

Fig. 1 Overlap Index (OI) Estimation

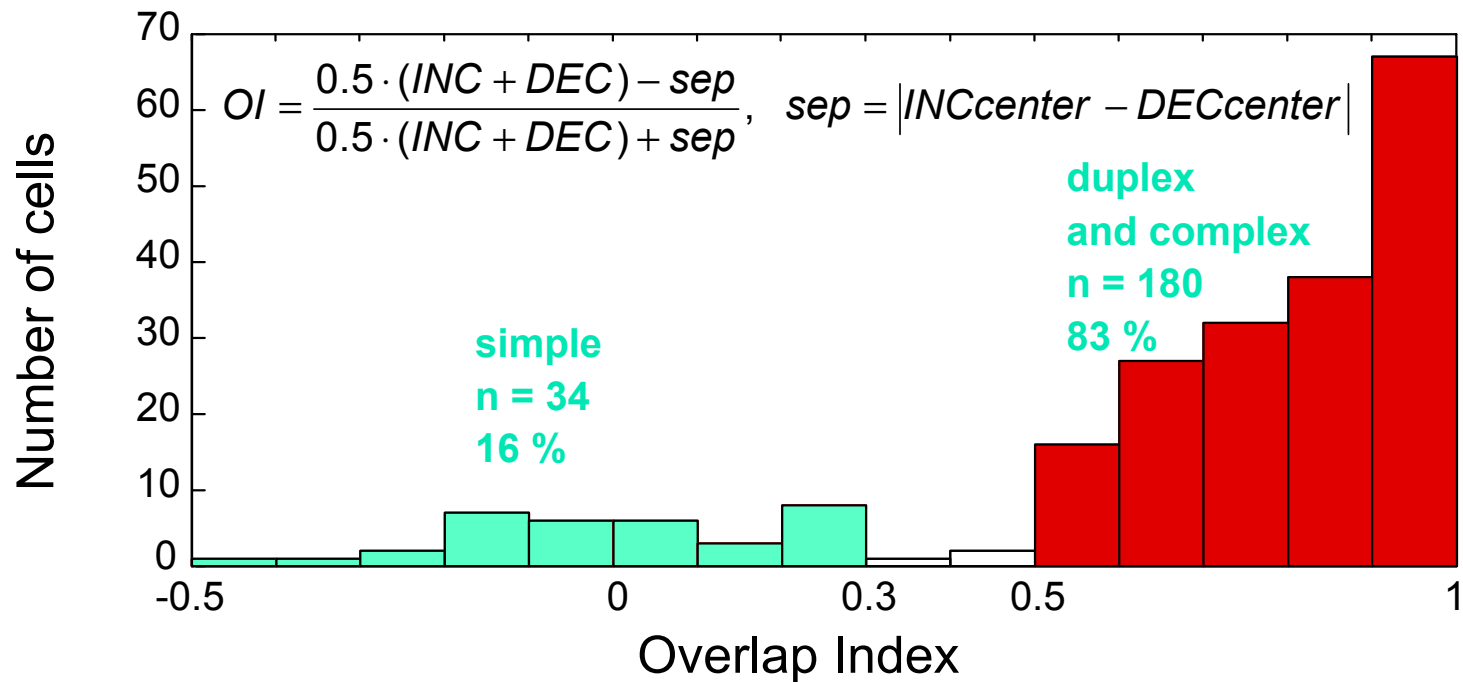
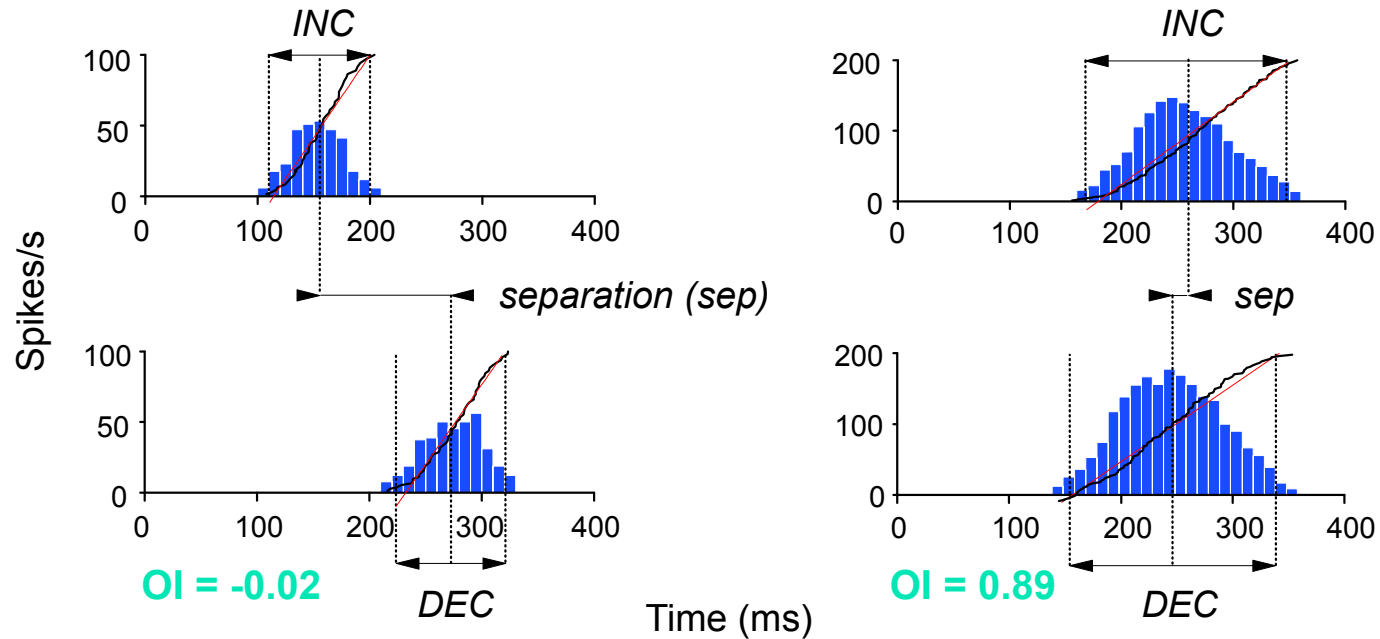
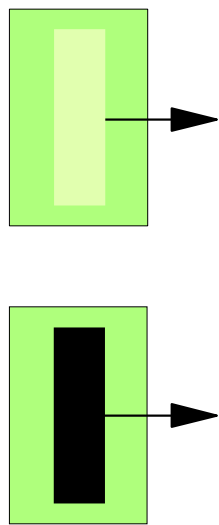


