

# Thursday feedback T-shirt data

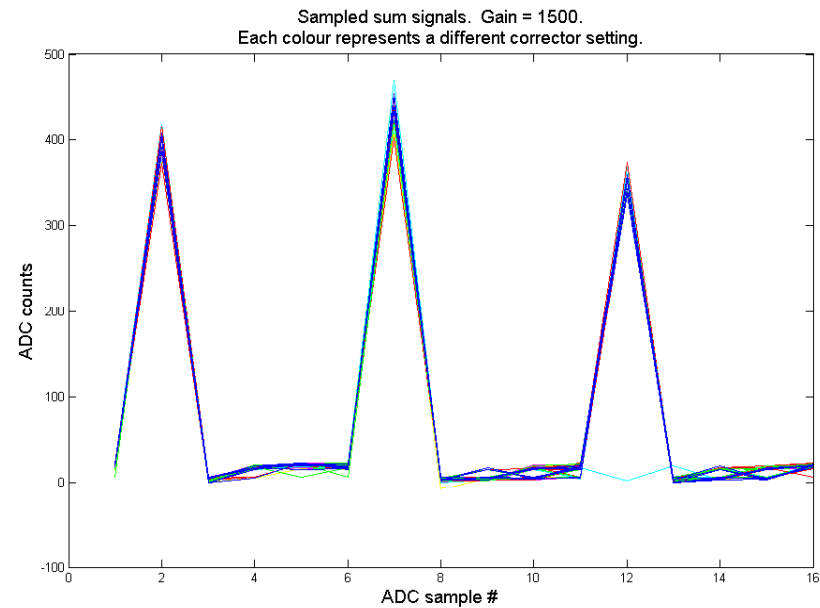
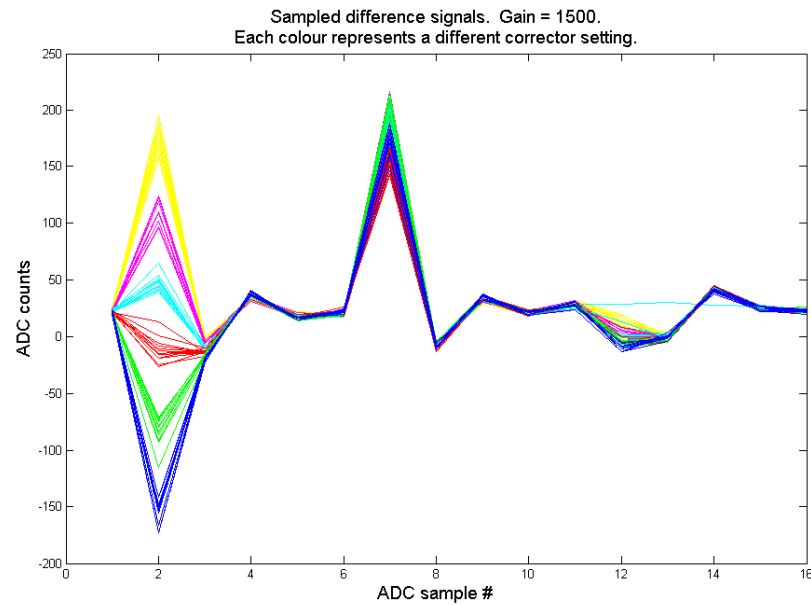
- Experiment setup
  - FB BPM11 strip signals split (Weinschel resistive splitters)
  - 1 processor in ext. line in FB loop
  - 1 processor in Eel's bedroom
  - Beam moved until amplifier approached saturation to define FB range (ZV7X)
  - Range split into 7 operating positions
  - At each beam position, FB on and off data were taken with gain settings of 1000, 1500 and 1700
  - 11 pulses at each setting
  - Gain was chosen to zero bunch 3
- 357 MHz amplified to ensure high signal levels in ext. line
  - Low levels had previously caused erratic behaviour

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- T-shirt plots etc. presented over the next few slides
- Bunch 3 consistently corrected
- However, sampling issues resurfaced
  - Bit errors sometimes visible in data c.f. sticky bit 3 from April

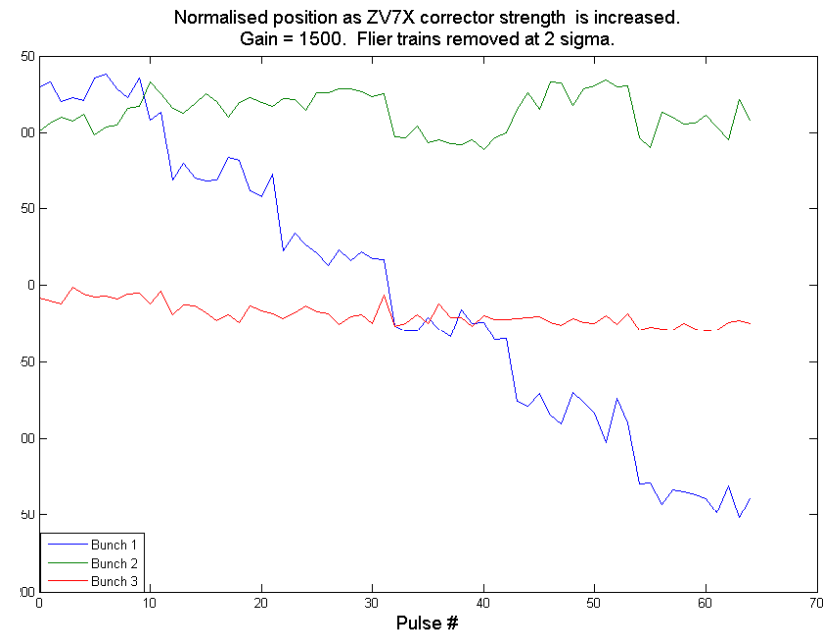
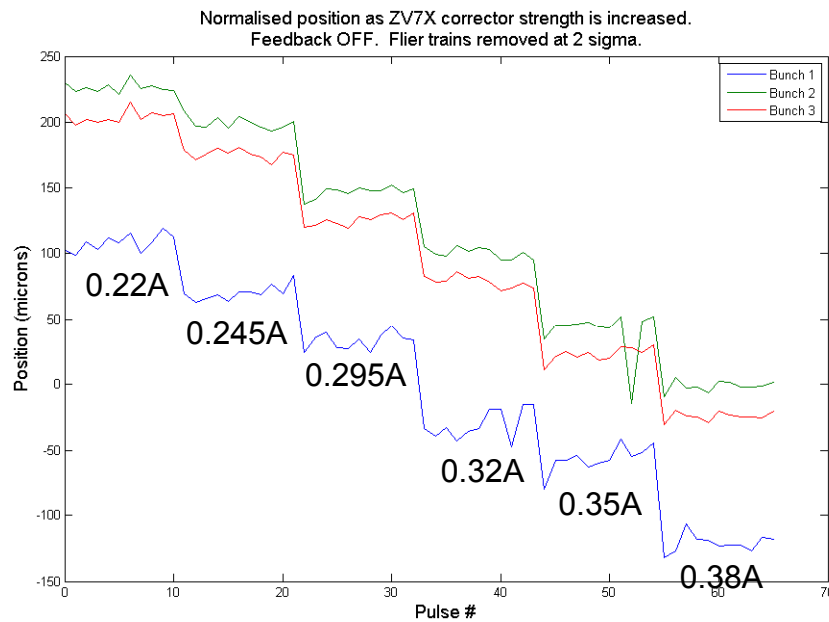
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- Overlaid sum and difference signals at gain = 1500 (best setting)



