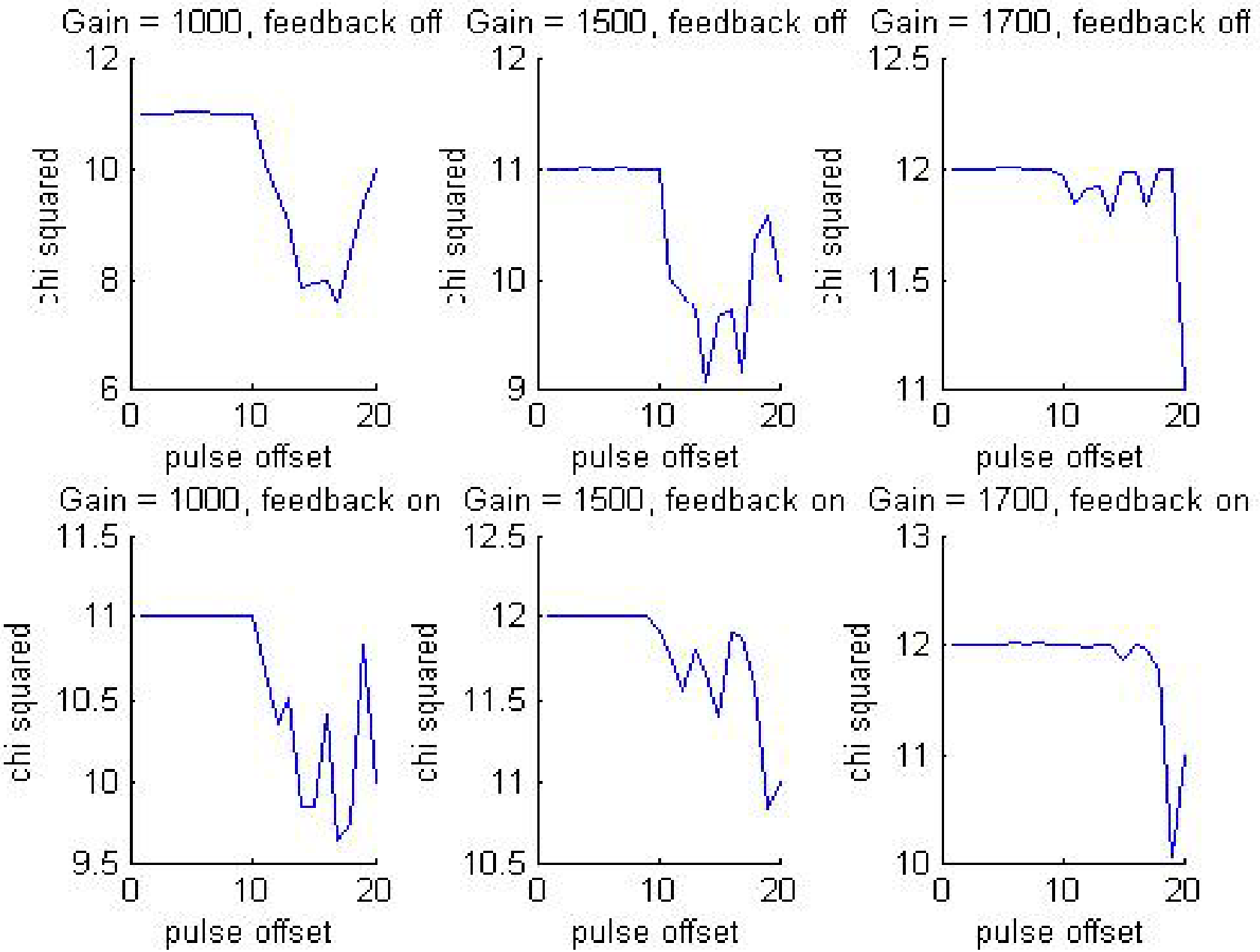
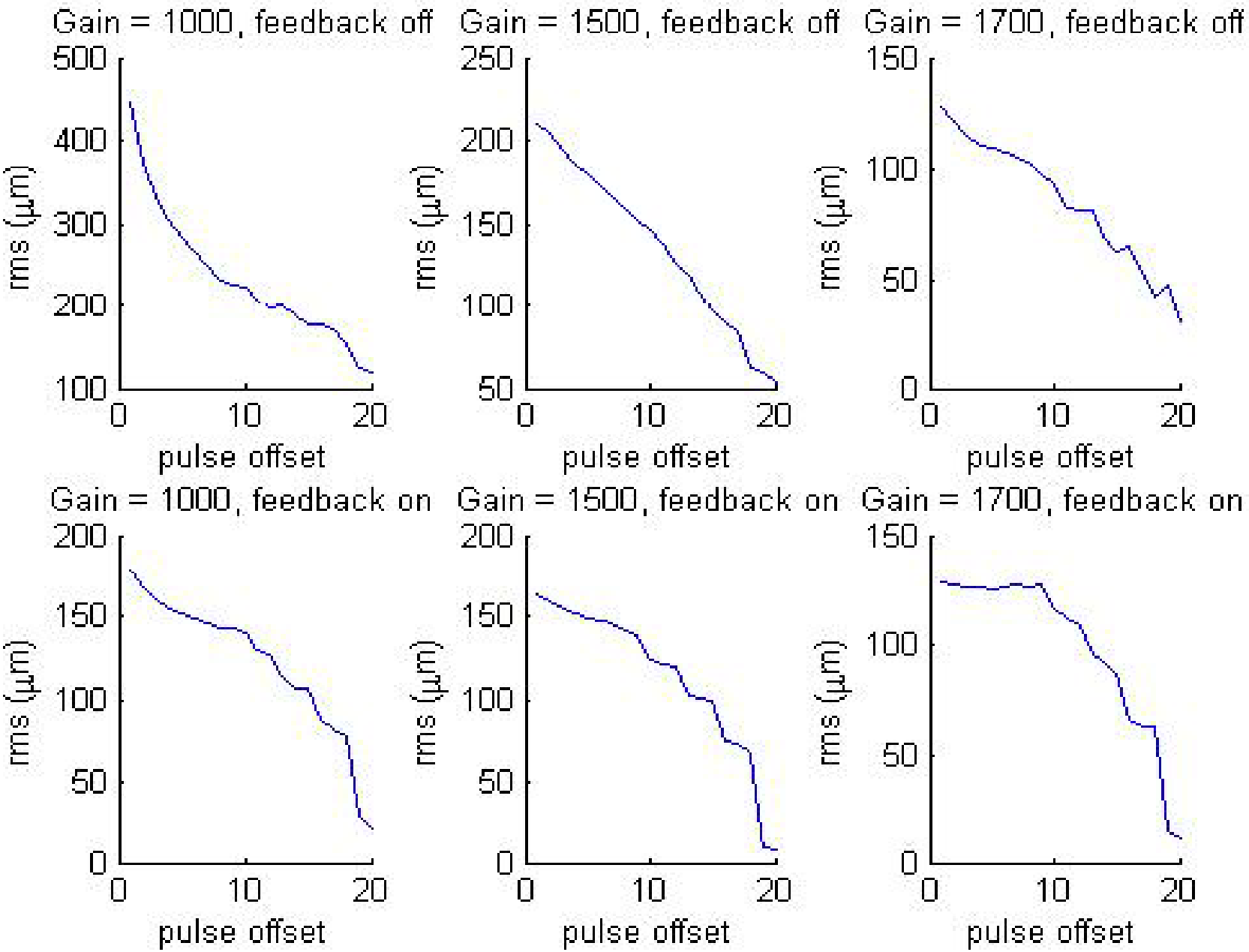
Matching analogue and digital data

