vs. phase/radial loops
- Setting up of antiproton cycle
 - Requires electron cooler to be available and installed
- Commissioning of instrumentation and understanding machine at low energy
 - Orbit system – consolidate orbit correction (some corrections done successfully) and orbit response studies
 - Tomoscope – observe bunching & independent intensity estimate)
 - Tune (measurement and) corrections
- Detailed plan to be worked out
- Continue with 3 Pbar shifts/week, to be used or not (?)
- When to deliver first Pbars to Gbar ?