807

SUPPLEMENTARY MATERIAL

809

Appendix S1: Glossary

811

812 SU, single unit: isolated extracellular recording from an individual neuron.

813 CSTRF, chromospatiotemporal receptive field: the receptive field of an LGN cell measured

814 across color and visual spaces, and through time.

815 RF, receptive field: the response of the optimal stimulus for a given cell, used

816 interchangeably with the CSTRF.

817 RF unit: a single unit with a significant receptive field.

818 STA, spike triggered average: the averaged stimulus image conditioned on spike time, here

819 used to calculate the CSTRF.

820 R, G, B; red, green, blue: the three phosphor colors used in computer monitors and, here, to

821 generate visual stimuli.

822 *Lum*, luminance matrix: determined by the magnitude of the colored phosphors.

823 $RF_{location}$: the location of CSTRF with the maximum, from *Lum*, in *x*-space, *y*-space, and

824 time.

825 RF position: the *x* and *y* spatial components of $RF_{location}$.

826 RF latency: the temporal component of $RF_{location}$.

827 RF_{max}: the spatial plane at RF latency.

828   Lum_{max}: the luminance matrix of RF_{max}.

829   RF_{noise}: the acausal frames of the CSTRF.

830   η: noise in a signal; used to select RFs with significant amplitudes.

831   L, M, S; long, medium, short: retinal photoreceptor cones classified by wavelength of peak

832   sensitivity.

833   M, magnocellular: RFs with contribution from L- and M-cone weights that were non-

834   opposing.

835   P, parvocellular: RFs with contribution from L- and M-cone weights that were opposing and

836   significantly above noise.

837   K, koniocellular: RFs with the largest contribution from S-cone.

838   N, non-RF unit: cells that do not have significant receptive fields.

839   TWF, temporal weighting function: the LMS response of a given pixel, or average pixel, over

840   time.

841   Narrow 1, 2: narrow, negative-going spike waveform classifications (see Fig. 2).

842   Broad 1, 2: broad, negative-going spike waveform classifications (see Fig. 2).

843   Triphasic: negative-going spike waveform classification but typically with an addition of an

844   initial positive deflection (see Fig. 2).

845   Positive 1, 2: positive-going spike waveform classifications (see Fig. 2).

846   Coarse stimulus: 80 x 60 colored noise stimulus.

847   Fine stimulus: 400 x 300 colored noise stimulus.