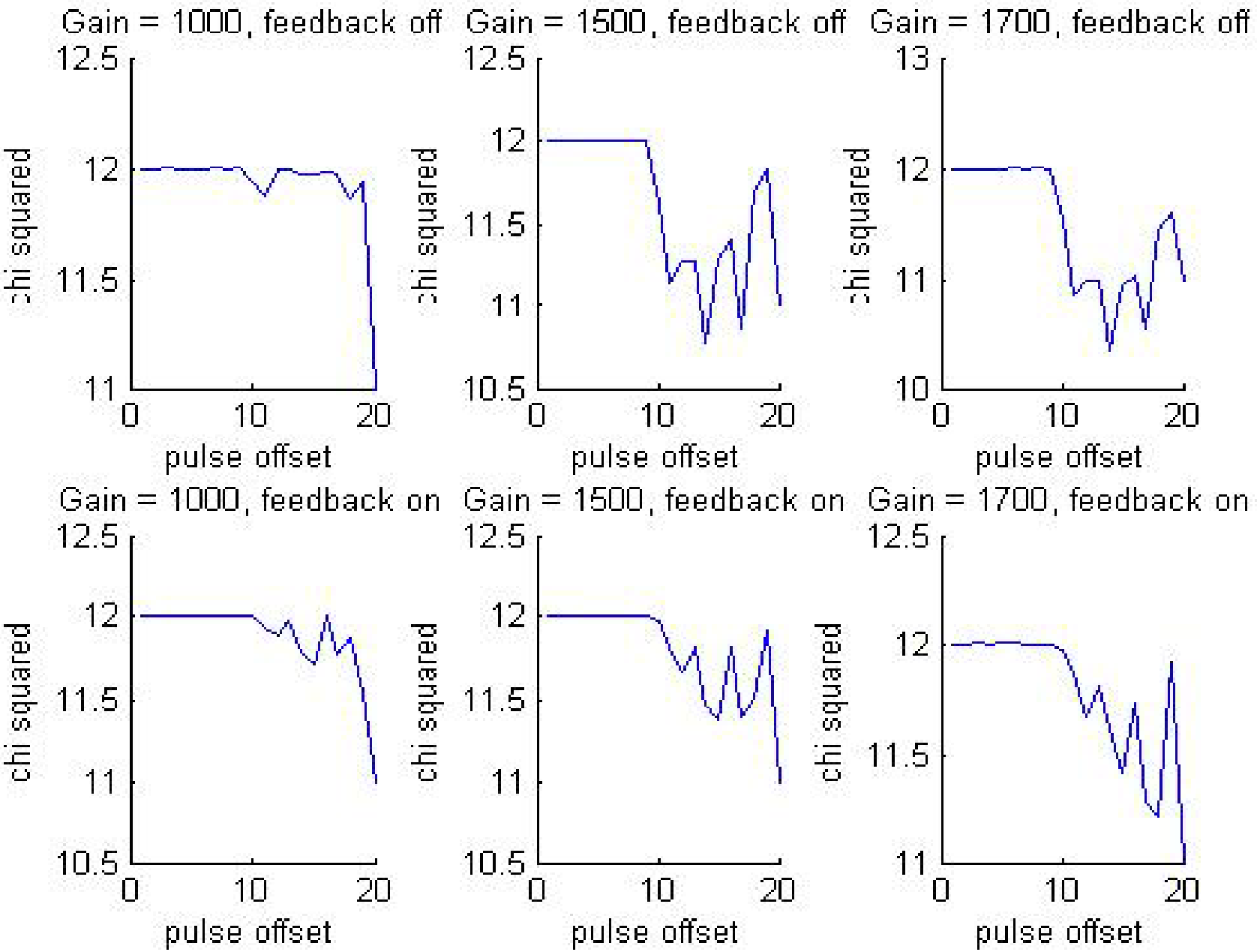
Magnet current: 220mA



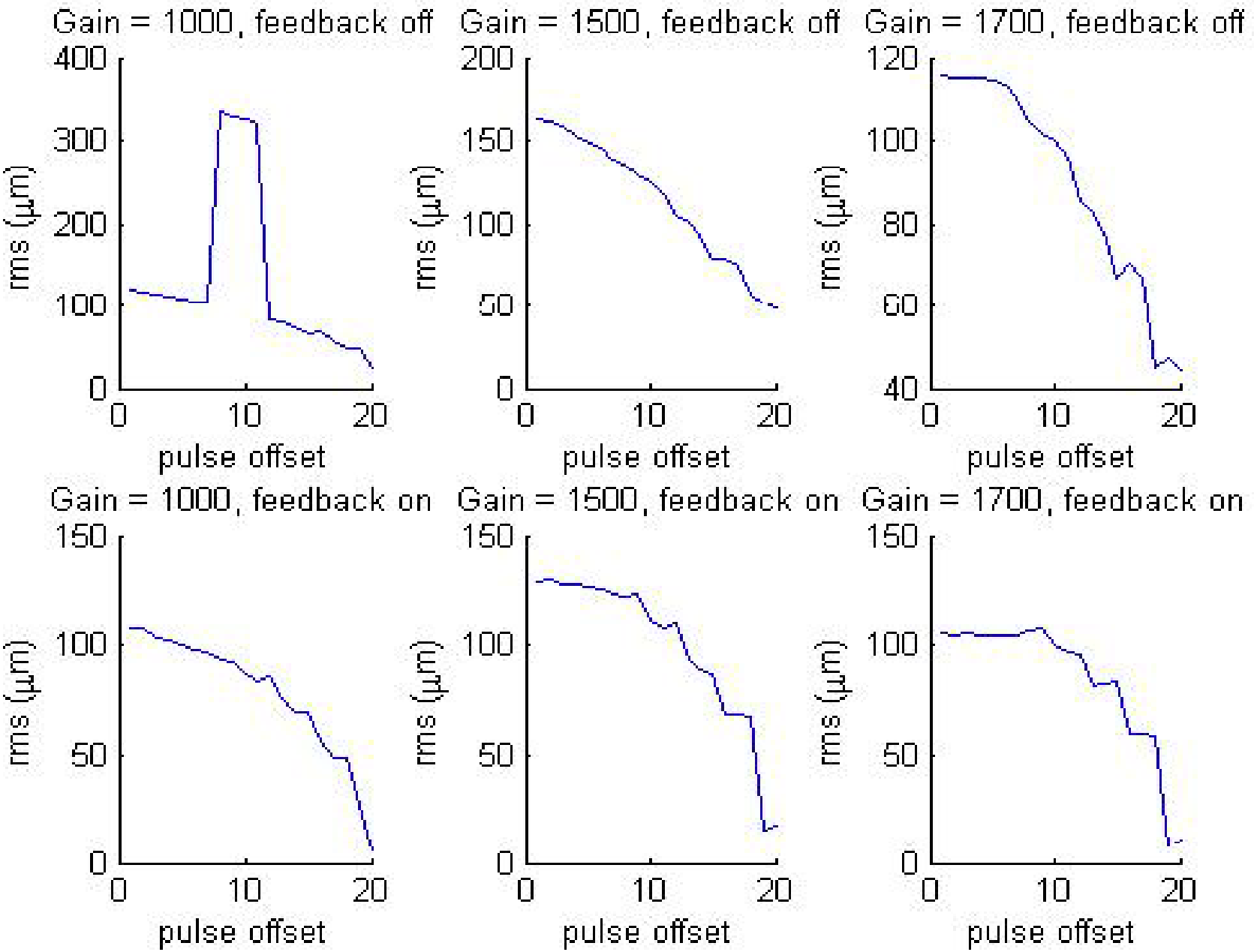
Magnet current: 220mA



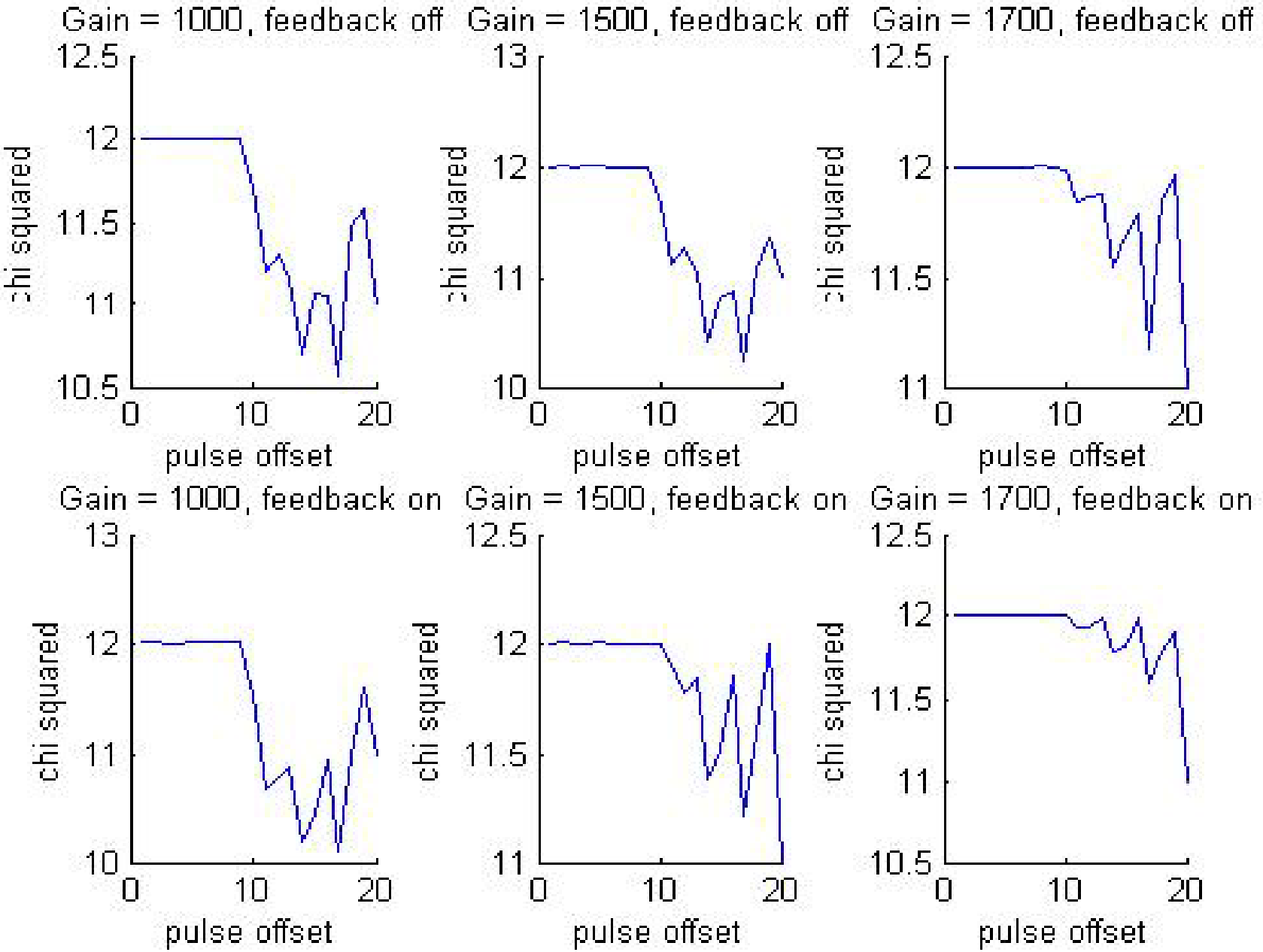
Magnet current: 245mA