Fig. 2 Eye Movements and RF-Stimulus Interactions

One behavioral trial (~5 s) Duplex cell (16885) $OI=0.76$

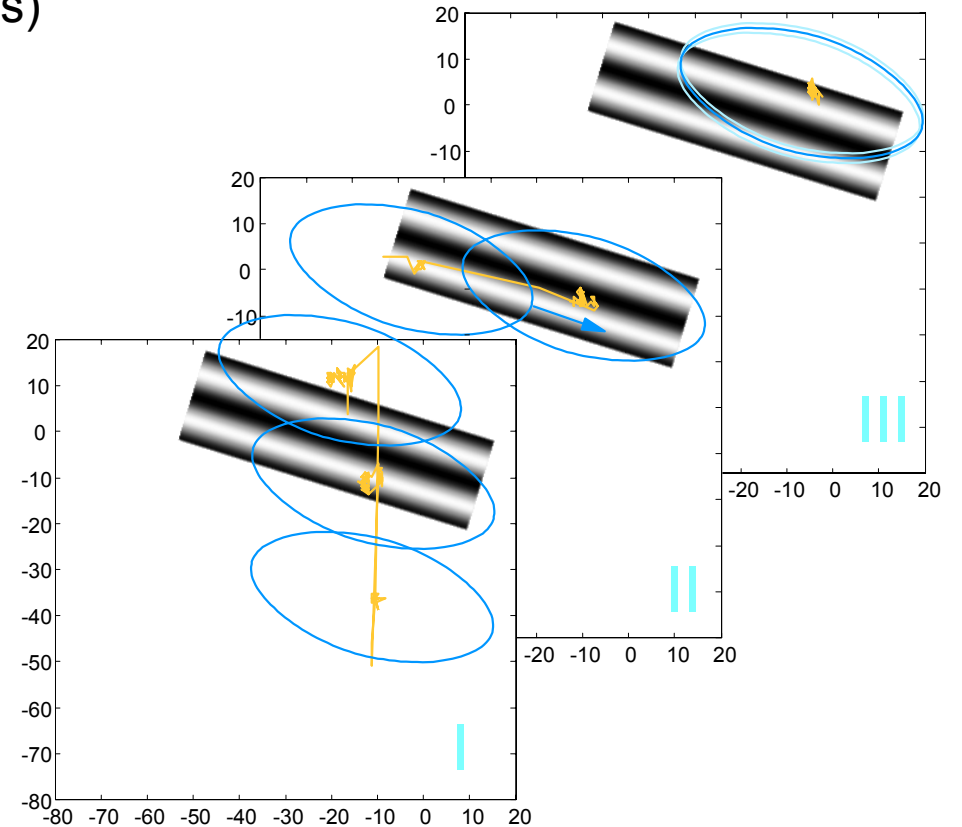
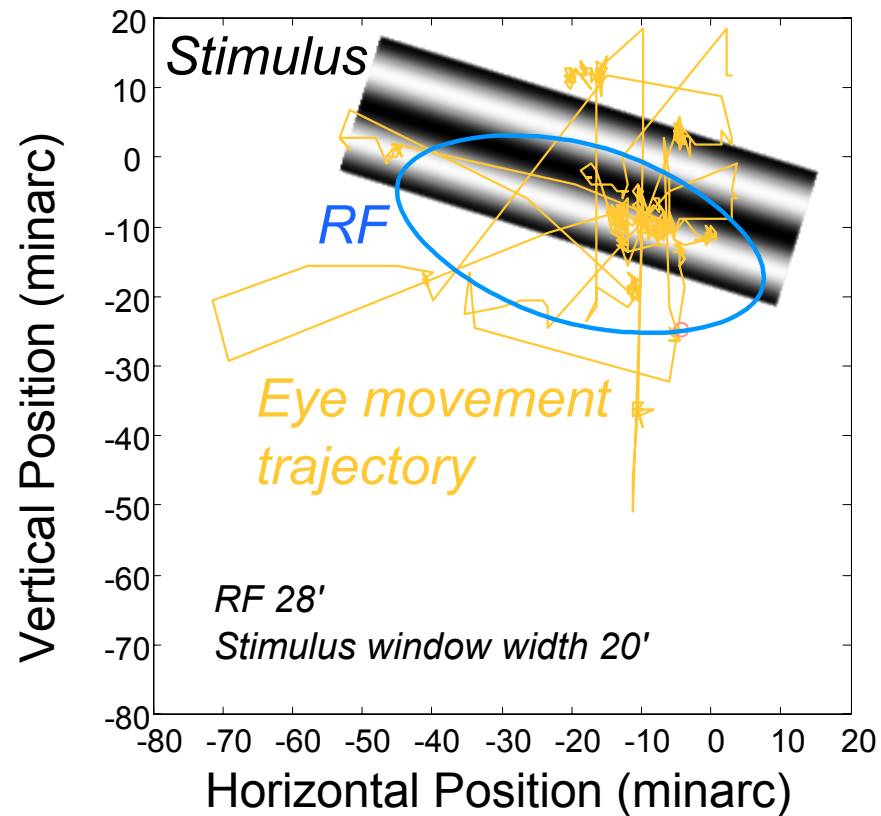
