

PS beam commissioning status



A. Huschauer on behalf of PS OP and the coordination team

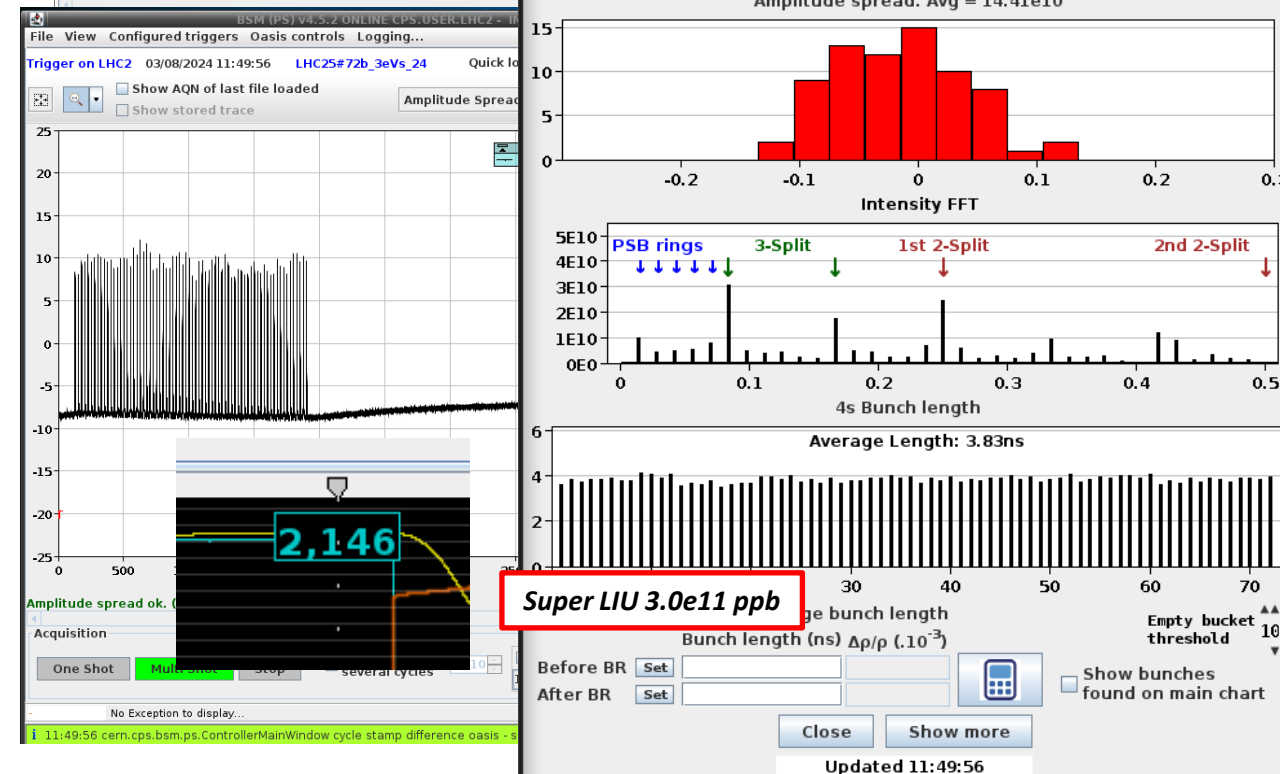
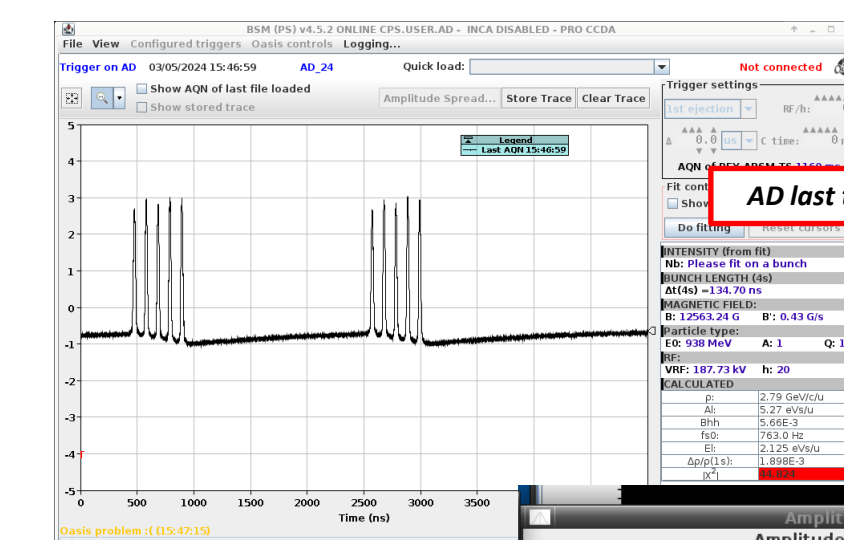
Many thanks to all equipment experts and support teams!