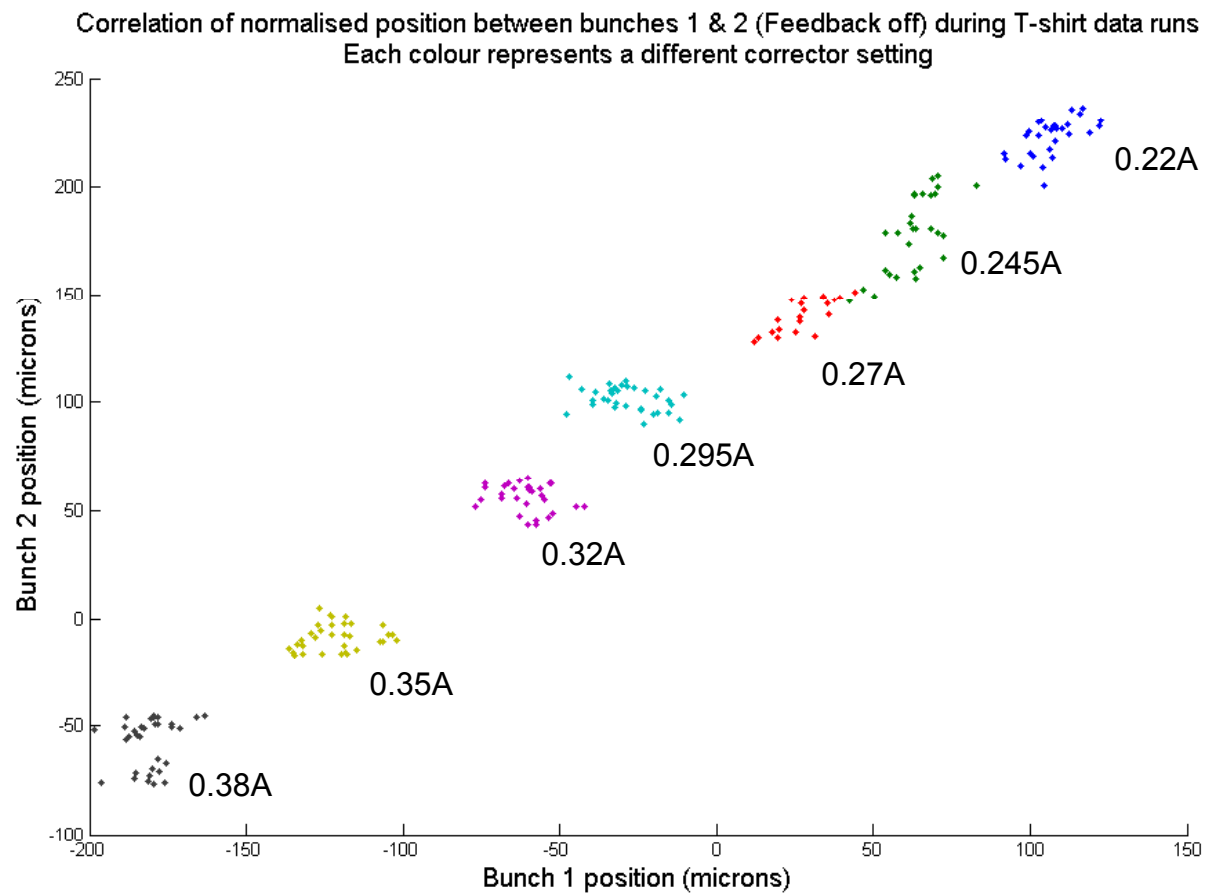
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- Development of normalised position at gain = 1500 (best setting)
- Plot shows each bunch position (microns) as the strength of ZV7X is increased



