**5s human ECG vs GYRO-X**

1. 5s of clean human ECG (measured HR = 69.364bpm)

**Graphical user interface, application

Description automatically generated**

1. 5s of clean human gyro-x (measured HR = 69.498)

Graphical user interface, application, table, Word

Description automatically generated

**30s human ECG vs GYRO-X**

1. 30s of clean human ECG (HR= 75.408 bpm)

Graphical user interface, application

Description automatically generated

1. 30s of clean human gyro-x. (measures HR = 79.526 bpm)

Graphical user interface, application, Word

Description automatically generated

**Notes:**

1. The algorithm requires 2s ‘warm-up’ time to calculate the proper threshold for R pulse detection, as it needs >1 pulse to set the thresholds properly.
2. To derive actual HR, I find the time intervals between detected peaks (in seconds), and calculate the mean of those across the sample window. This implies that the method should be more accurate over time, for a clean signal with occasional noisy peaks detected. However, if the signal is very noisy, it will not guarantee anything.

**Conclusions:**

1. HR will be measured to be a little higher with te GYRO signal, as false positives will creep in, due to insufficient differentiation between true peaks and noise peaks from time to time.
2. Such noise peaks are not clearly differentiated from valid signals to allow them to be disregarded.

**Next steps:**

1. Investigate whether other filtering frequencies and/or threshold functions can change the performance of the GYRO detection?