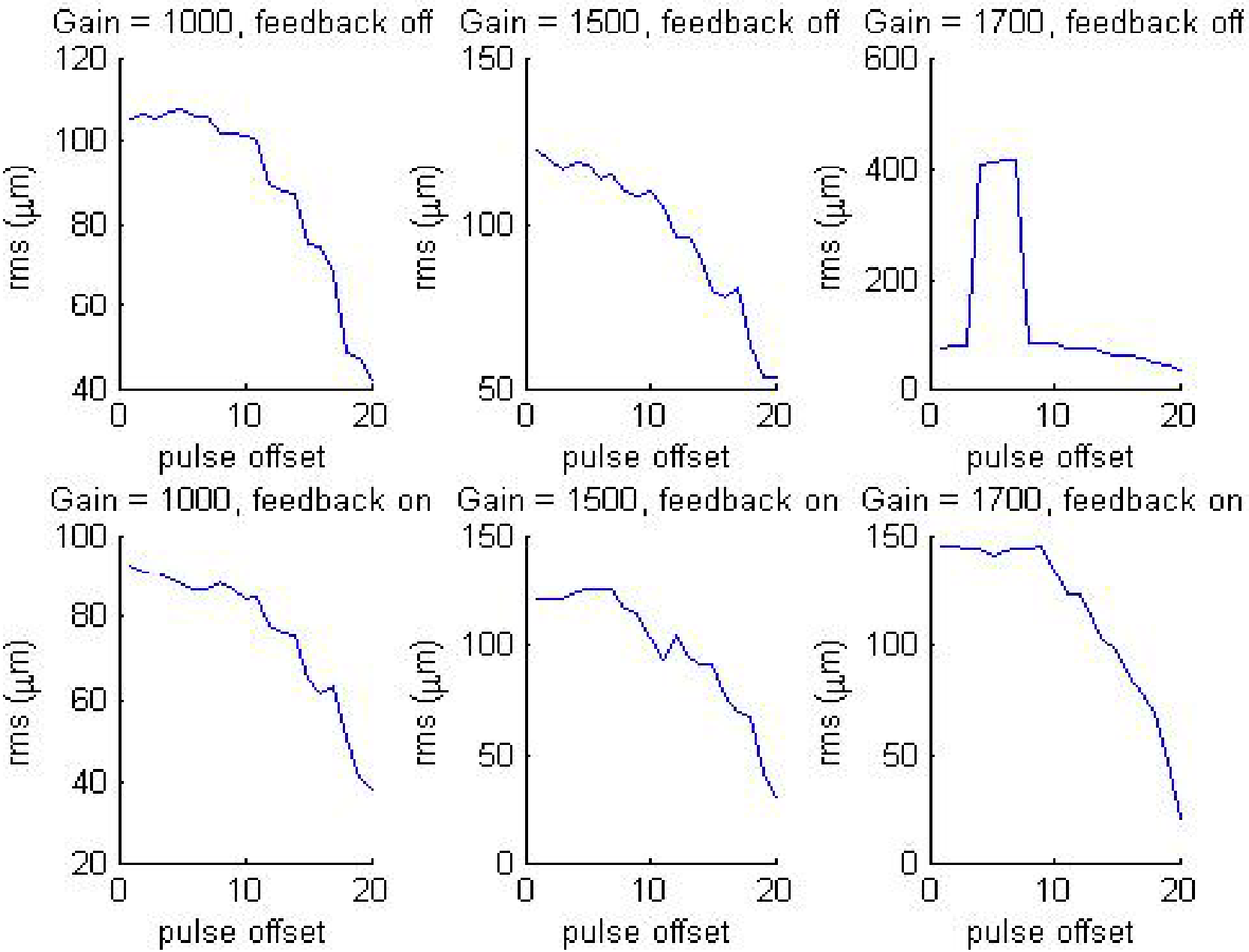
Magnet current: 245mA



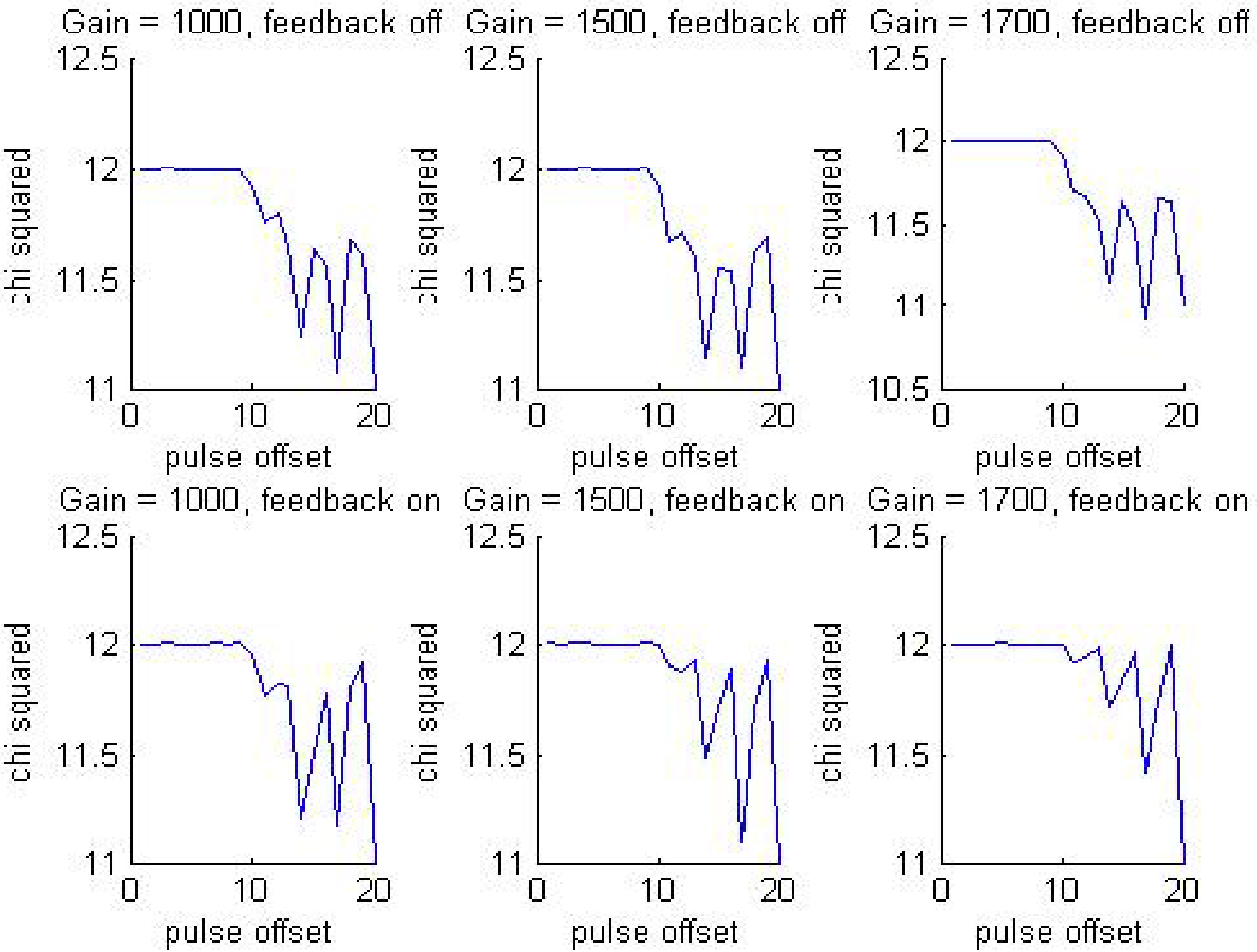
Magnet current: 270mA



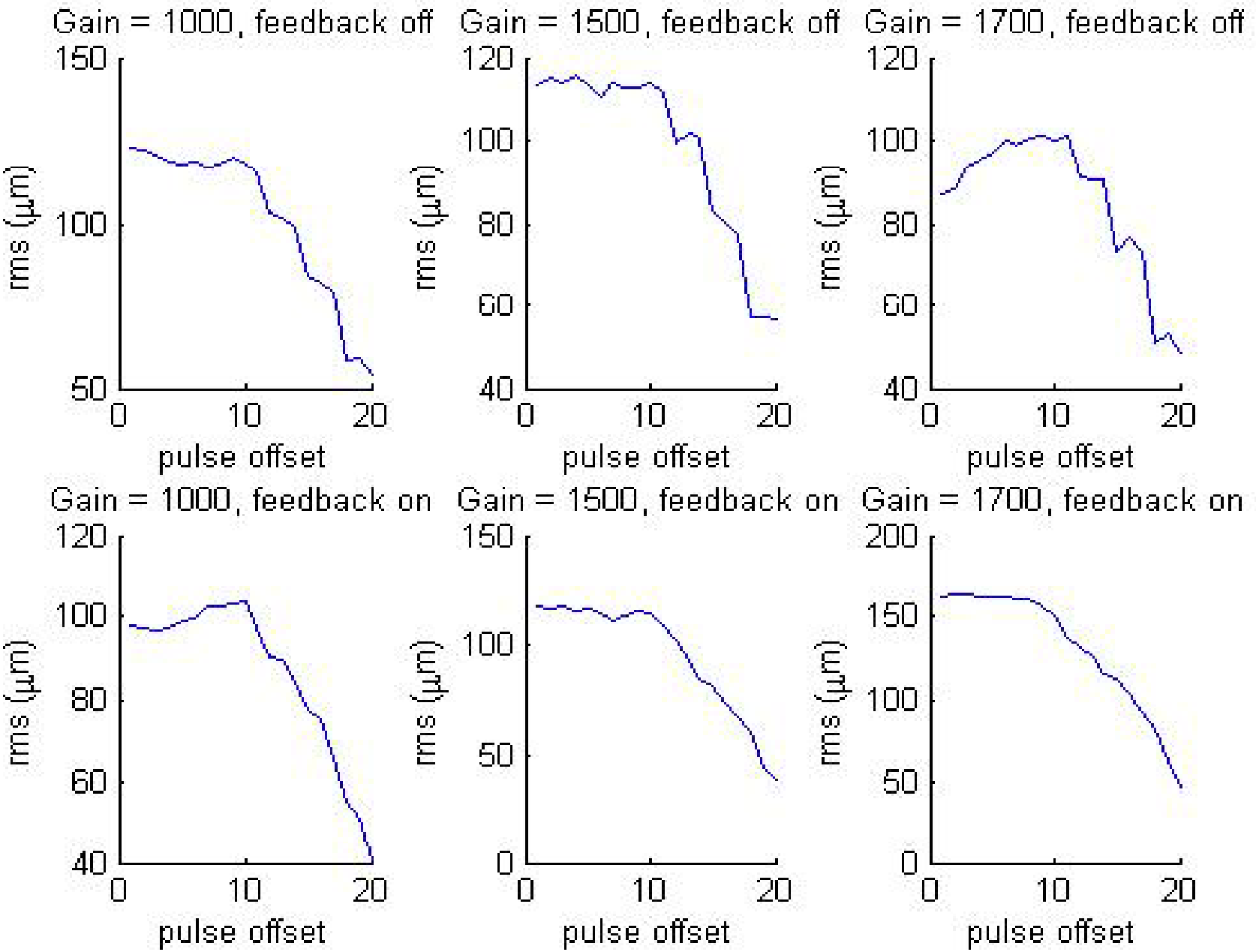
Magnet current: 270mA