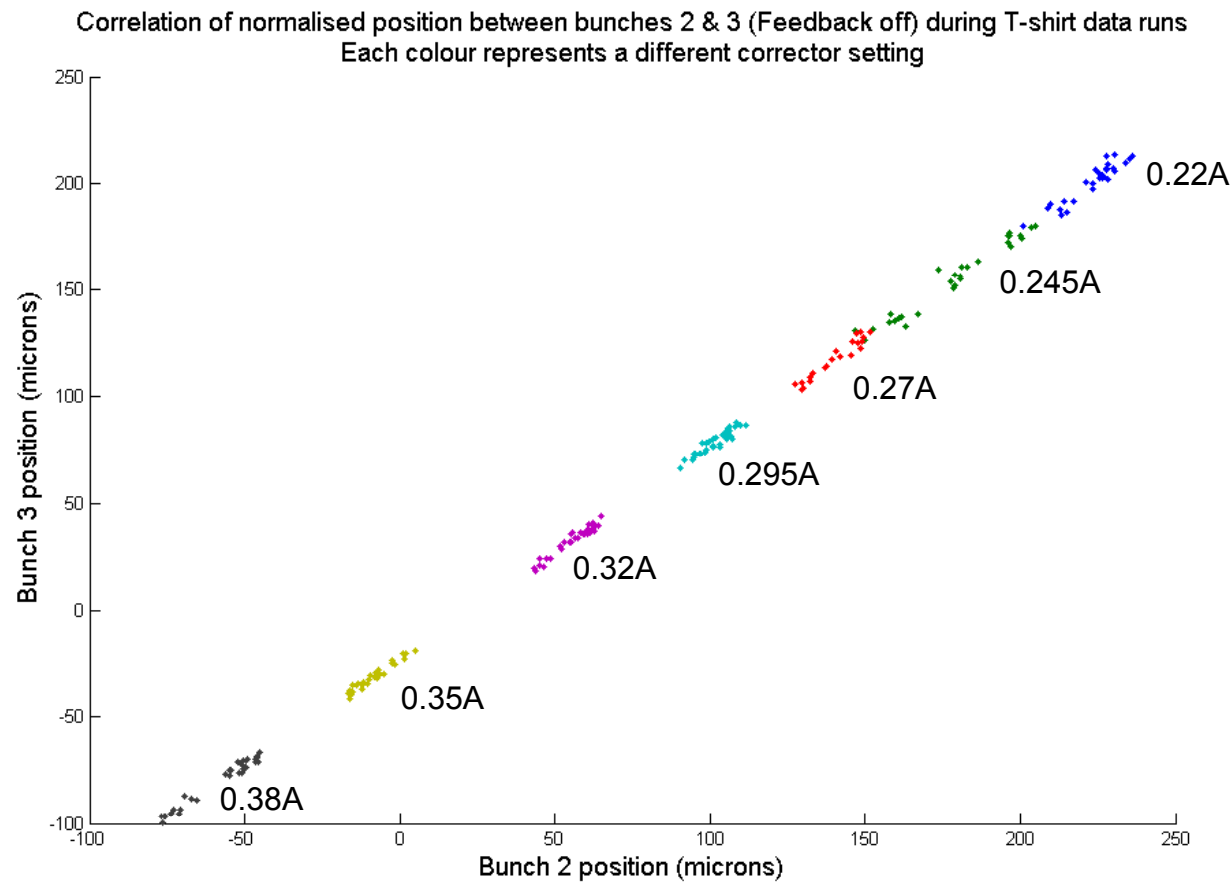
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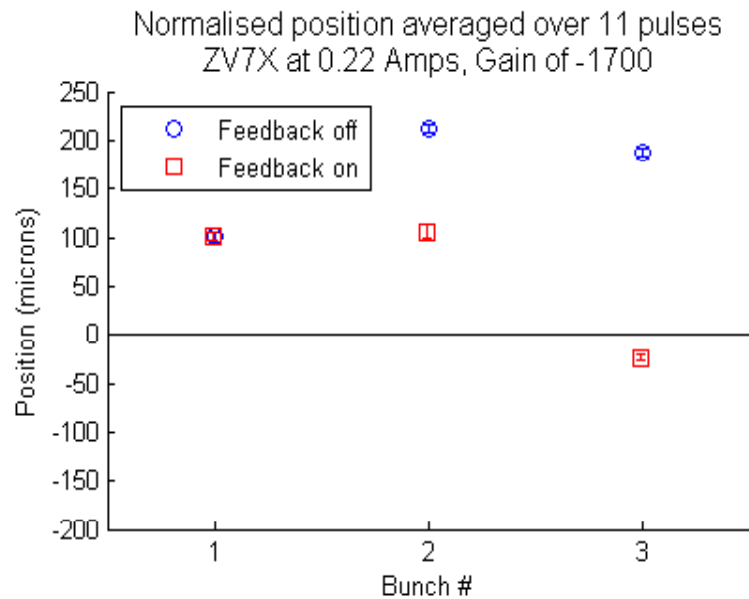
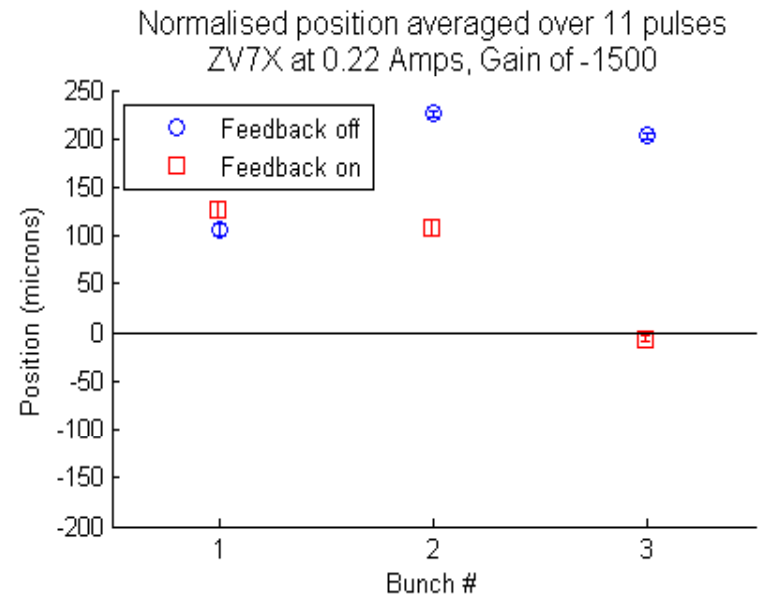
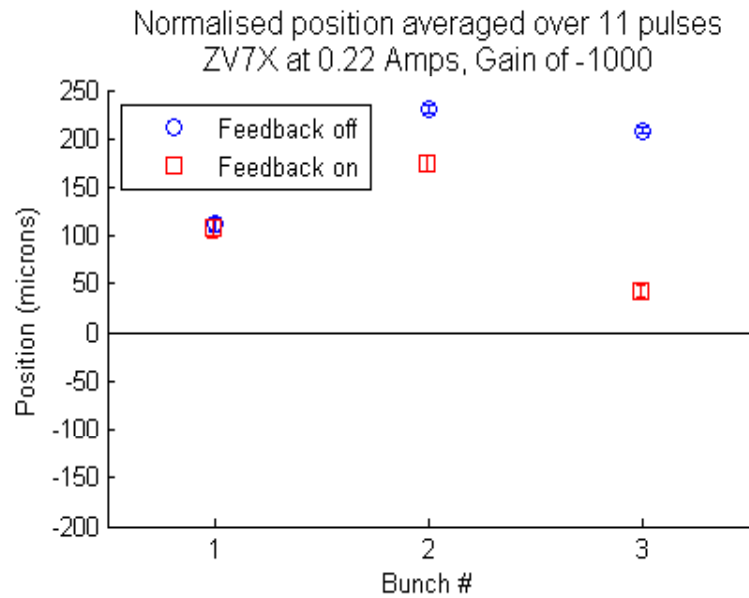
- Bunch-to-bunch position correlation bunch 1 vs. bunch 2
- Poor correlation

