

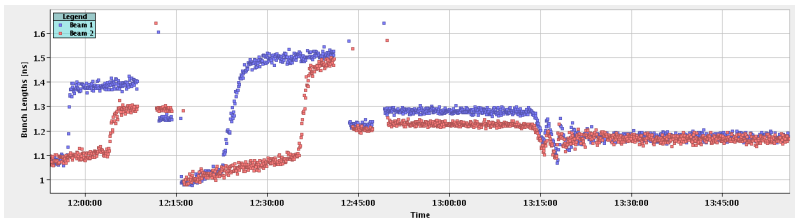
# RF MD: Batch by batch blowup

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# Batch by batch blowup

- The new blow-up was commissioned last Tuesday morning. It was first used at 450 GeV, achieving a doubling of the longitudinal emittance in  $\approx 5$  minutes



- MD request: commission batch-per-batch blow-up at injection
  - Achieve reduced transverse emittance blowup due to IBS at 450 GeV. Higher luminosity?
- Request 8 hours at 450 GeV, with batches spaced by 1 microsec (the number of bunches per batch is not critical). Wire-scans will be needed.

# Batch by batch blowup

- With the new blowup commissioning and further tests in the lab, we believe we are ready on the hardware/firmware side
- The biggest complexity for batch-per-batch excitation is on the controls side and the interaction with the sequencer
- A new “RF injection sequencer” will be deployed and tested during the proposed MD:
  - For batch 1: Capture with beam phase loop ON. Turn phase loop off and start blowup. When blowup is finished, turn phase loop on
  - For batch  $n>1$ : *Capture with longitudinal damper ON. Turn damper OFF* and start blowup. When blowup is finished, incorporate new batch in phase loop masking
- Scheduling: due to personnel absences etc. a late afternoon, early evening slot on Sunday would be optimal if possible.