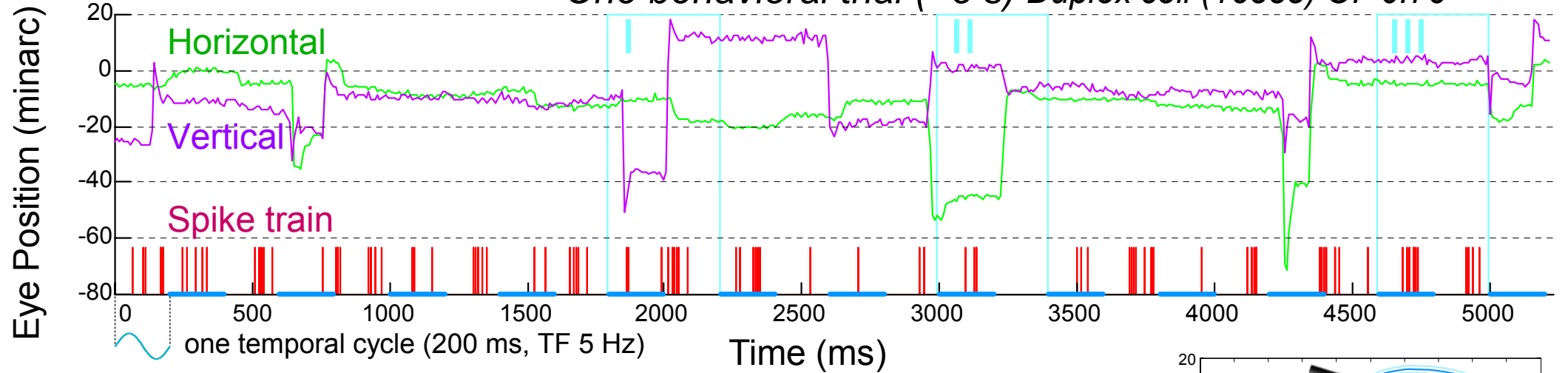
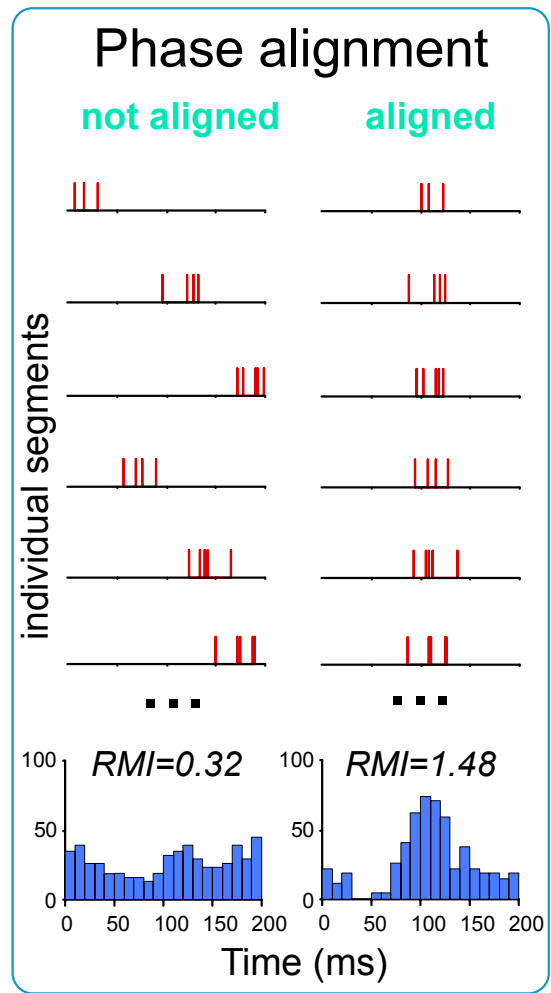
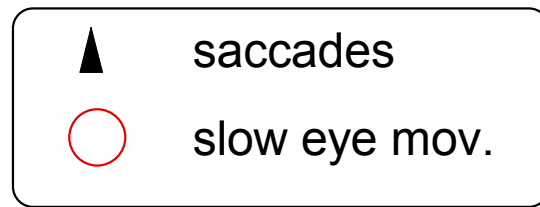
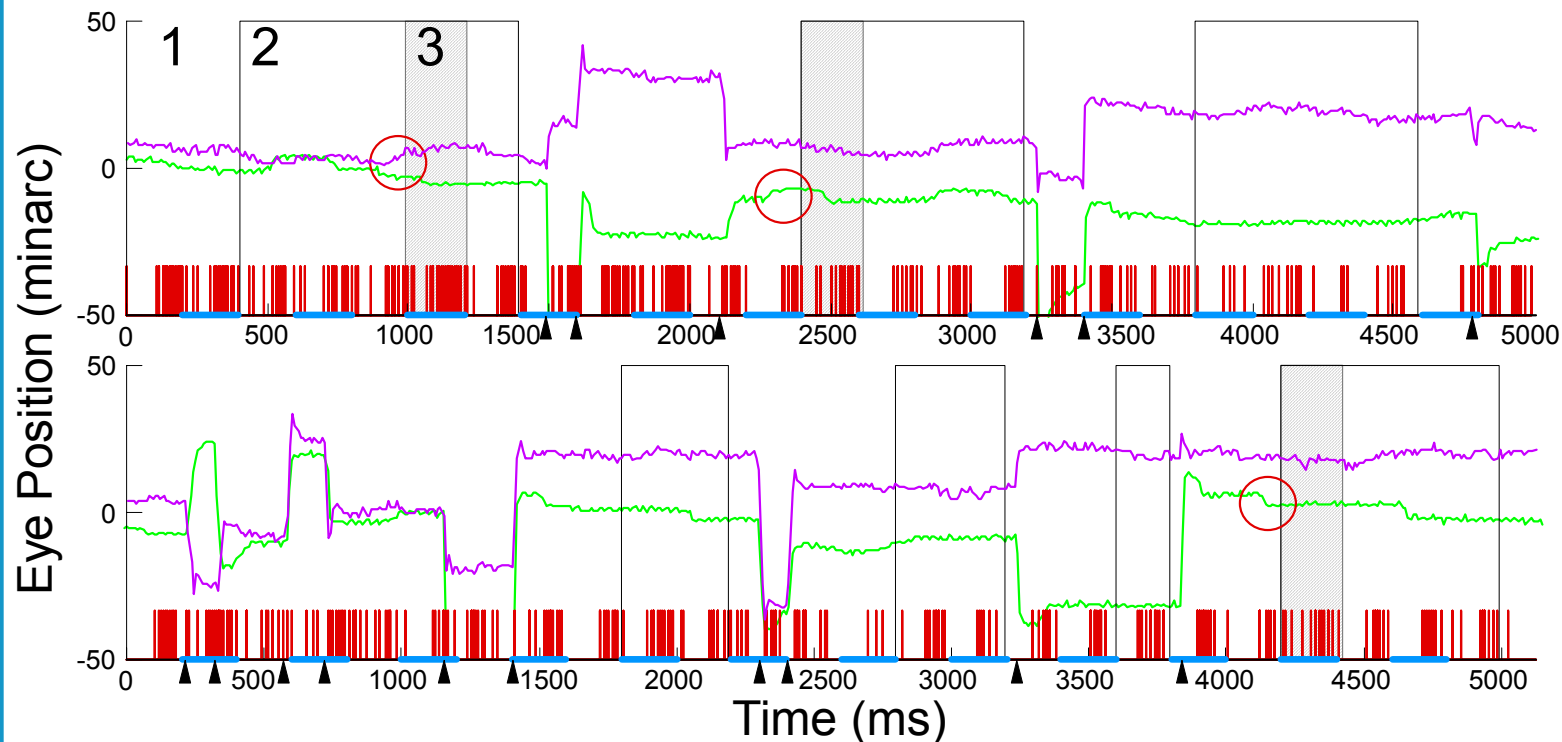
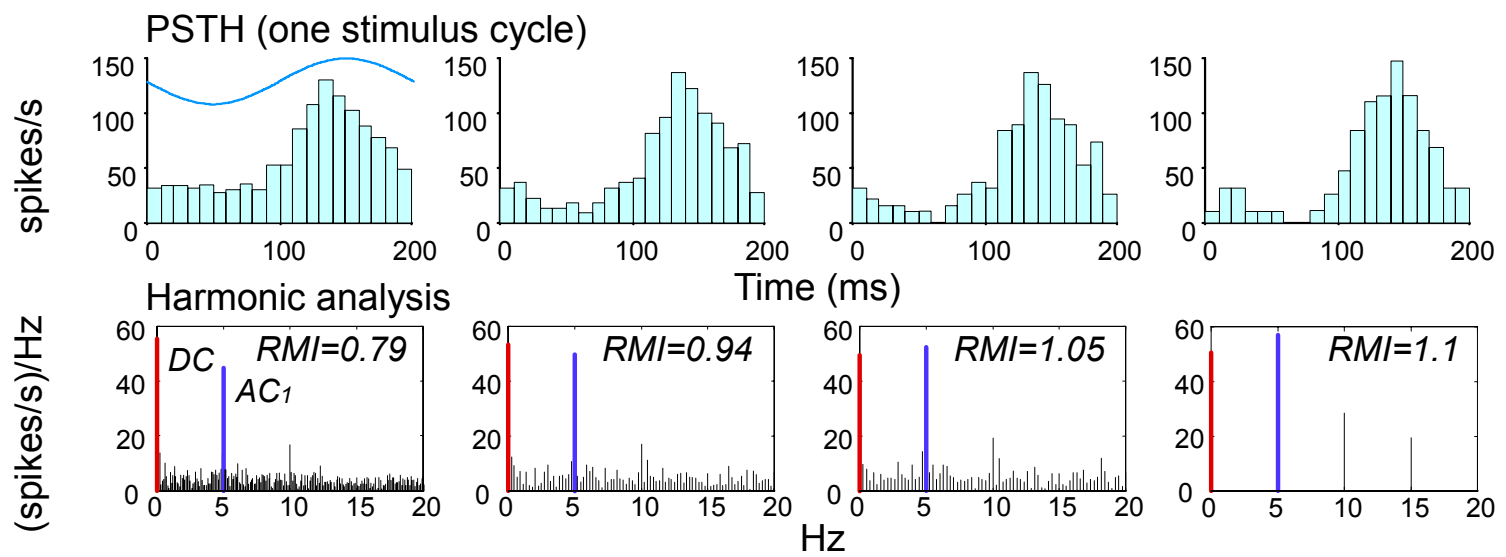