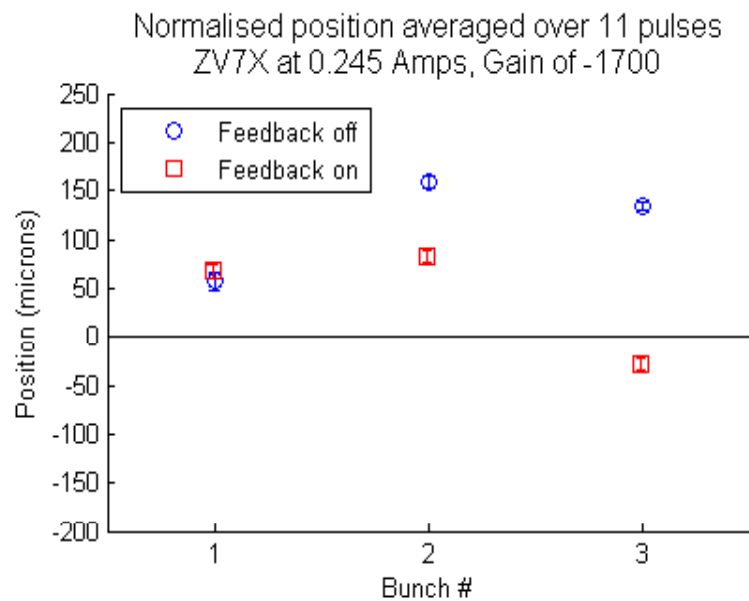
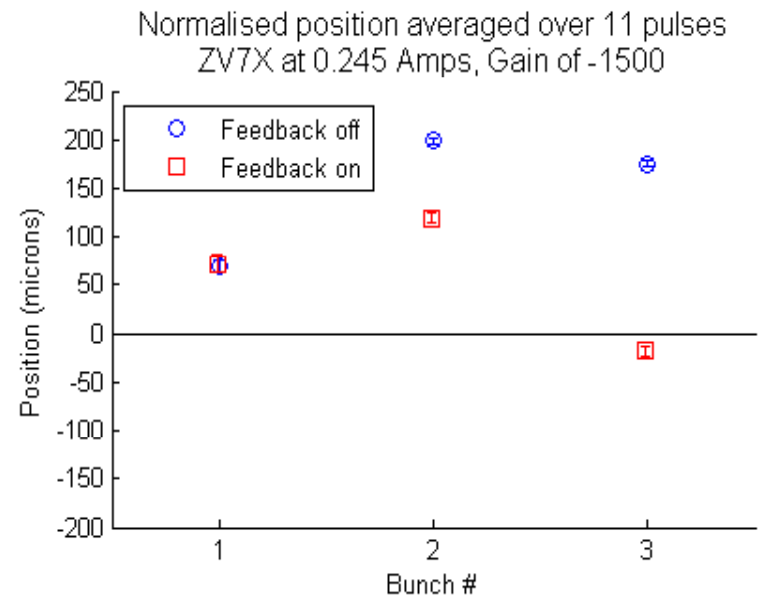
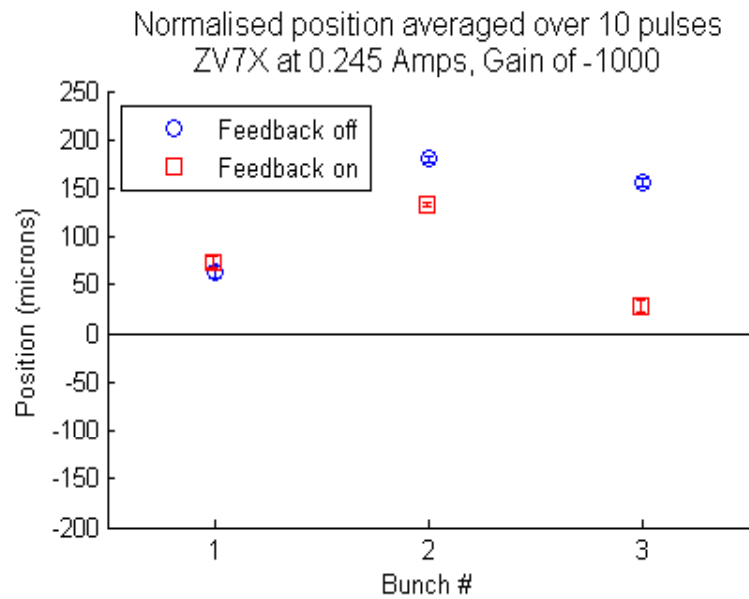


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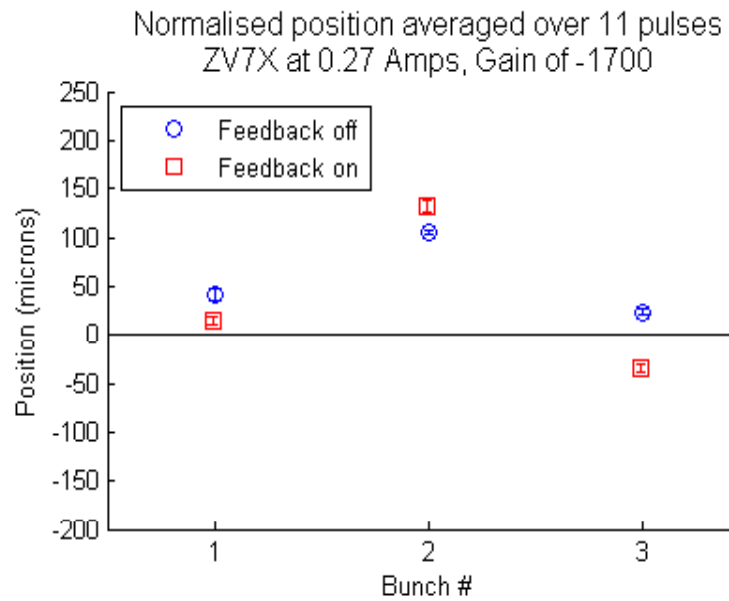
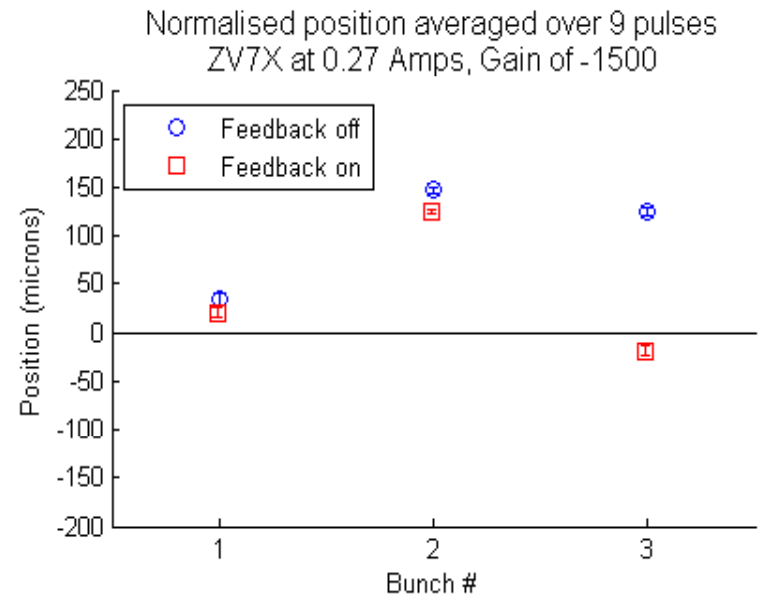
- Bunch-to-bunch position correlation bunch 2 vs. bunch 3
- Better correlation