Status of the different beams

Fixed target beams	Status	Comment
SFTPRO (core only)	Operational	
SFTPRO (5 turn extraction)	Operational	Intensity tested up to 1700e10 ppp
AD	<i>Commissioning</i>	FTA/AD commissioning ongoing, intensity limited to 1000e10 ppp currently
TOF	<i>Commissioning</i>	Intensity up to 800e10 ppp, beam to be qualified first beam to FTN ~Friday afternoon for BI checks
EAST	<i>Commissioning</i>	Slow extraction optimization ongoing
LHC-type beams	Status	Comment
LHCPILOT, LHCINDIV	Operational	
LHC25 (3bp, 72b)	Operational	Running up to 3.0e11 ppb with 72b!
LHC25 (2bp, 12b to 48b)	<i>To be started</i>	Expected for LHC standard operation
LHC25 BCMS (48b)	<i>To be started</i>	Expected for SPS Week 13
LHC25 8b4e (56b)	<i>Commissioning</i>	Expected for SPS Week 11-12
AWAKE	To be copied from LHCINDIV	
HiRadMat	To be copied from LHC2	

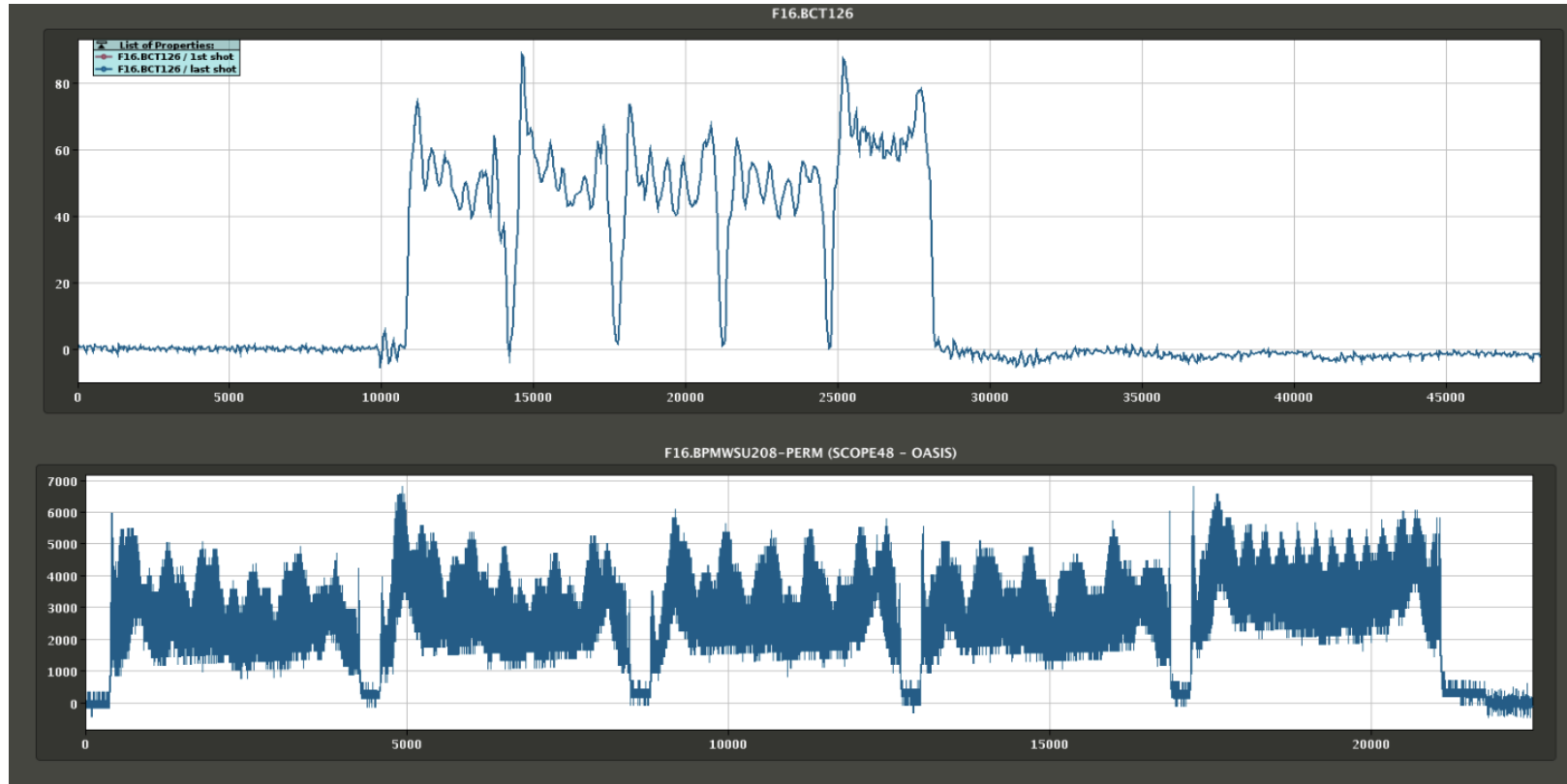
Beam commissioning

- AD beam
 - Now delivered to AD for commissioning of FTA/AD (1b and 5b).
 - Intensity ramp-up coming next
- LHC25#72b for SPS scrubbing
 - Reached $3.0e11$ ppb with 72b with stable RF!
 - Multi harmonic feedback and coupled bunch feedback adjusted
 - Excellent longitudinal beam quality, no controlled emittance blow-up and 3.8ns at extraction



Beam commissioning

- **SFTPRO beam**
 - Taken by the SPS for their beam commissioning (at low intensity)



Beam commissioning

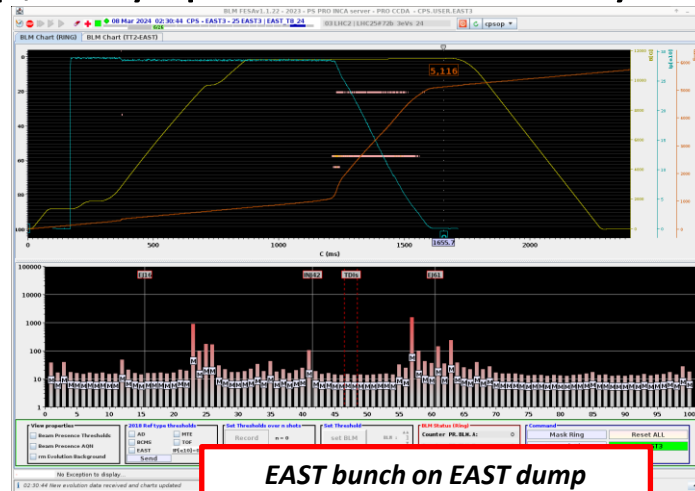
- EAST

- Improving the bunch rotations for EAST based on simulations
- Beam sent to the different EAST destinations
- Initially no data on IRRAD BPMs, fixed today
- UCAP device to compute T9/TN fixed at lunch time today
- Cycle optimisation ongoing