Fig. 3 Data Selection and Analysis



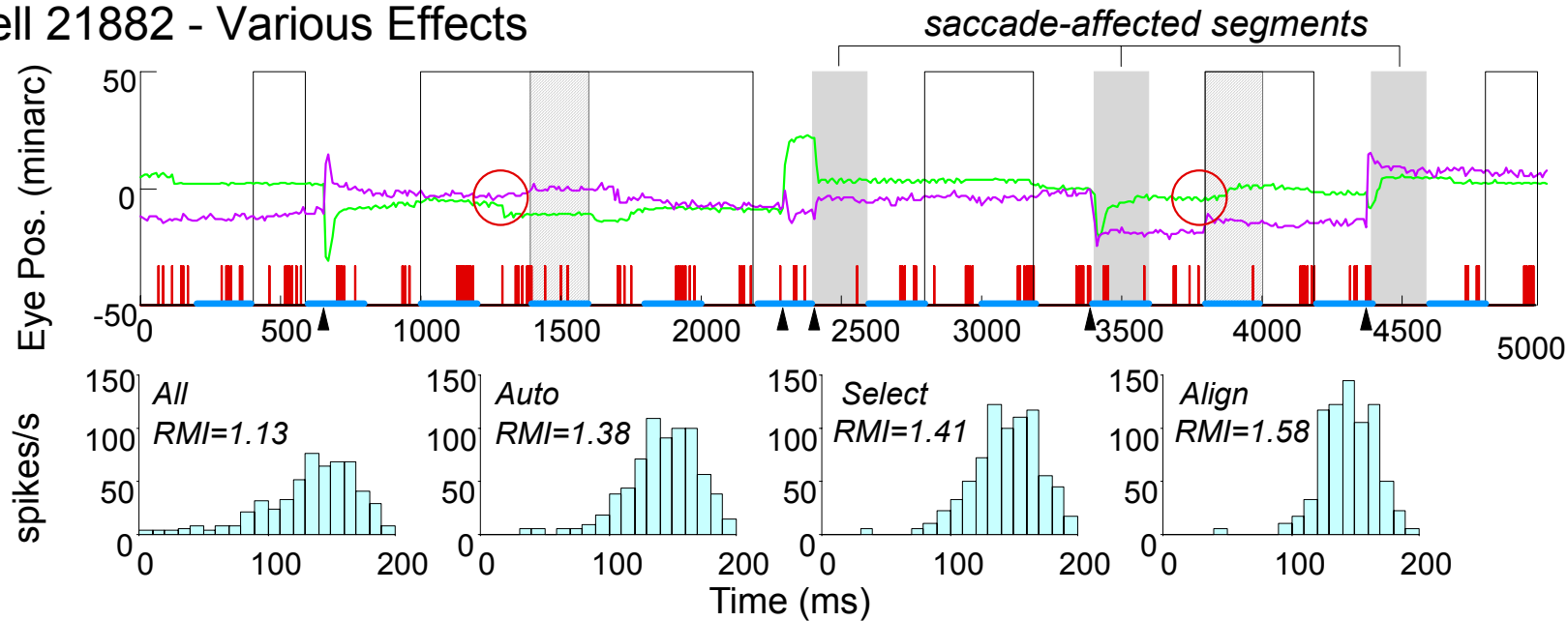
1 - All 2 - Auto 3 - Select 4 - Align



$$RMI = \frac{AC_1}{DC - DC_{spont.}}$$

Fig. 4 Eye Movements Effects: Simple Cells

Cell 21882 - Various Effects



Cell 10982 - Similar Eye Movement Trajectories Elicit Consistent Firing Patterns

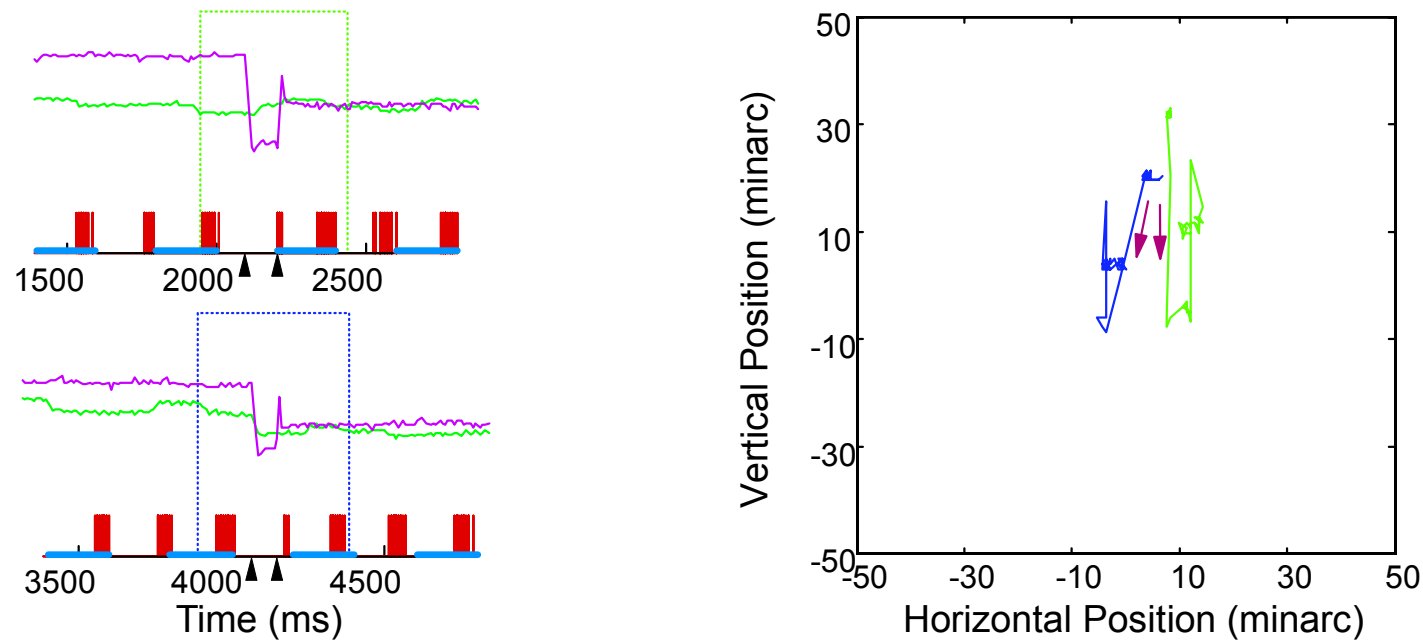
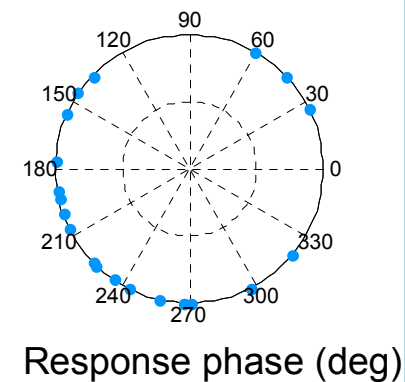
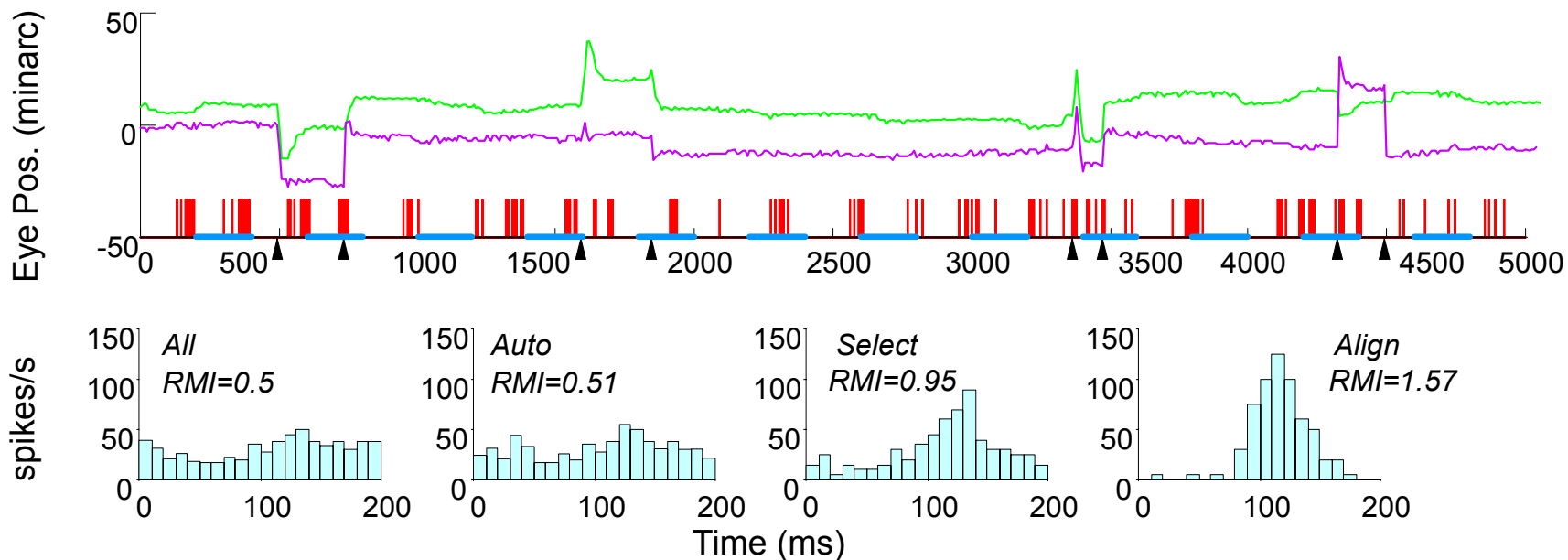