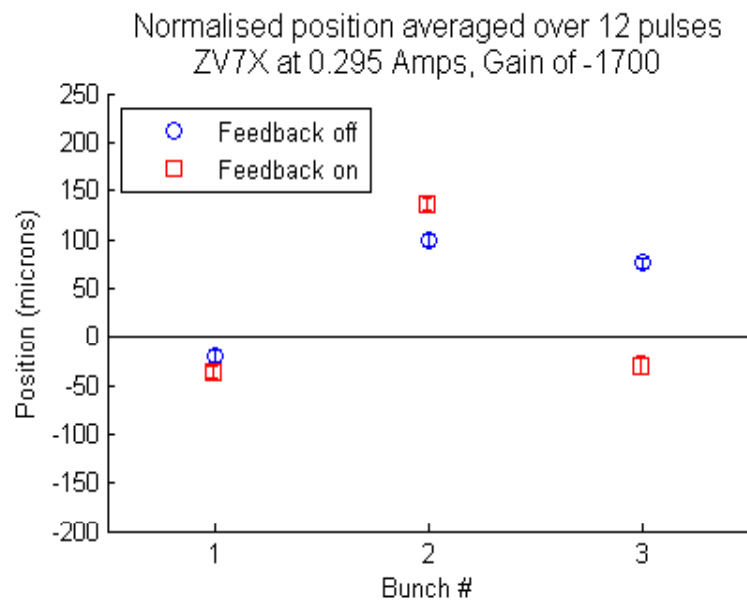
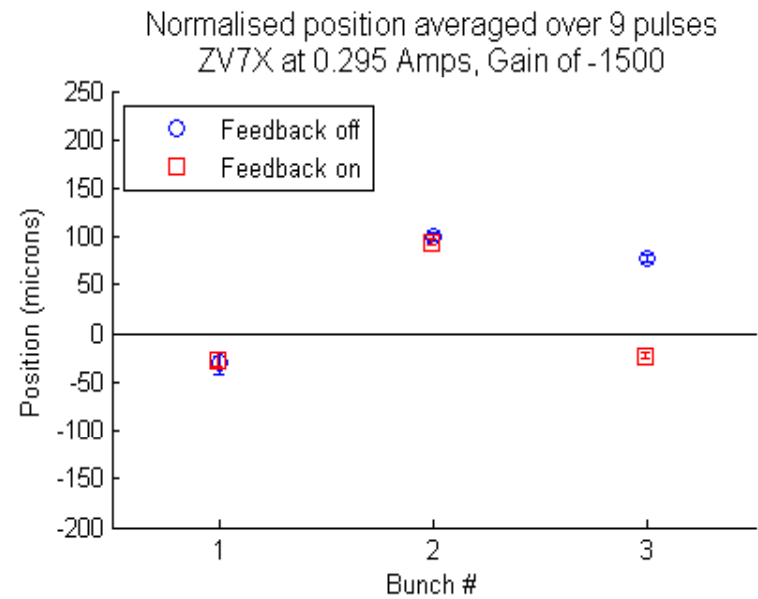
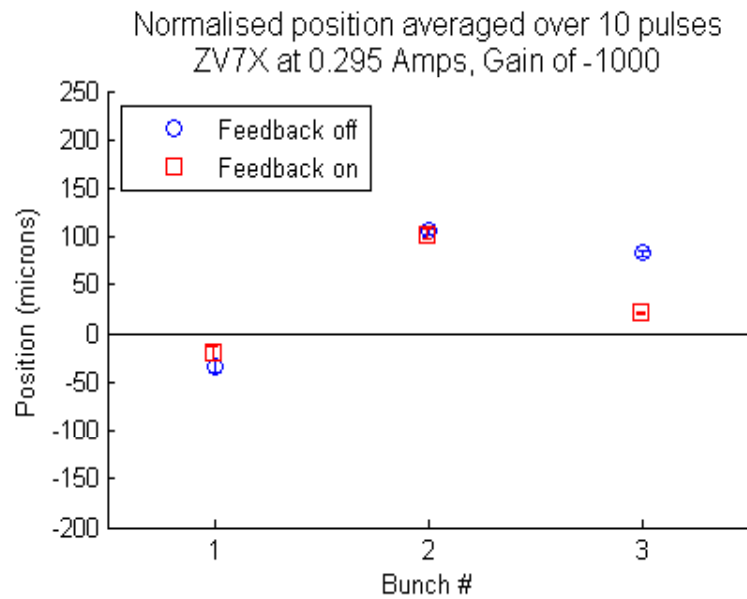


