

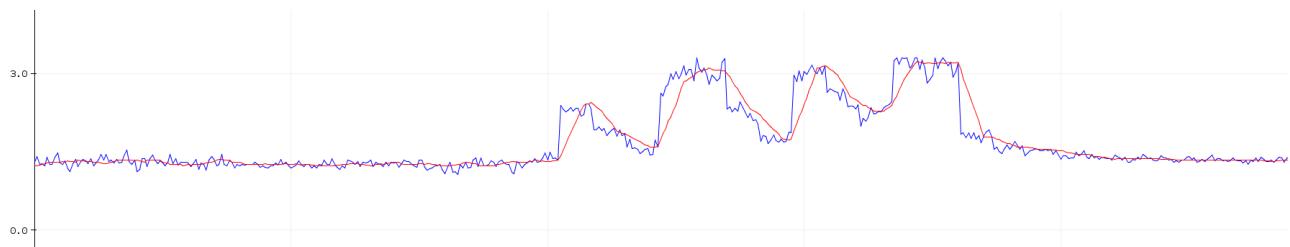
## SoftwareAnalogFilters response to strain

Blue – Raw Signal

Red – Filtered Signal

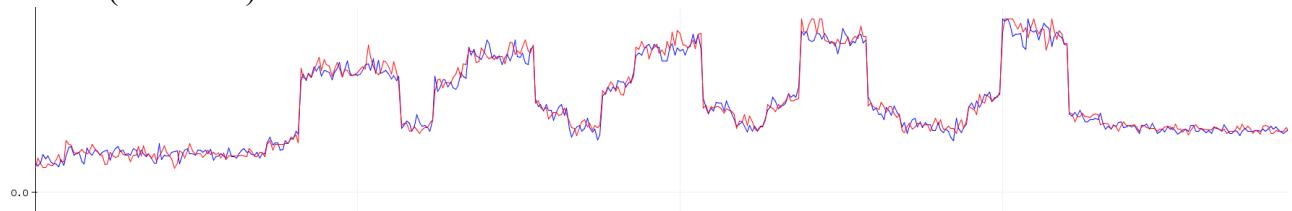
1.

Mov avg (window 10)



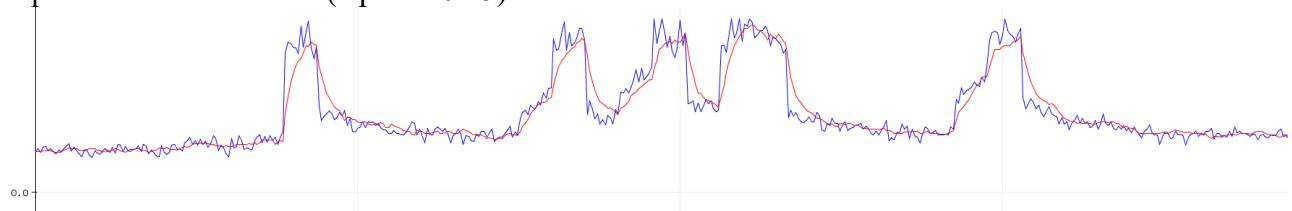
2.

Median (window 5)

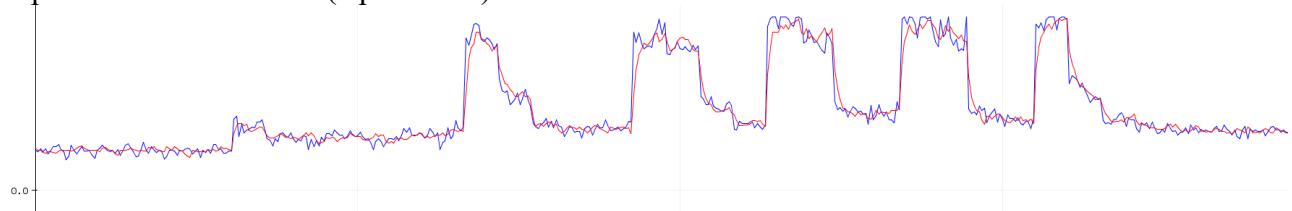


3.