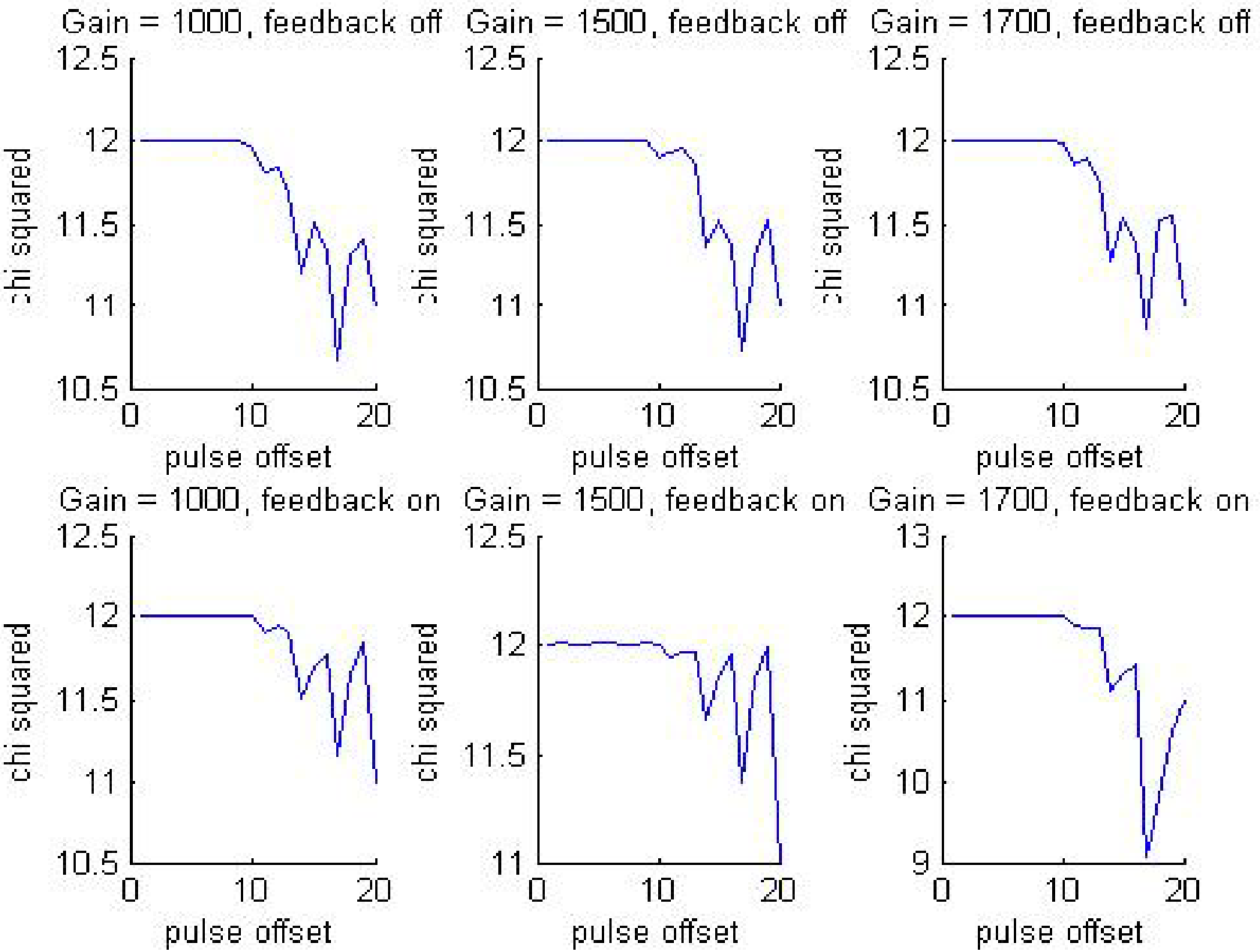
Magnet current: 295mA



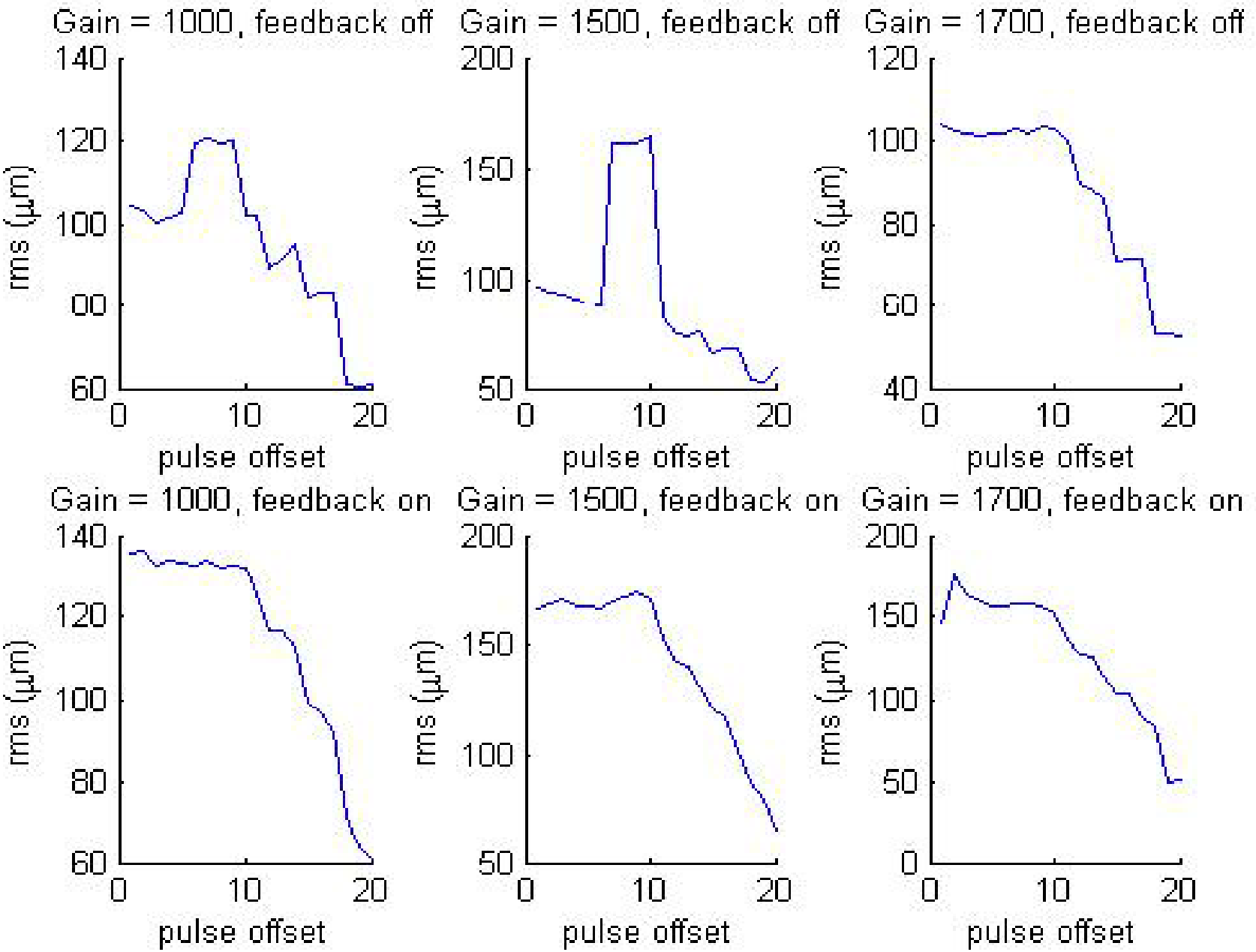
Magnet current: 295mA



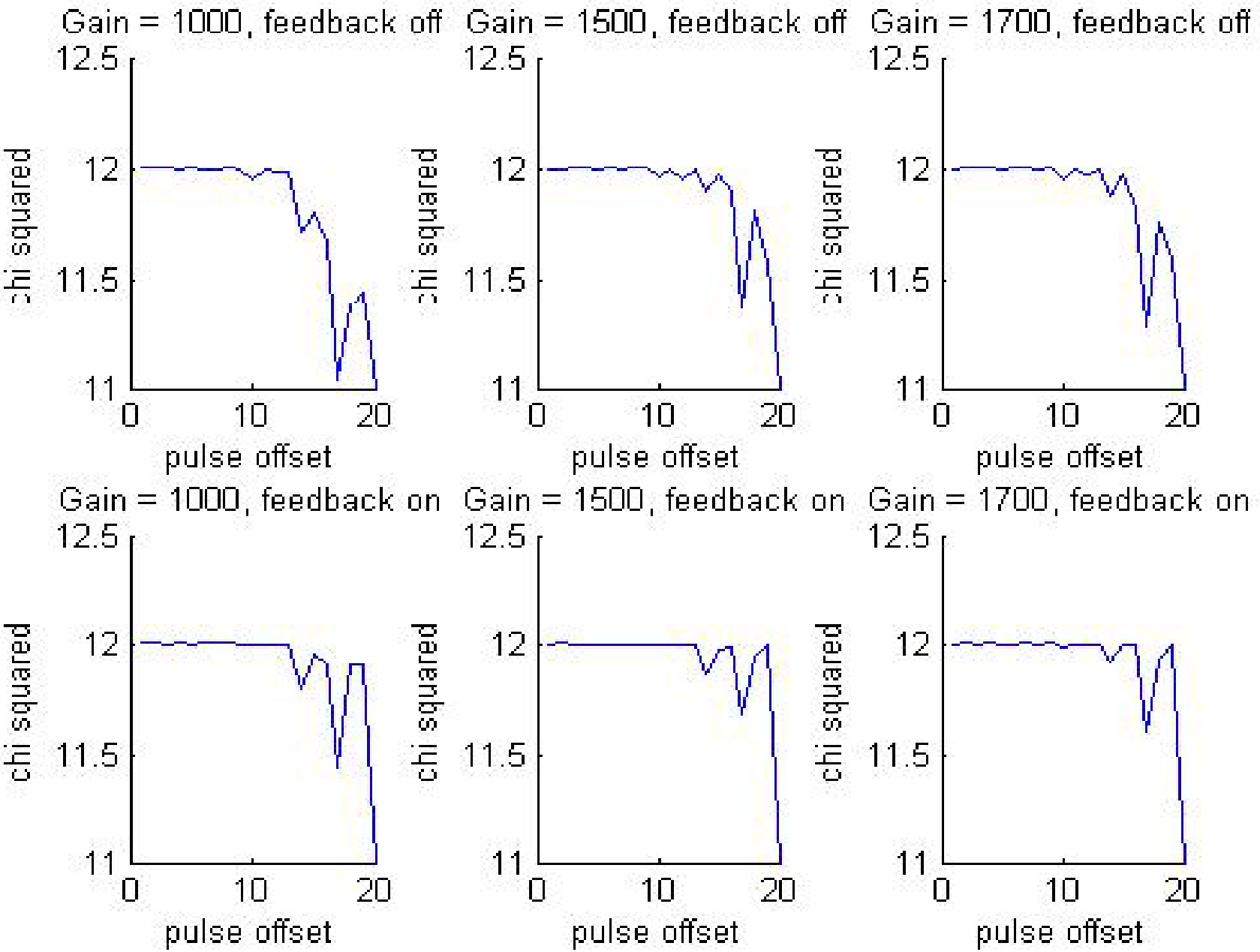
Magnet current: 320mA



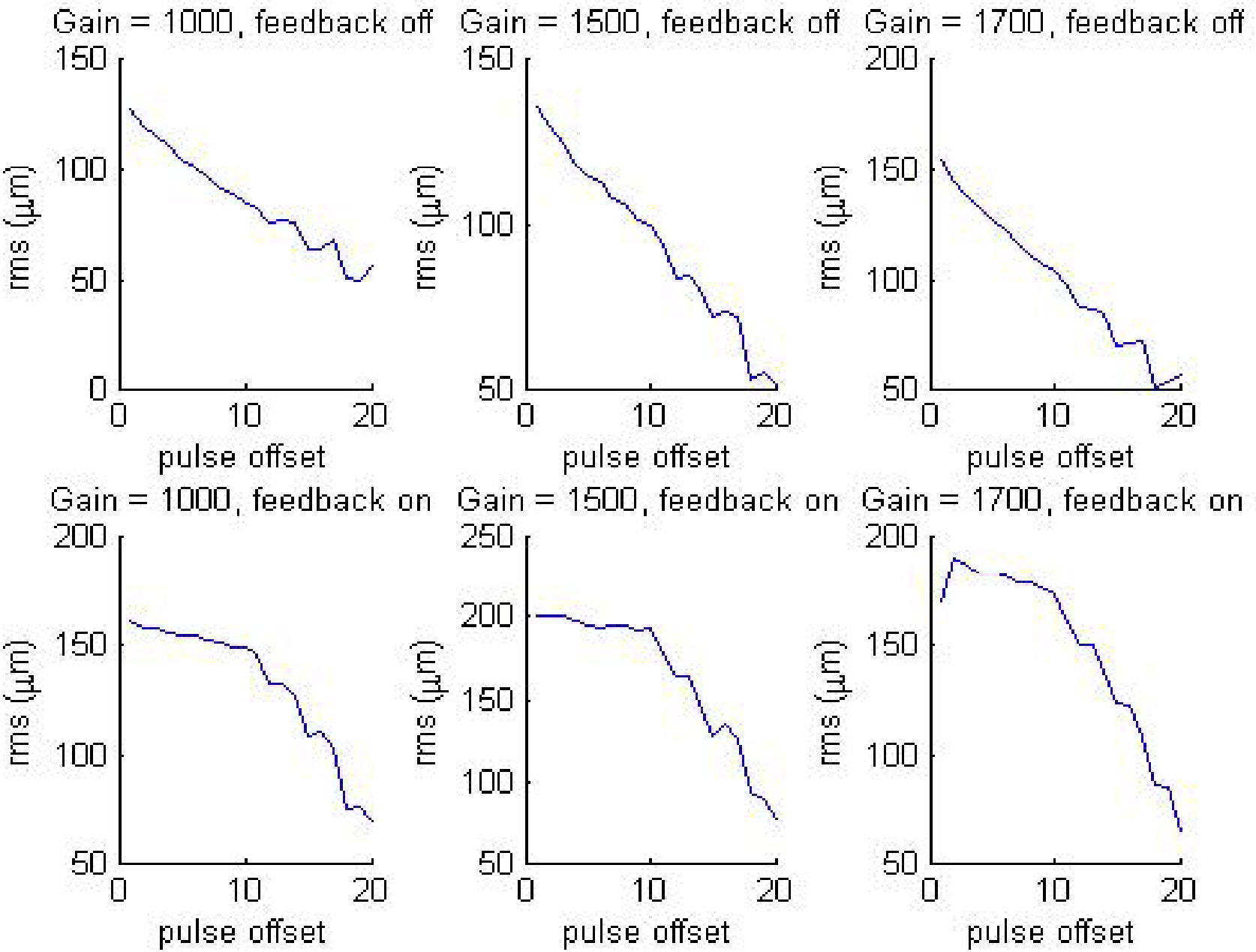