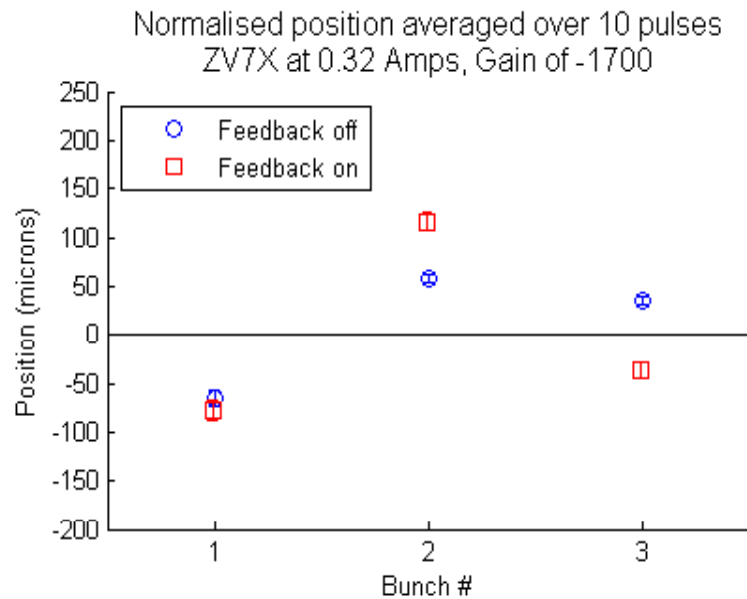
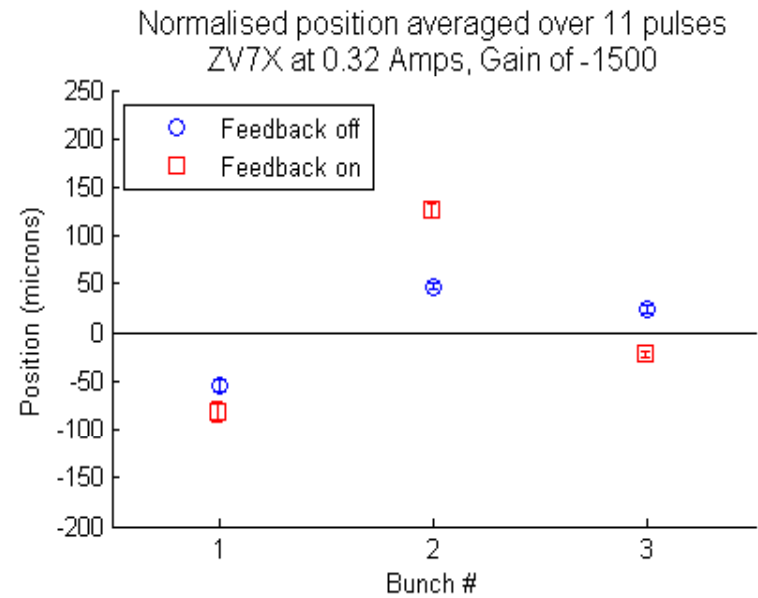
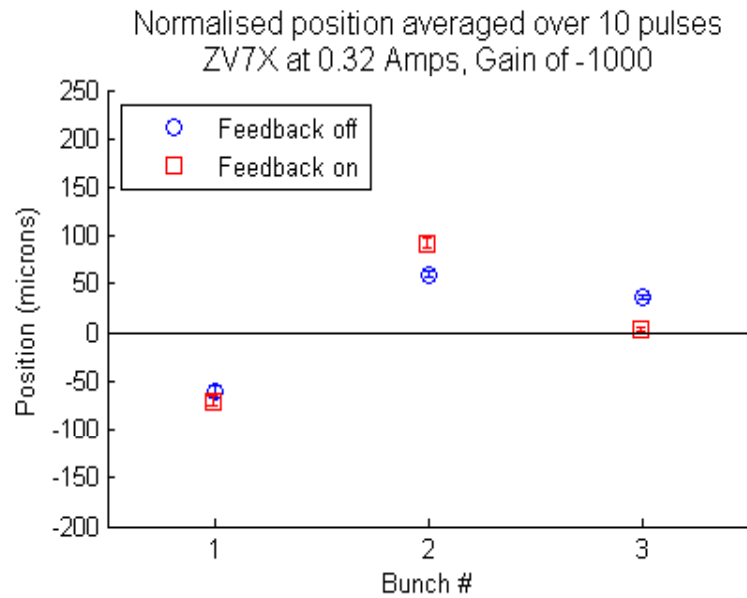


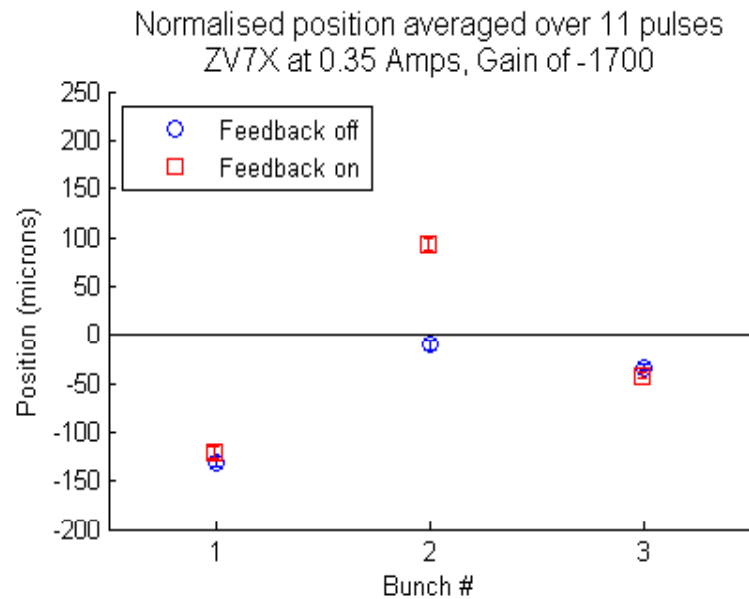
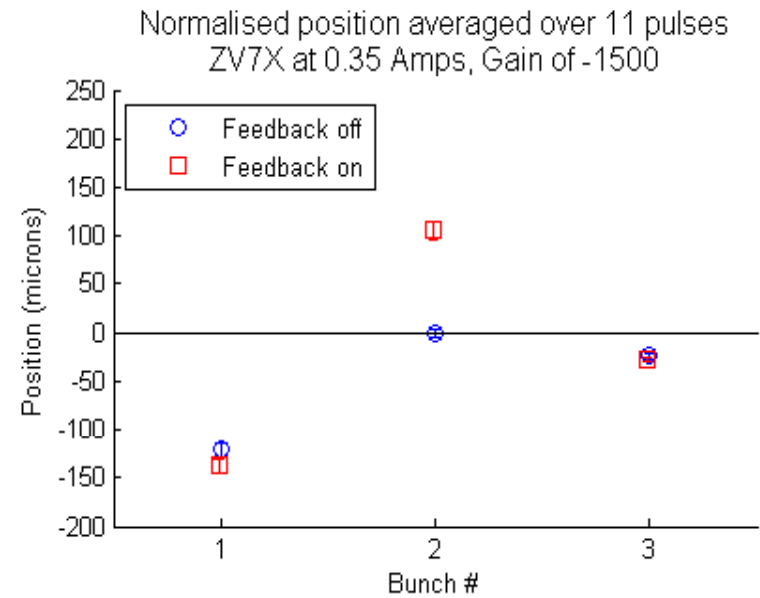
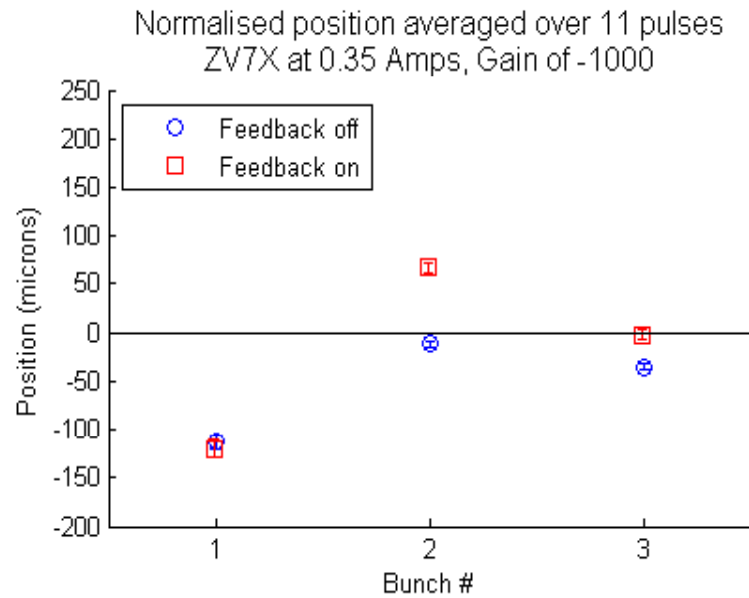