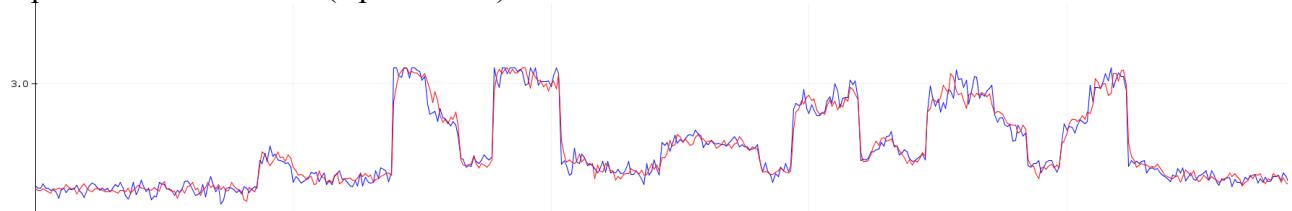
exponential / 1<sup>st</sup> order iir (alpha = 0.25)



exponential / 1<sup>st</sup> order iir (alpha = 0.5)

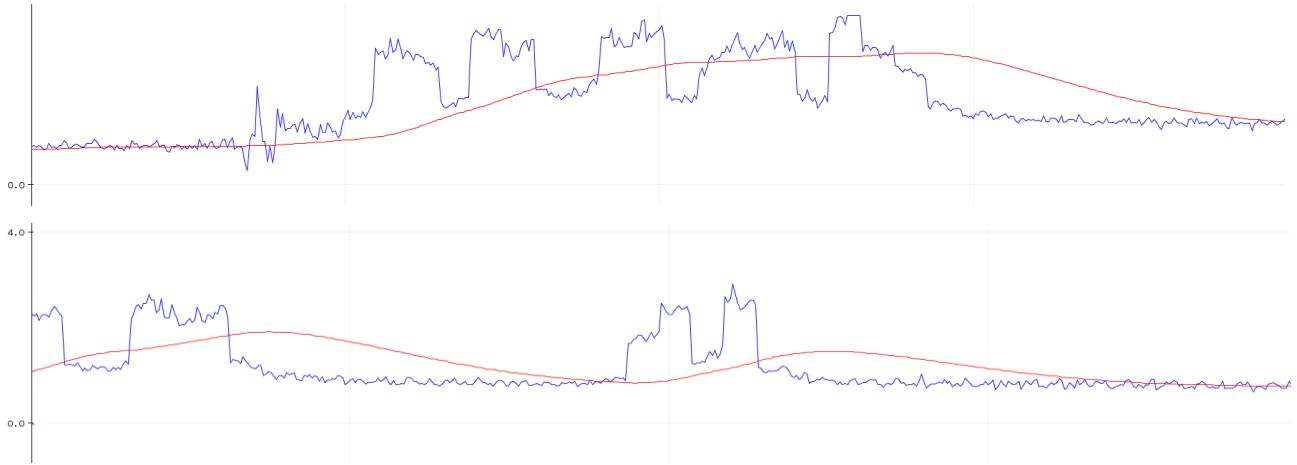


exponential / 1<sup>st</sup> order iir (alpha = 0.75)

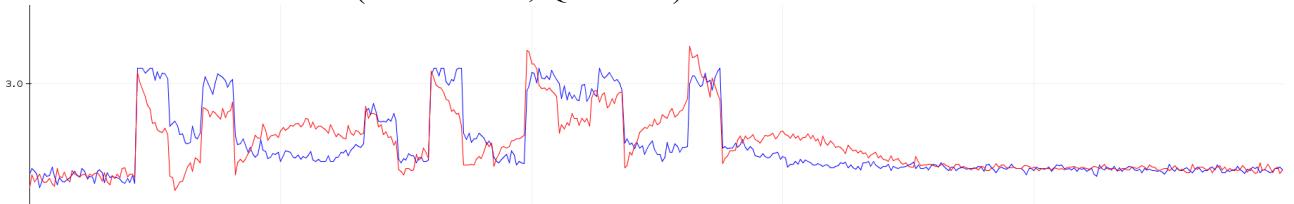


4.