Fig. 5 Eye Movements Effects: Duplex/Complex Cells

Cell 06881 - Phase Dispersion



Cell 15884 - Robust Firing

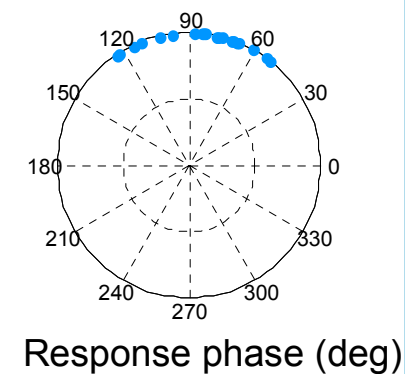
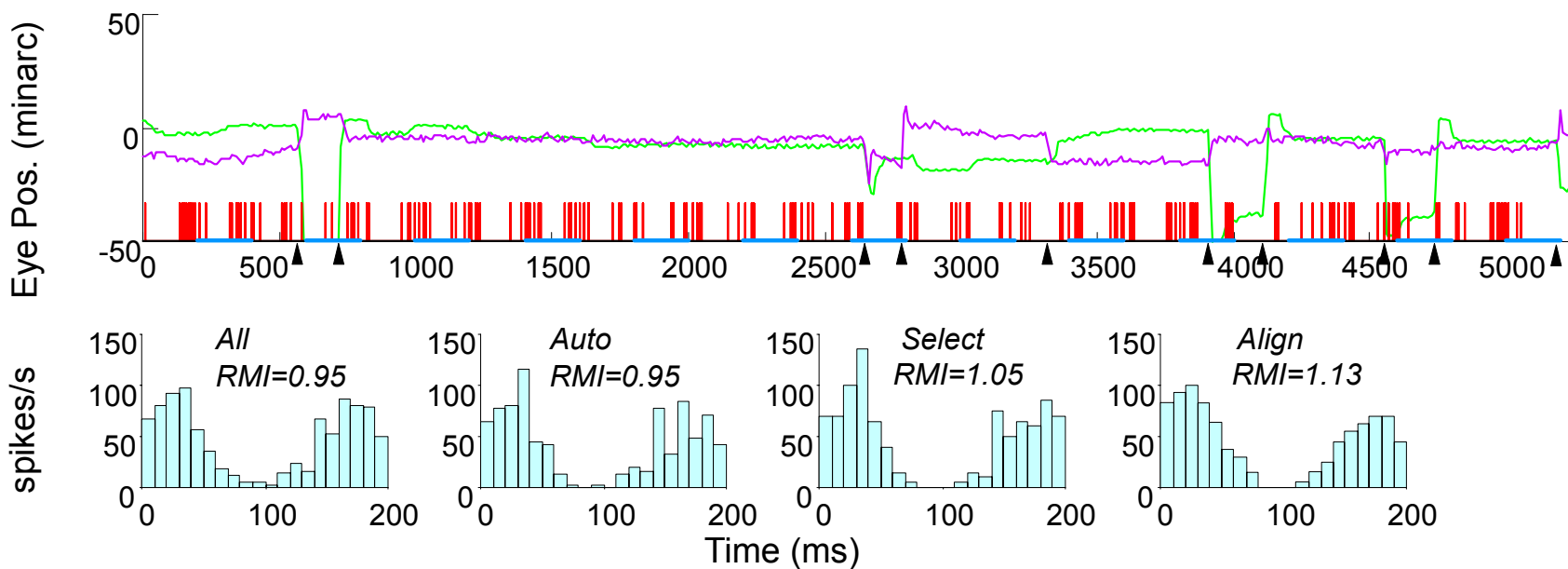


Fig. 6 Different Modes - Relative Modulation Distribution

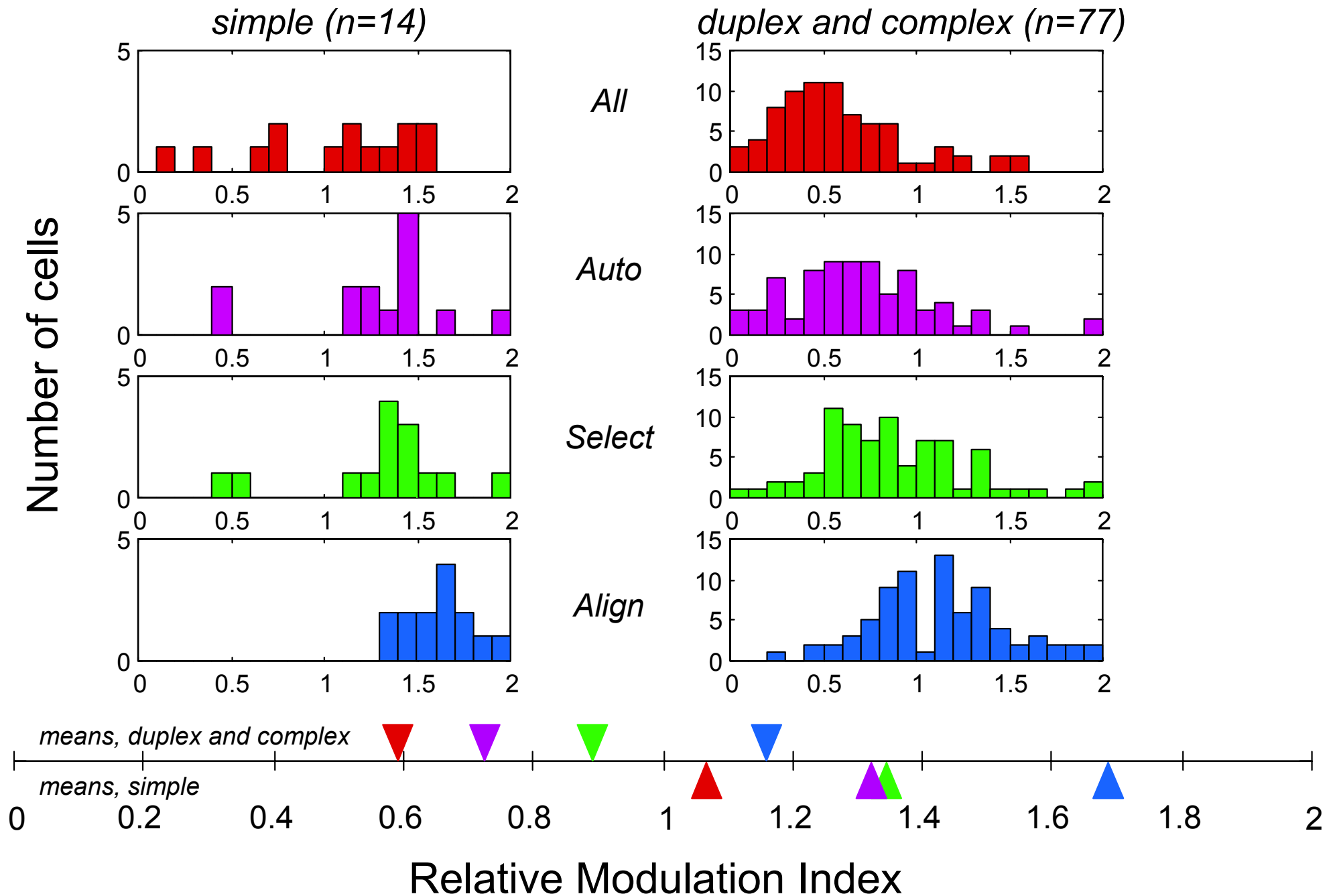


Fig. 7 Simple Cell and Complex Cell

(Note: this and following figures use data from epochs with no saccades or slow eye movements - "Select" mode)

Simple cell (10982)

On response to flashes.