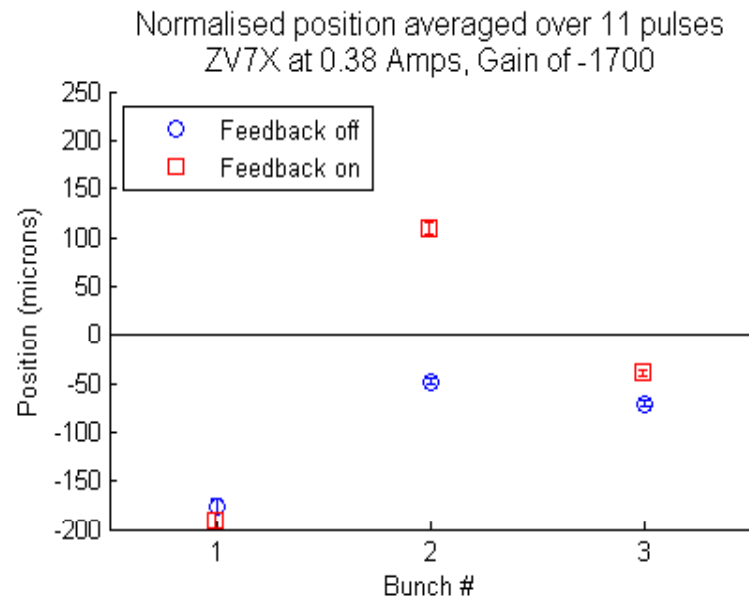
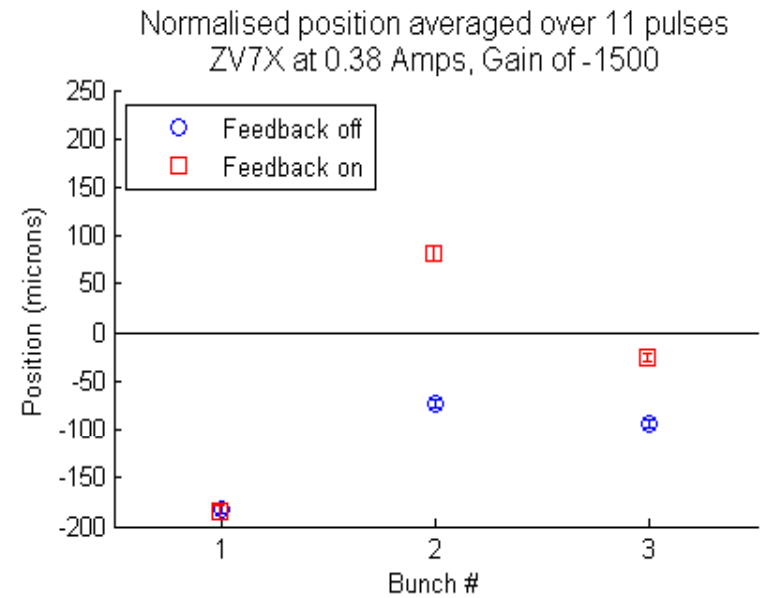
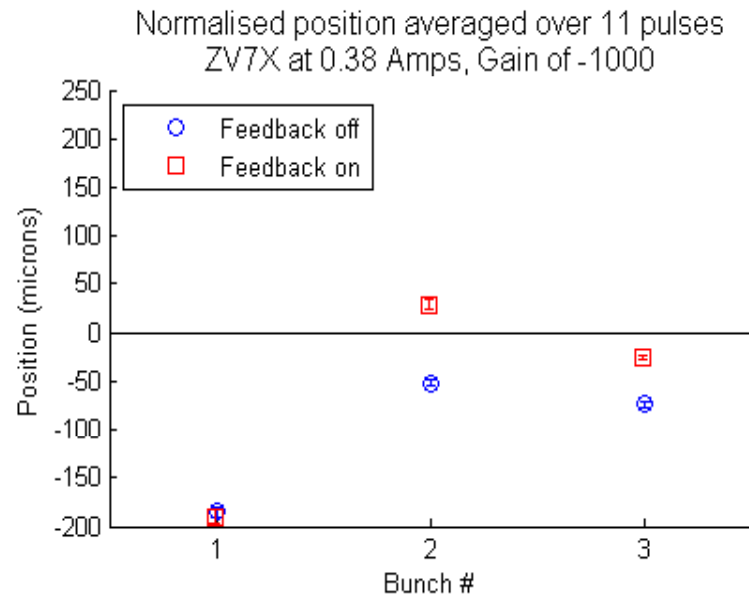