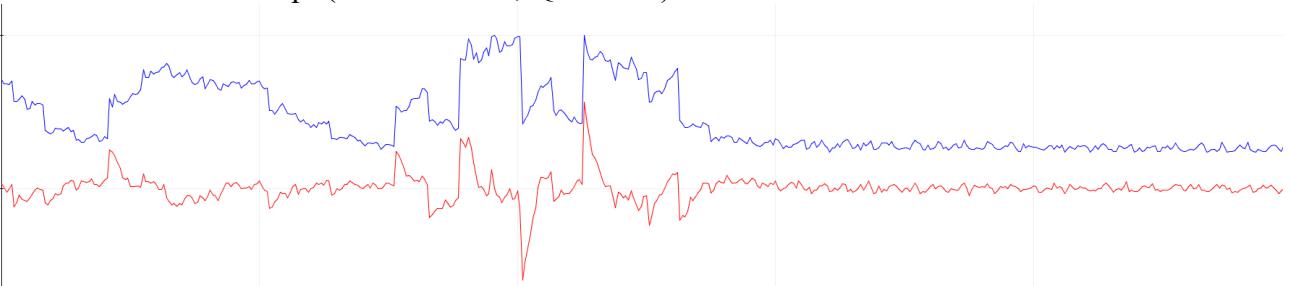
butterworth 2<sup>nd</sup> order lpf (cutoff = 2Hz, Q = 0.707)



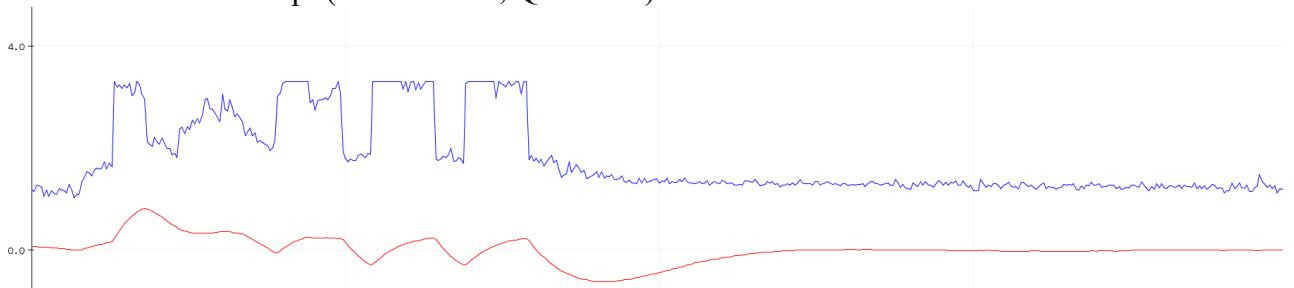
butterworth 2<sup>nd</sup> order notch (cutoff = 5Hz, Q = 0.707)



butterworth 2<sup>nd</sup> order hpf (cutoff = 10Hz, Q = 0.707)

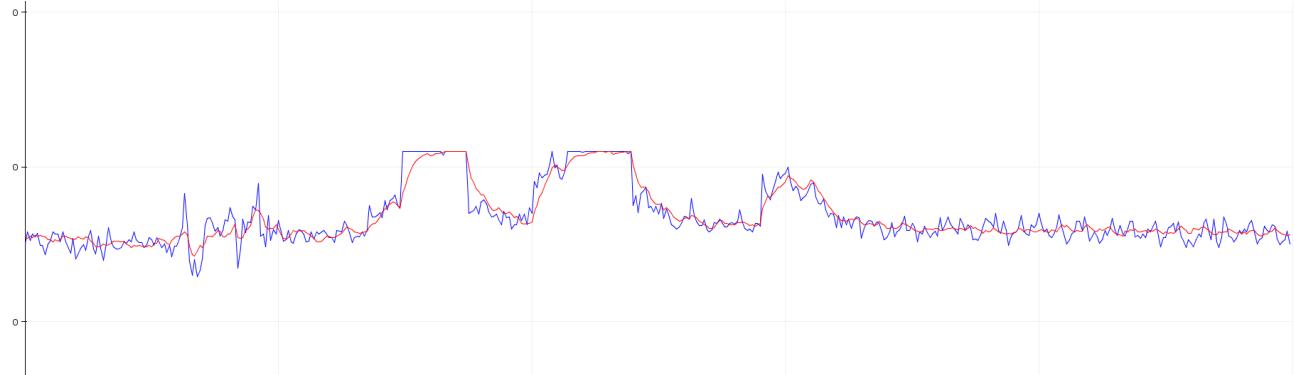


butterworth 2<sup>nd</sup> order bpf (cutoff = 4Hz, Q = 0.707)



5.

Linear Kalman Filter ( $Q=0.01$ ,  $R=0.1$ )



Linear Kalman Filter ( $Q=0.5$ ,  $R=0.1$ )

