Limpet force meter analysis code

2017-10-27

We have the following calibration files and trial files. Note that the April 2016 trial data should not be analyzed, as the z-axis was not working.

## [1] "CalibrationFiles\_Apr202016.csv"  
## [2] "CalibrationFiles\_Dec132016.csv"  
## [3] "CalibrationFiles\_Dec142016.csv"  
## [4] "CalibrationFiles\_Jan42017.csv"   
## [5] "CalibrationFiles\_Jan52017.csv"   
## [6] "ForceMeterData\_Apr262016.csv"   
## [7] "ForceMeterData\_Dec142016.csv"   
## [8] "ForceMeterData\_Dec152016.csv"   
## [9] "ForceMeterData\_Jan52017.csv"   
## [10] "ForceMeterData\_Jan62017.csv"   
## [11] "ForceMeterData\_May182016.csv"   
## [12] "ForceMeterData\_May192016.csv"   
## [13] "Pound\_ForceData\_Final.csv"

The relevant calibration file for the May 2016 trials is the Apr202016 file.

During the import process, the calibration files and force trial files are concatenated together into two data frames, calibs and forces, each with a Date column that can be used to separate different days. The data frame events contains the identified peck and push events, with dates and millisecond timestamps.

The goal is to go through each identified event and extract the X-axis and Y-axis forces (which need to be estimated based on the associated calibration values). The events data frame currently only has the net euclidean norm ( total for all 3 axes).