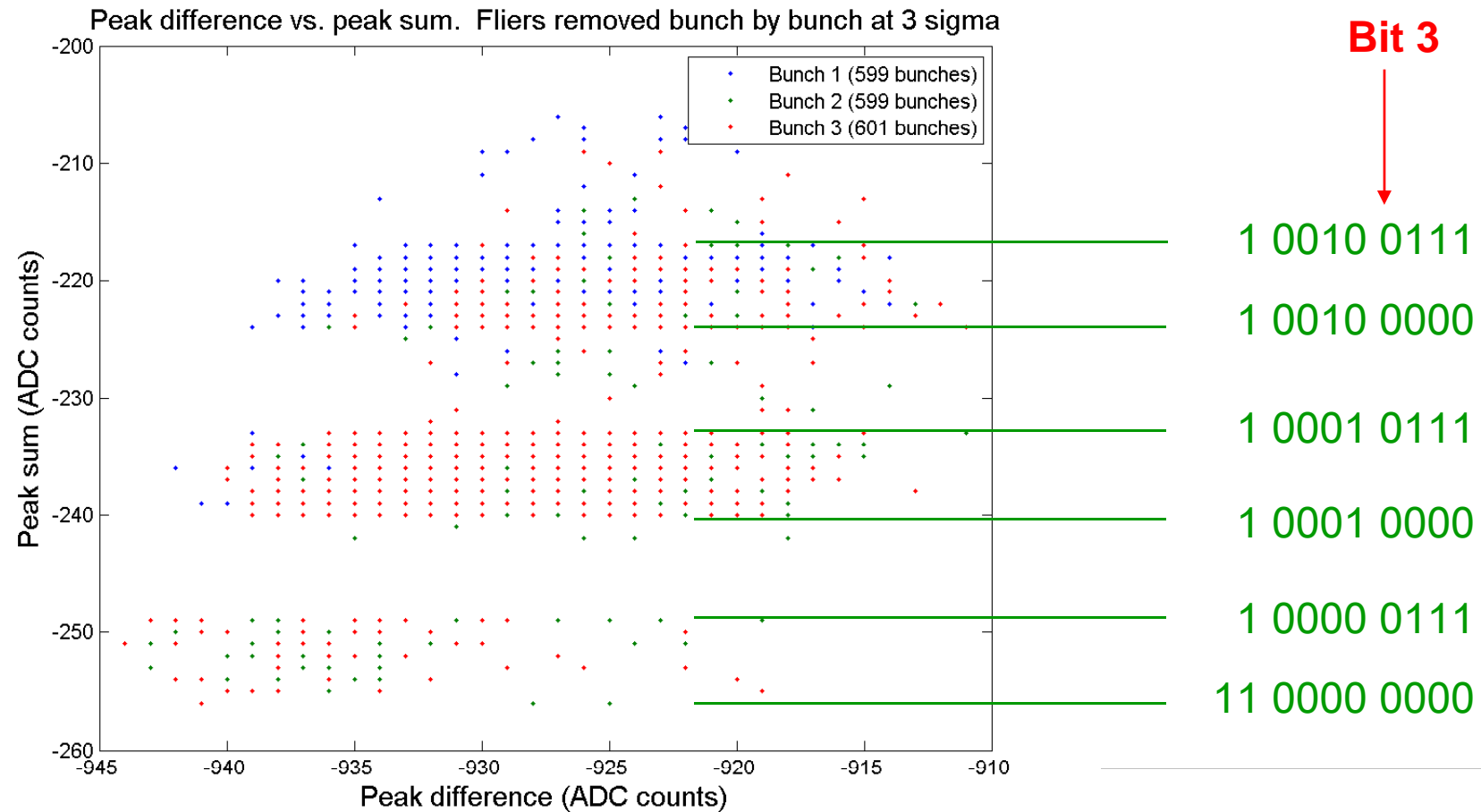






# Sum signal bit errors [April 08]

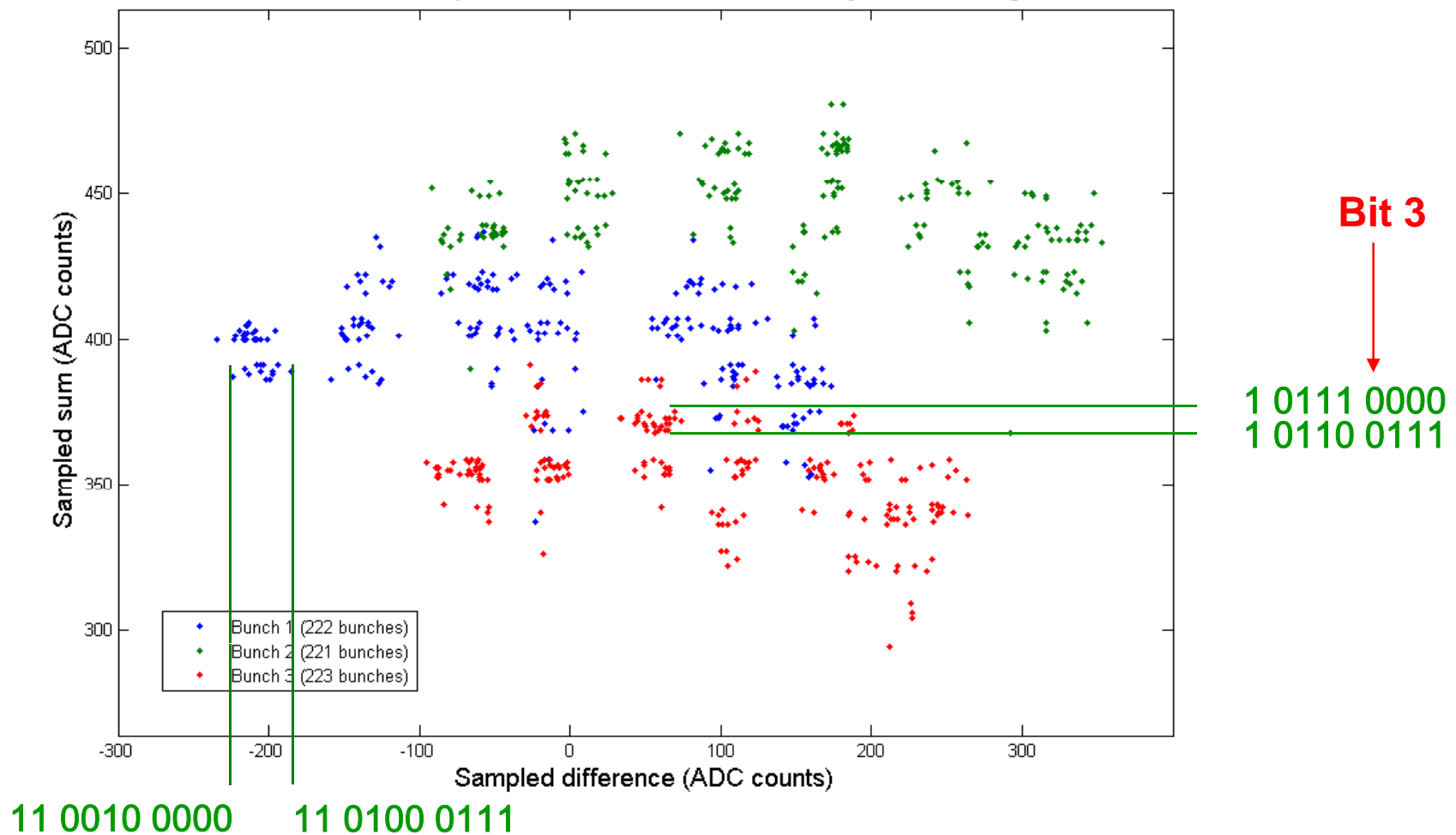
- Bit 3 tending to zero [Sum channel only]



# Sampling errors in Thursday T-shirt data

- Bit errors in both sum AND difference channels

Data collected from 'FB off' files at all corrector settings and gains.  
Peak difference vs. peak sum. Fliers removed bunch by bunch at 3 sigma



# Sampling errors in Thursday jitter data

- For jitter data @154ns spacing, bit errors in SUM ONLY

- For jitter data @ 148ns spacing, NO bit errors present

- Also, sum vs. difference correlation much nicer at 148ns