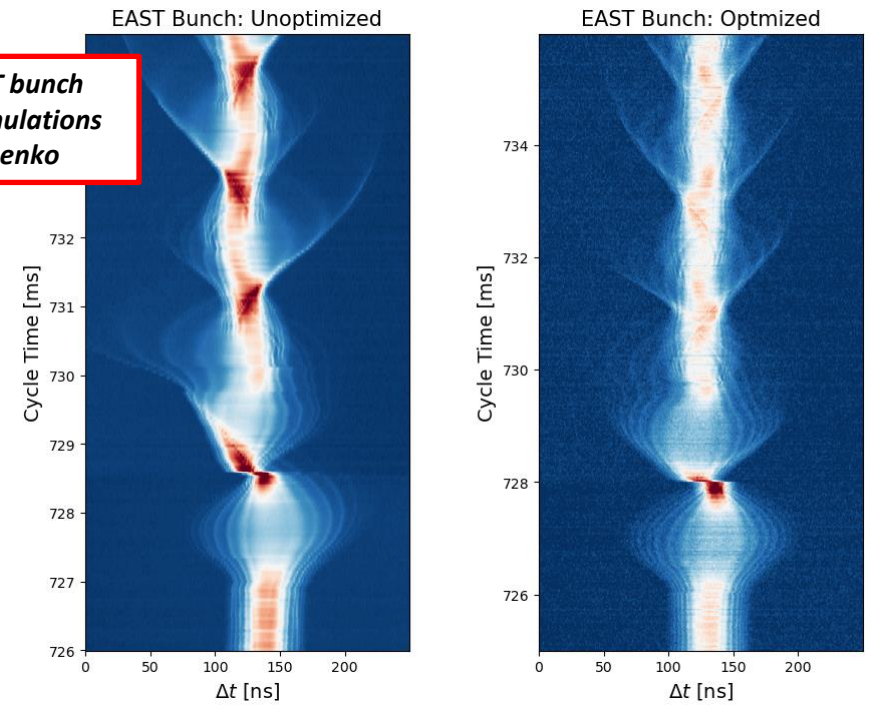
- TOF

- Beam at 800e10p, fully qualified on Sunday

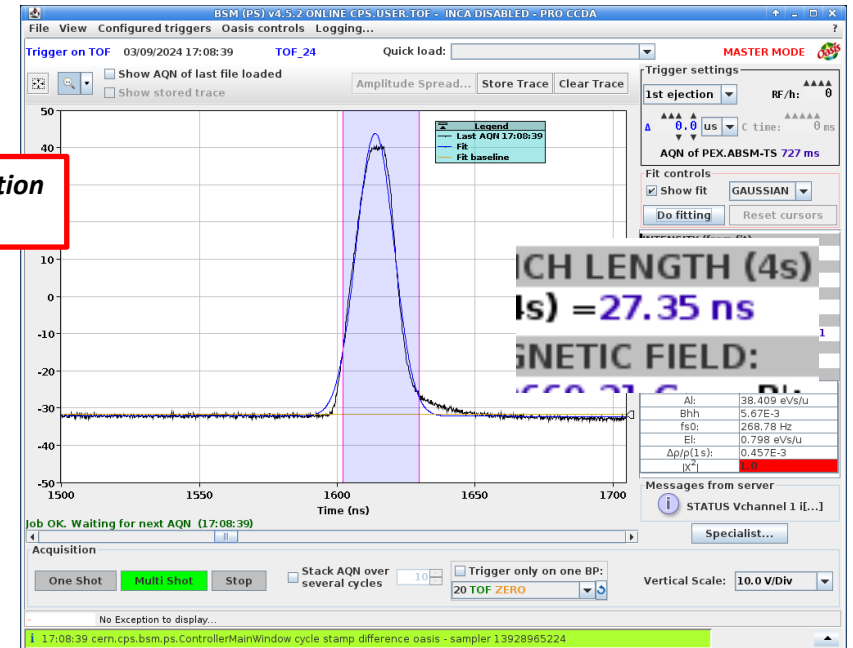
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*Optimization of EAST bunch rotations based on simulations
Courtesy: O. Naumenko*



**TOF at extraction
800e10**



Conclusion

- Tough initial weeks with several hardware issues on RF systems, kickers and beam instrumentation
 - Post-mortem analysis to be done with equipment groups once beam commissioning is finished
- Situation improved and mostly fine tuning of the different beam variants right now
- Well on track to start physics for the different destinations