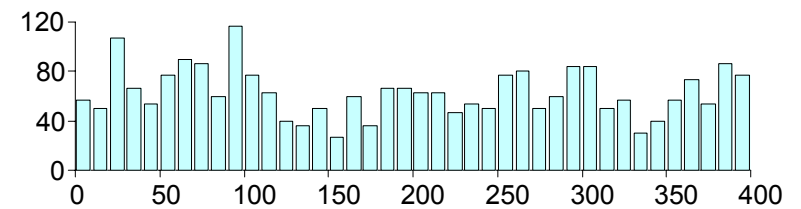
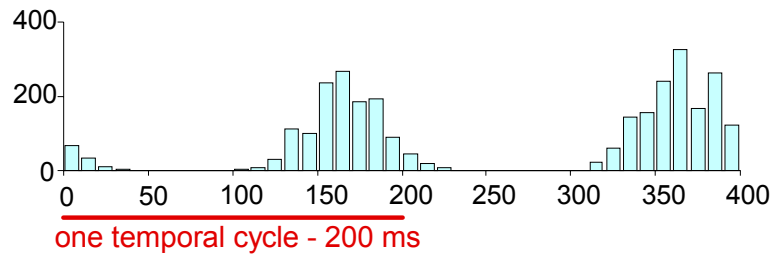
OI = -0.17, AR = 17', BD 0 spk/s.

Complex cell (24884)

On-Off response to flashes.

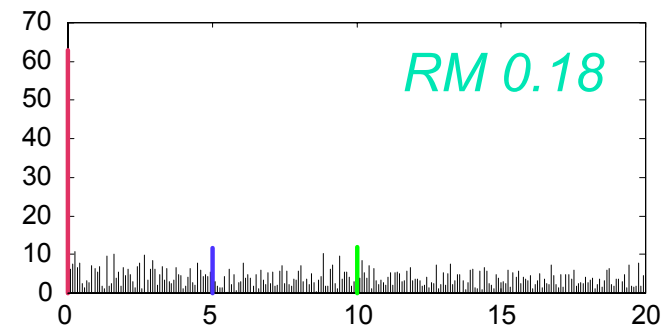
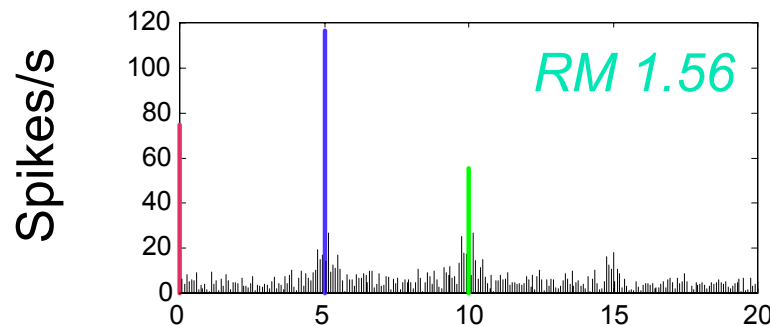
OI = 0.9, AR = 37', BD 0 spk/s.

Drifting
grating
TF 5 Hz



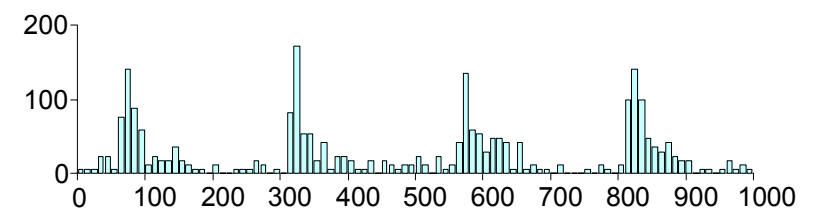
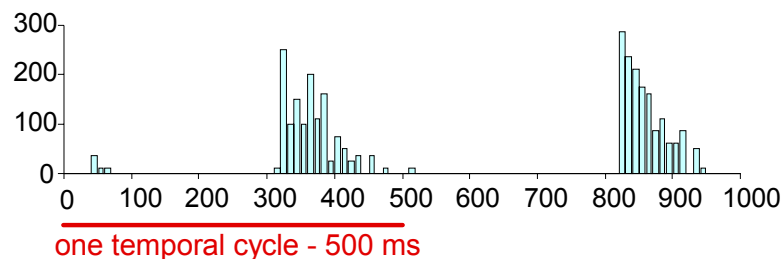
Time (ms)

Harmonic
analysis



Hz

Counter-
phase
grating
TF 2 Hz



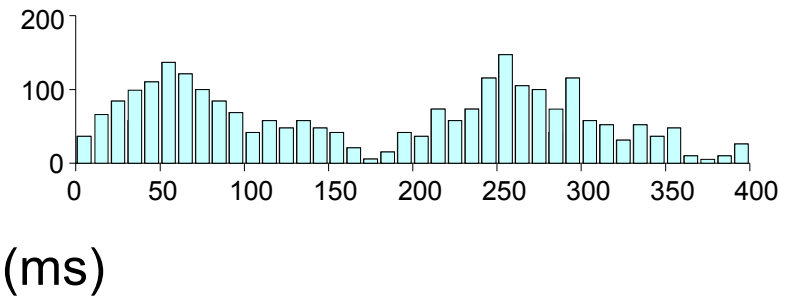
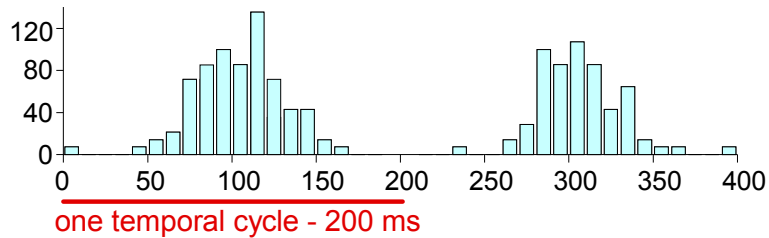
Time (ms)

Fig. 8 Duplex Cells

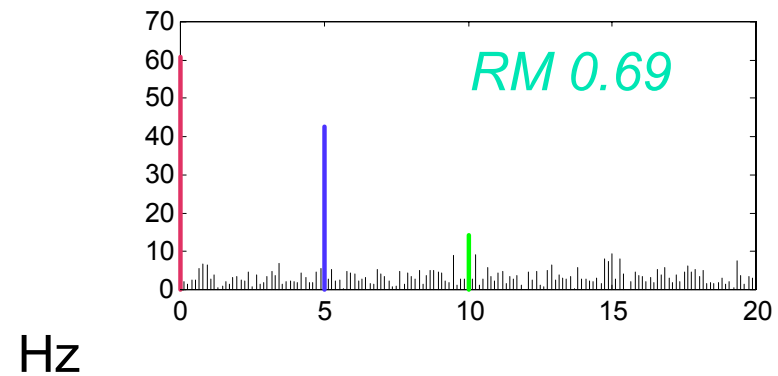
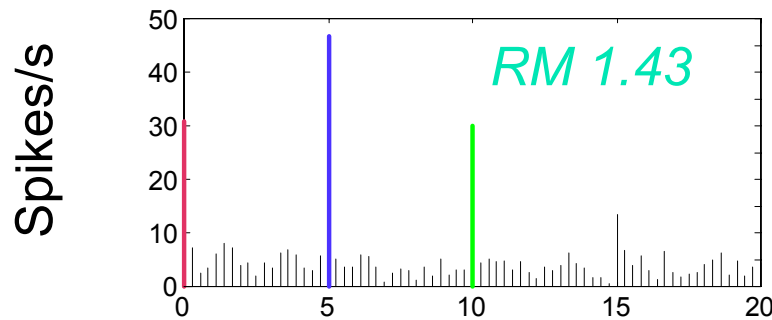
Duplex cell (06681)
 On-Off response to flashes.
 OI = 0.94, AR = 20', BD 0.5 spk/s.