Magnet current: 320mA



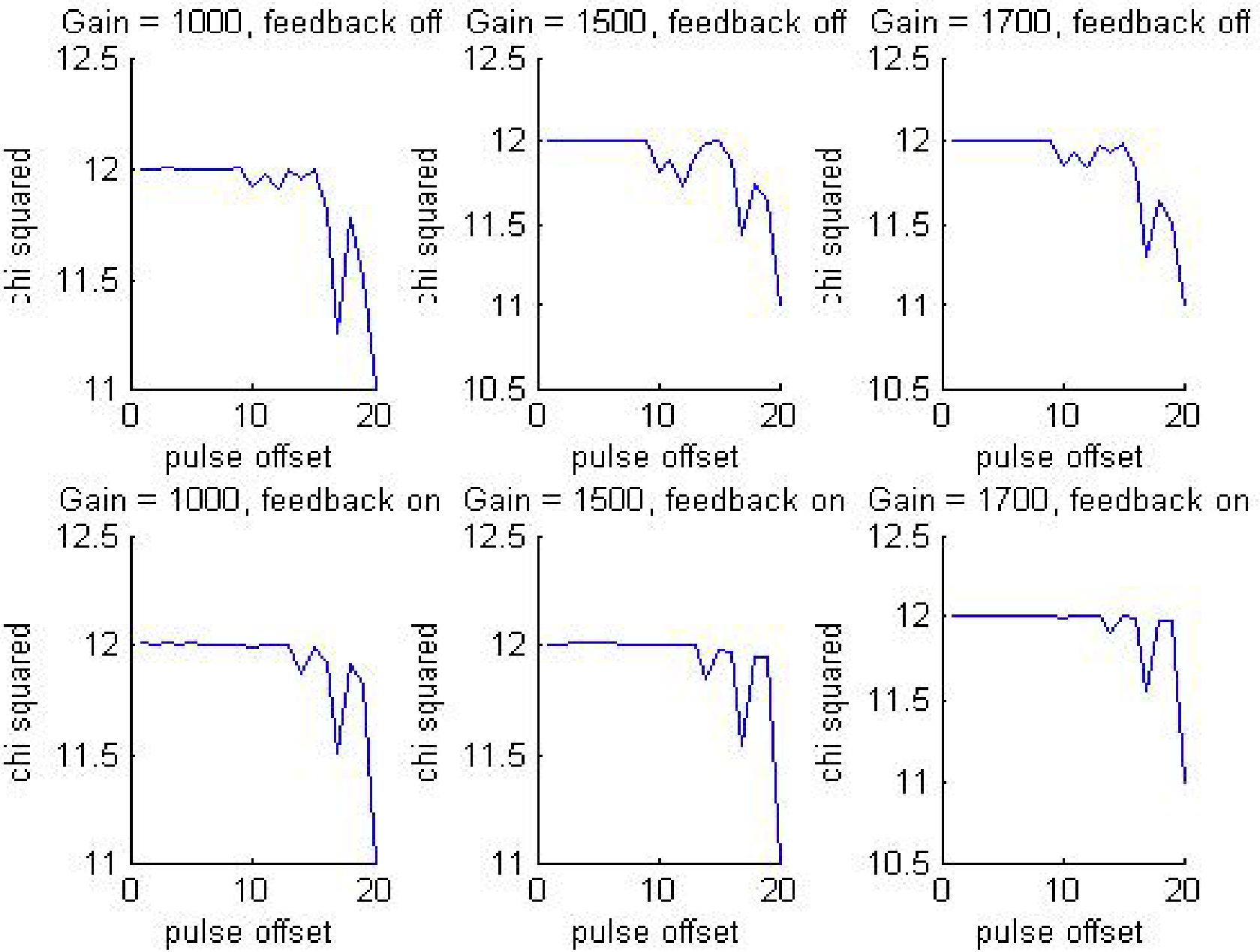
Magnet current: 350mA



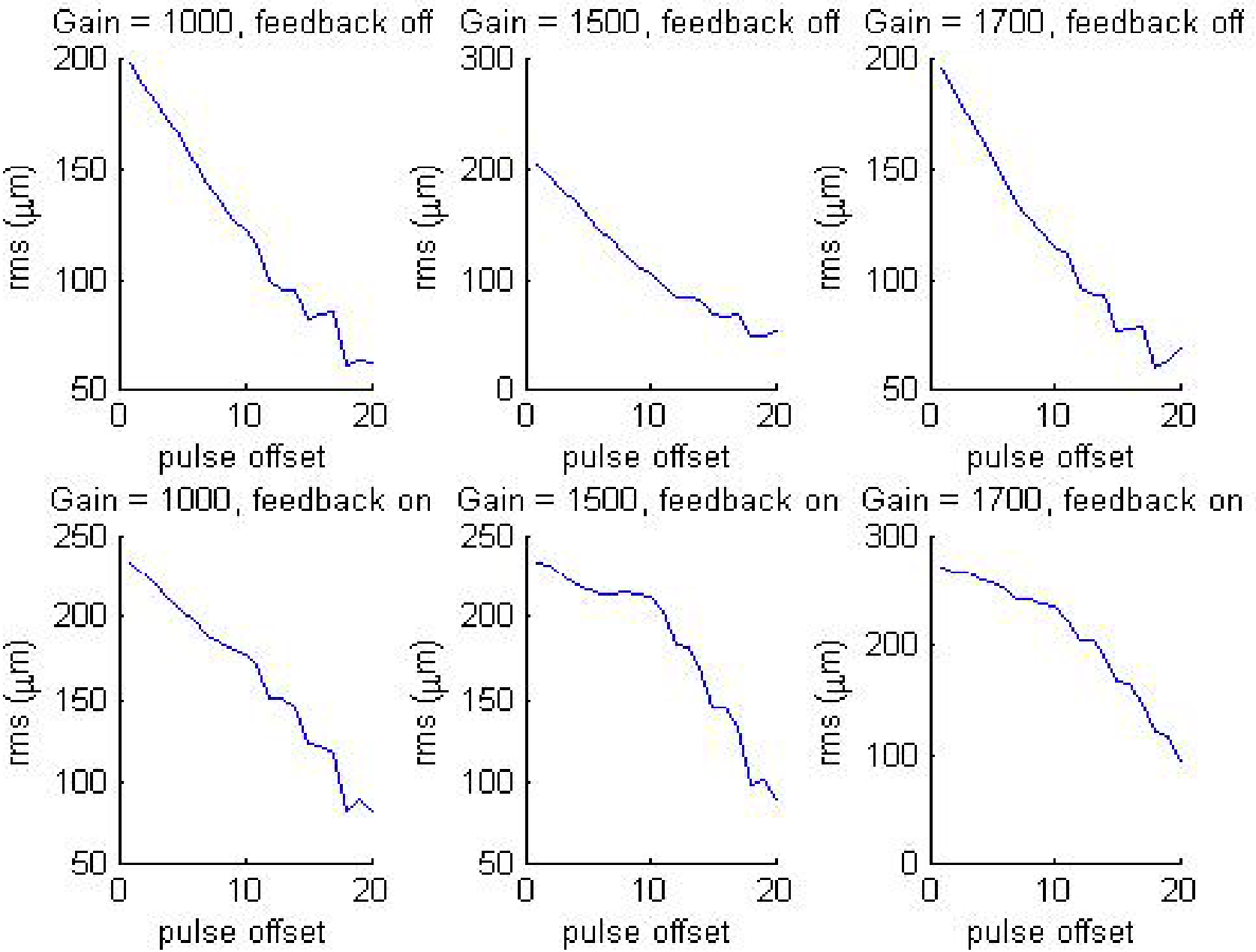
Magnet current: 350mA

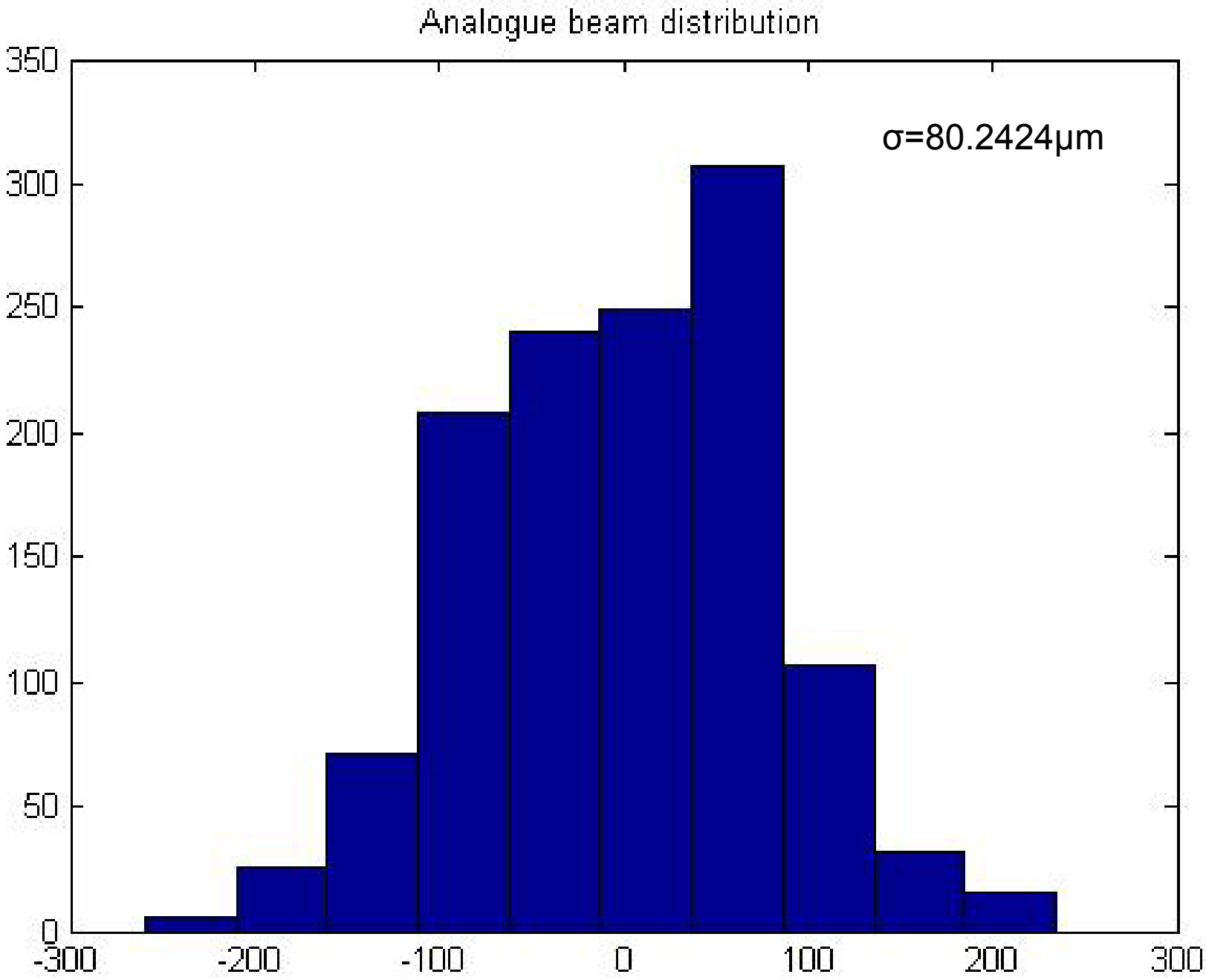


