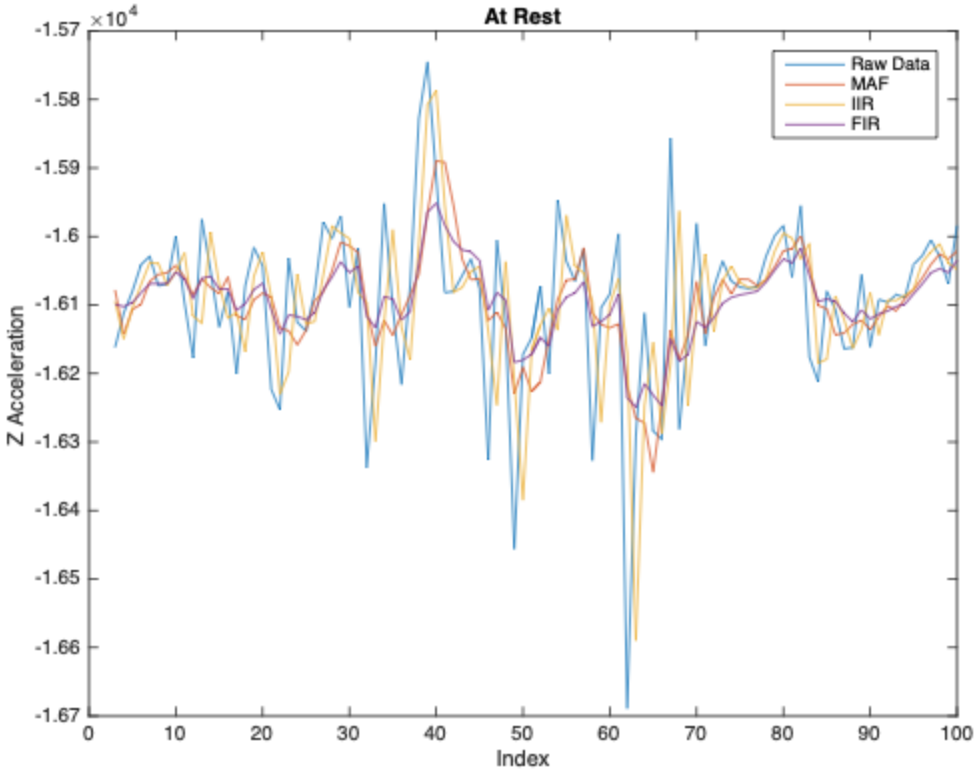
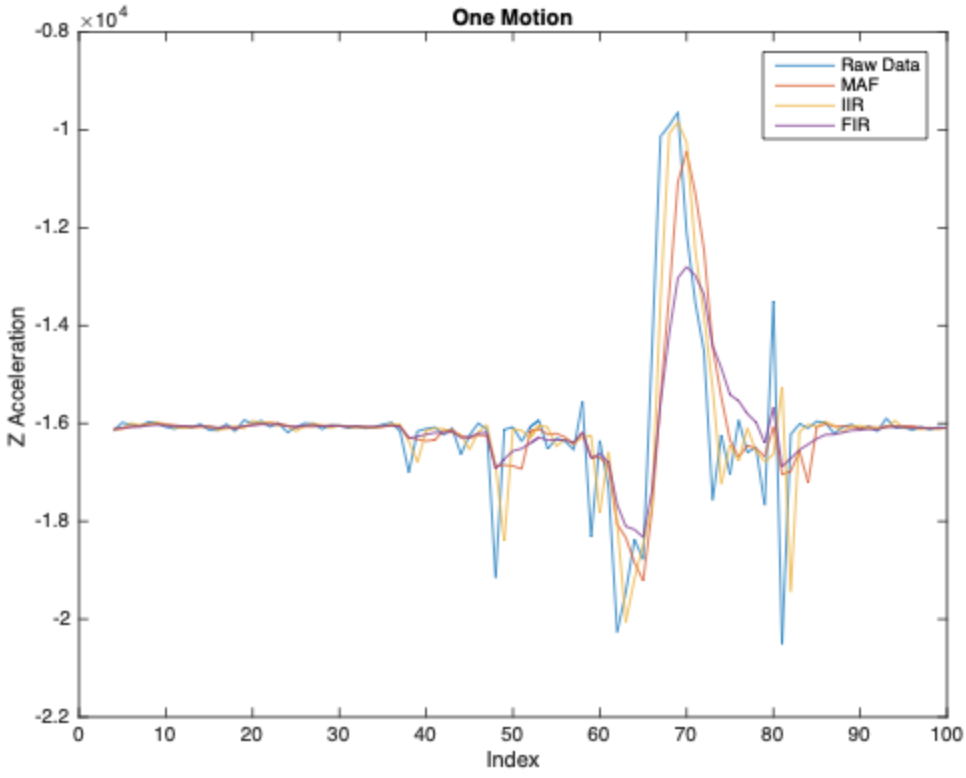

At Rest
×10^4
-1.57
-1.58
-1.59
-1.6
-1.61
-1.62
-1.63
-1.64
-1.65
-1.66
-1.67
Z Acceleration
0
10
20
30
40
50
60
70
80
90
100
Index
Raw Data
MAF
IIR
FIR


One Motion
×10^4
-0.8
-1
-1.2
-1.4
-1.6
-1.8
-2
-2.2
Z Acceleration
0
10
20
30
40
50
60
70
80
90
100
Index
Raw Data
MAF
IIR
FIR

For All filters I did not use a very computationally effective method of storing and moving data, so all filters have slightly less than optimal calculation times, but for this purpose they seem to be fine.

The MAF uses a flat average of the previous 4 measurements, FIR uses weights calculated from matlab for the previous 3 measurements, and the IIR uses a combination of the the current measurement and the average of all previous measurements. I personally think that the FIR is the best filter in this example, as it hits a good balance of closely following the current data, as well as smoothing out a noticeable amount of the noise.