Duplex cell (06984)
 On-Off response to flashes.
 OI = 0.9, AR = 31', BD 1 spk/s.

Drifting
 grating
 TF 5 Hz



Harmonic
 analysis



Counter-
 phase
 grating
 TF 2 Hz

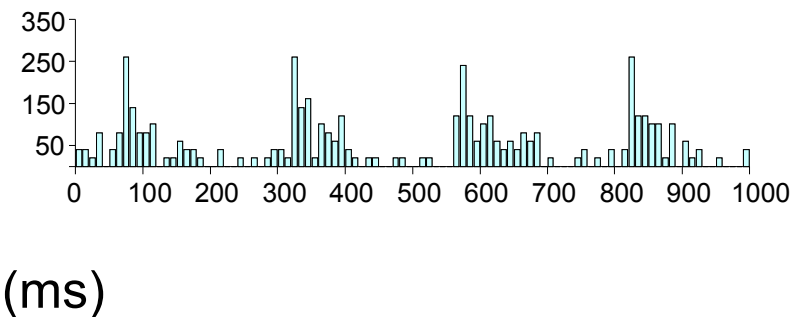
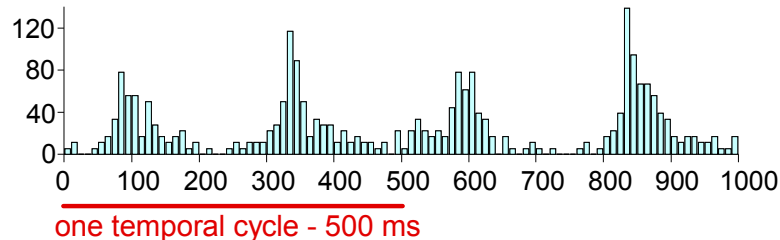


Fig. 9 Relative Modulation and Complexity Index (CI)

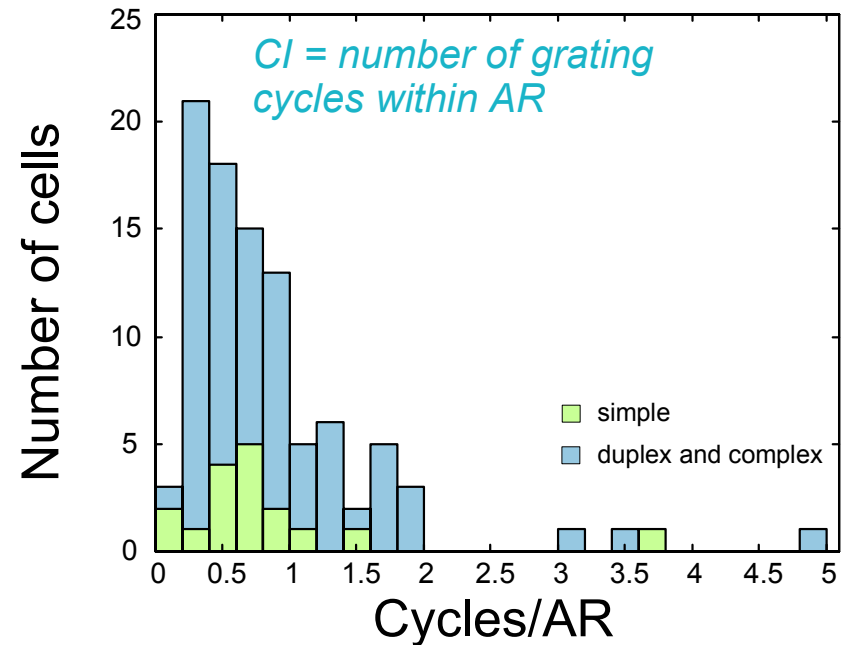
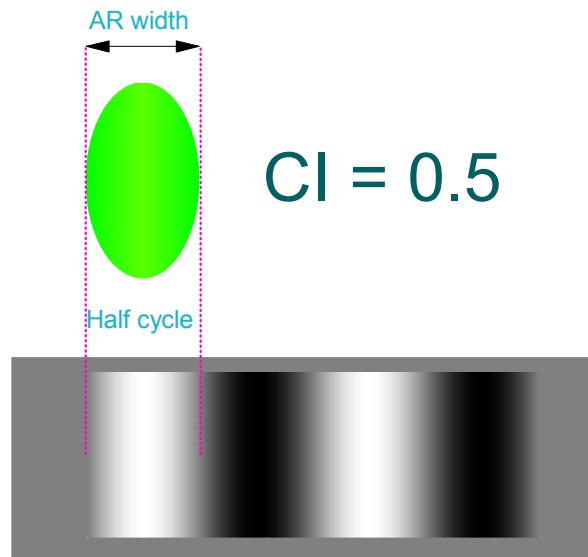
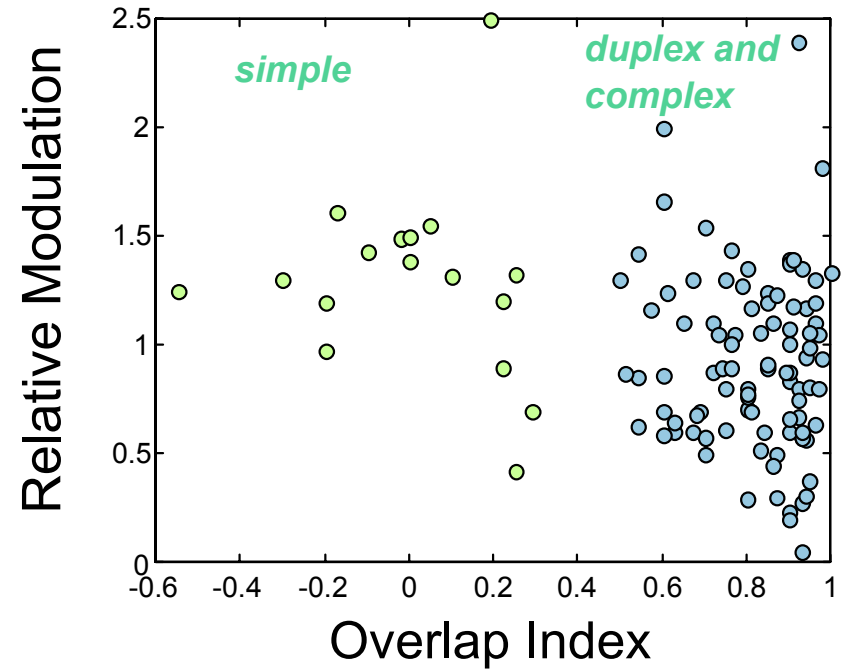
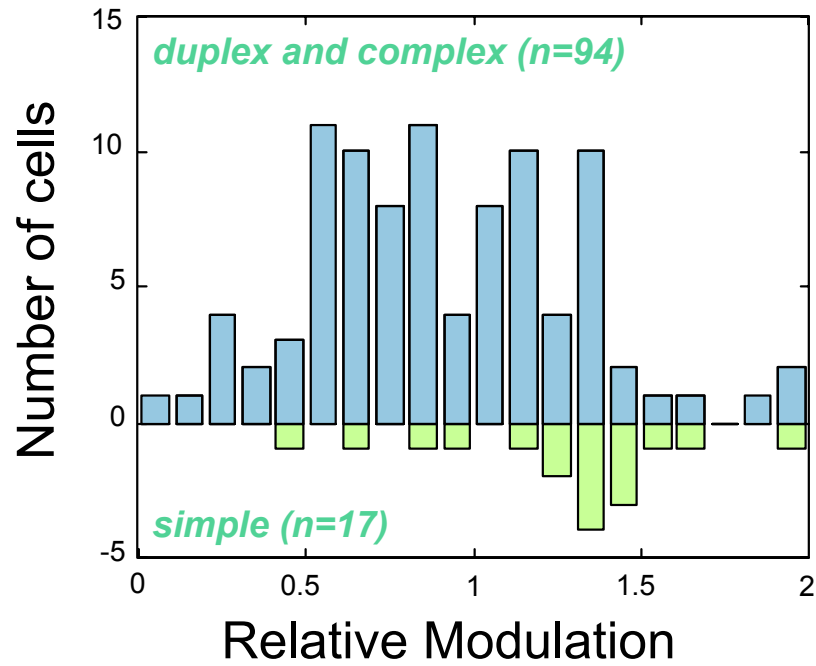


