Things to do:

Trial selection: Need to have 4 different amplitudes (sign agnostic)

Need to store separately

Need to align on prestim interval before averaging

GUI: Plot of different averages

Fake monkey: need to make eye movement of different amounts

GUI: Need a main sequence plot

Visual stimulus: Need to incorporate visual stimulus (horizontal strip)

Visual Stimulation

Might want to use a long, thin horizontal window

Start with fixation in the center of the screen

From this position, a maximum of +-4 can be achieved.

Do blocks of 4 (1:4) selecting amplitudes in random order

Ignore the sign of the amplitudes, so it can effectively be used to keep centered

Stop when subject hits the stop key

Data collection on each trial

Start streaming (or catch on-going stream)

Save all data to limit

Wait at least 250 ms, then some random 100-200 ms

Monitor for a velocity peak (need to figure out a threshold in preliminaries)

Trim +-250 ms around the velocity peak, average (sign corrected, baseline offset)

Timer functions for running trials

StartTrial

Select trial

Set up trial

Queue StimOn

Causes data collection to start

StimOn

Turn stimulus on

Causes data collection to monitor for peak velocity

DataCollect

On start

Establish an appropriate velocity baseline

Queue a saccadeTrigger timer with an appropriate delay

On saccadeTriggered, monitor for peak

PeakObserved

Once a peak is detected, dataCollection does the trimming and finish up

Trim and process data appropriate when peak is observed

Queue another trial

TimeLimit with no peak observed:

Discard trial and start a new one

DataPlot

Each time a new plot arrives

Plot current trial, aligned to saccade if one is detected

Plot averages of different trial steps

Plot main sequence