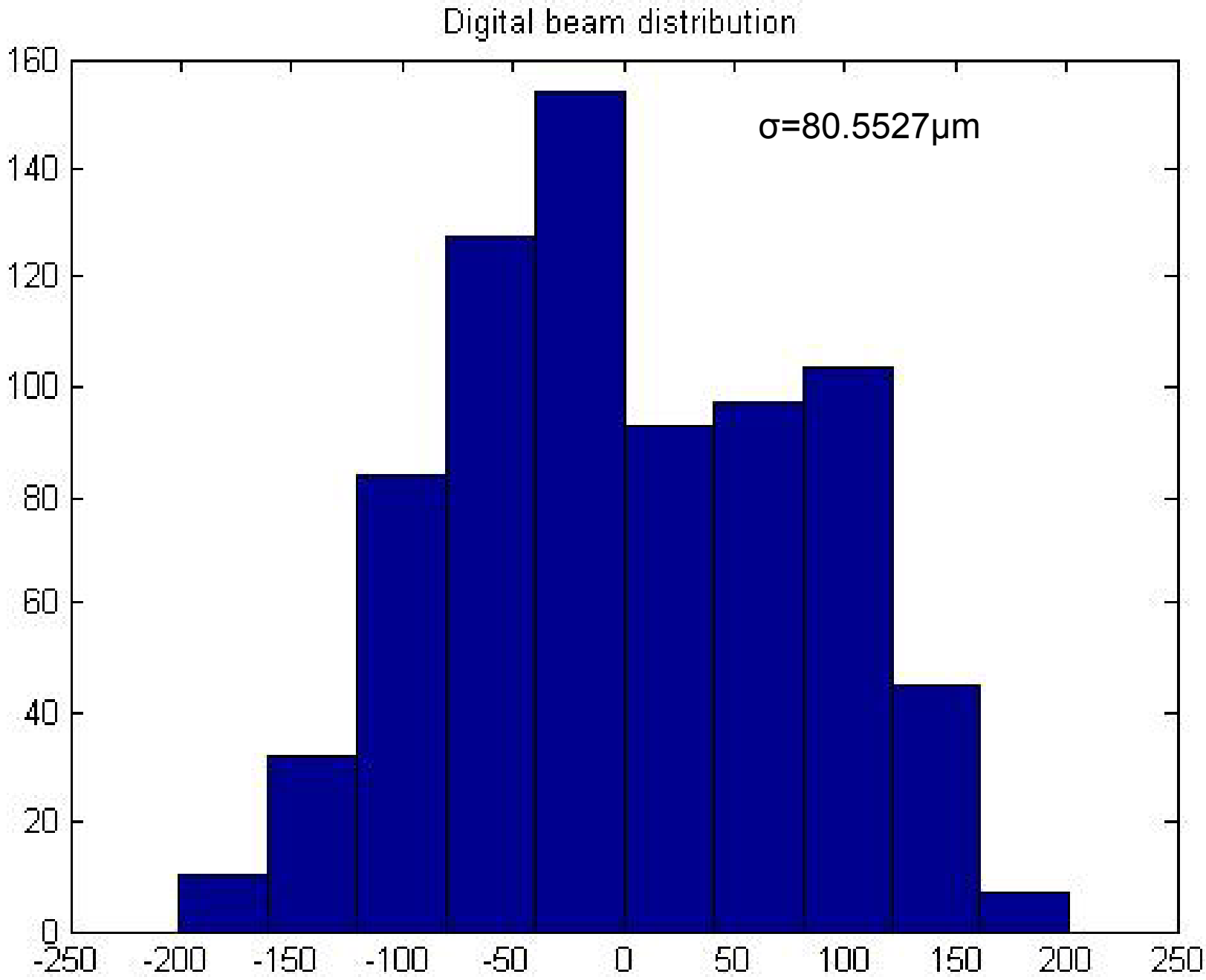
Magnet current: 380mA



Magnet current: 380mA




Analogue beam distribution
σ=80.2424μm
350
300
250
200
150
100
50
0
-300
-200
-100
0
100
200
300


Digital beam distribution
σ=80.5527μm
160
140
120
100
80
60
40
20
0
-250
-200
-150
-100
-50
0
50
100
150
200
250

Conclusions

- If beam jitter of the order of the resolution of the processors then analogue and digital data cannot be matched.
- Analogue resolution ~ 10μm
- Digital resolution ~ 1μm, I think…
- Matching should be possible
  - Need to debug the code more
- Matching needed for processor offset analysis