Fig. 10 Linear Modulation vs. Frequency Doubling

Duplex cell 28682. OI 0.94, AR 19', BD 2 spk/s. Responses to drifting grating TF 5 Hz.

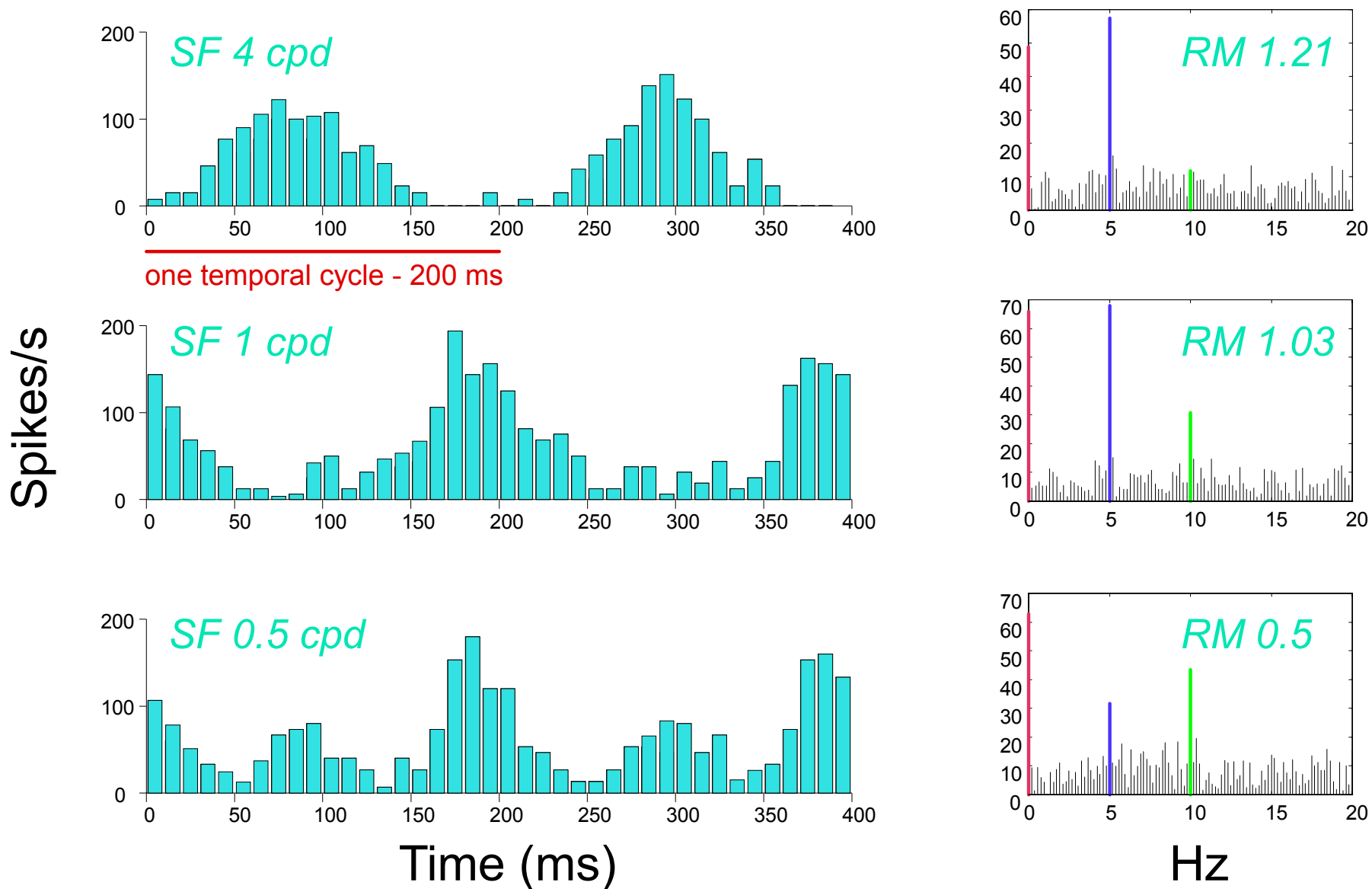
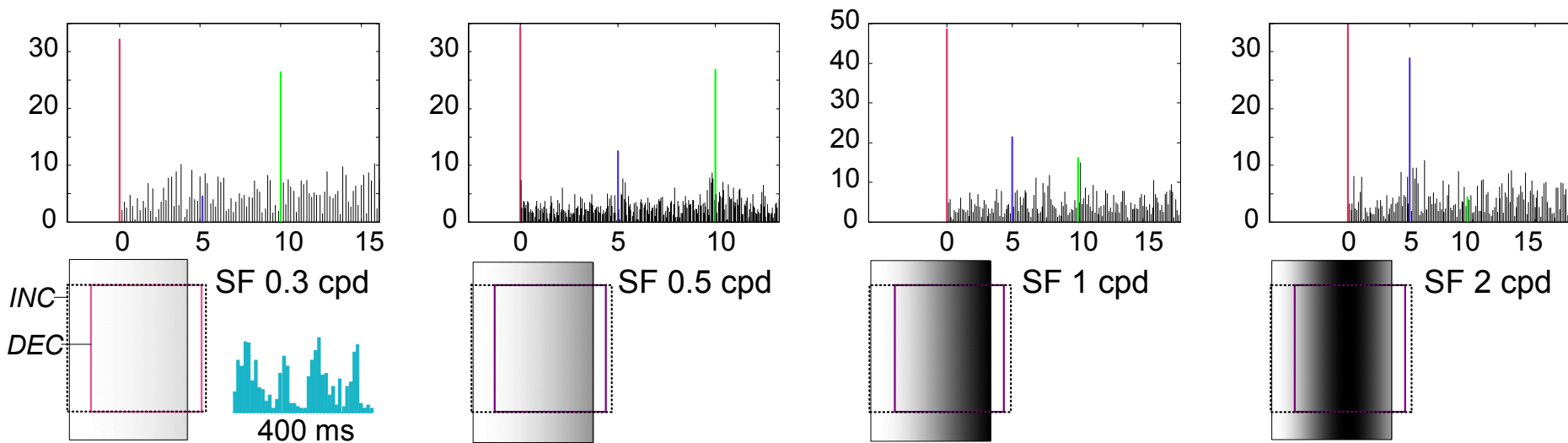


Fig. 11 Spatial Frequency and Window Size Effects

Duplex cell (15884). OI = 0.97, AR = 34', BD 0 spk/s

Drifting Sine, Window 23', TF 5 Hz, various SF - spectra of responses



Drifting Sine, SF 0.5 cpd, TF 5 Hz, various Window sizes

