Ephys & cluster properties

spikes.times

spikes.amps   [uV] (nSpikes)

spikes.clusters   [integer] (nSpikes)

spikes.depths   [um] (nSpikes)

clusters.uuids   [integer] (nClusters) .csv file; cluster IDs of all used clusters

clusters.waveforms   [uV] (nClusters, nChannels, nSamples, 2) mean spike waveform of each cluster across all recording channels during running (4th dim. == 2) or not running (4th dim. == 1)

_ss_validTimes.intervals   [s] (nIntervals, 2) Time intervals for each cluster, where recording quality was considered good enough (large enough spike amplitudes, ...)

_ss_validTimes.clusters   [integer] (nIntervals) Cluster ID for each time interval; if a cluster does not appear here, its complete recording was considered good

channels.localCoordinates   [um] (nChannels, 2) X- and y-positions of the channels

probe._ss_sampleRate   [1/s] (1) Sampling rate in samples per second

Behaviour

_ss_running.speed   [double] (nSamples) Trace of running speed of animal

_ss_running.timestamps   [s] (nSamples) Time stamps of running trace

Stimuli

_ss_grating.intervals   [s] (nTrials,2) On- and offset times of gratings

_ss_grating._ss_gratingID   [integer] (nTrials) ID of grating in each trial

_ss_gratingID.directions   [angles] (nGratings) Direction of movement of grating; NaN if blank was shown

_ss_sparseNoise.times   [s] (nTrials) Time of each stimulus frame (map of visual sparse noise pattern)

_ss_sparseNoise._ss_sparseNoiseID   [integer] (nTrials) ID of sparse noise frame

_ss_sparseNoiseArea.edges   [visual degree] (1,4) Edges (left, right, bottom, top) of sparse noise frames within visual field

_ss_sparseNoiseID.map   [integer] (nFrames, nRowPixels, nColPixels) Map of visual sparse noise pattern for each stimulus frame; -1 if black, 1 if white, 0 if gray

_ss_darkness.intervals   [s] (1, 2) Start and end of complete darkness

_ss_flicker.times	[s] (nFlickers) Onset of each flicker (change in luminance of screens)
_ss_flicker.frequencies	[Hz] (nFlickers) Frequency of current flicker stimulus
_ss_flicker.color	[integer] (nFlickers) 1 if white, -1 if black
_ss_flicker.repetition	[integer] (nFlickers) Current repetition of same flicker stimulus

Results of further analyses

_ss_rf.maps	[double] (nROIs, nRowPixels, nColPixels, nSamples, 2) Fitted receptive field spanning nRowPixels and nCoPixels and nSamples of time points; one RF for the ON field (1) and one RF for the OFF field (2)
_ss_rf.explVars	[double] (nROIs) Cross-validated explained variance for receptive field and running kernel
_ss_rf.explVarsRunning	[double] (nROIs) Cross-validated explained variance for running kernel only
_ss_rf.explVarsStim	[double] (nROIs) Cross-validated explained variance for receptive field only
_ss_rf.lambdasRunning	[double] (nROIs) Lambda value used to regularize fitting of running kernels
_ss_rf.lambdasStim	[double] (nROIs) Lambda value used to regularize fitting of receptive field
_ss_rf.pValues	[double] (nROIs) P-value of fitted receptive field
_ss_rfDescr.edges	[visual degree] (1,4) Edges (left, right, bottom, top) of receptive fields within visual field
_ss_rfDescr.timestamps	[s] (1,nSamples) Time points of fitted receptive fields relative to onset of stimulus frame
_ss_rfRunningKernels.rate	[firing rate] (nSamples, nROIs) Fitted kernel describing the impact of running speed on responses to sparse noise
_ss_rfRunningKernels.timestamps	[s] (nSamples) Time points of fitted running kernel relative to onset of stimulus frame
_ss_crossCorrs.values	[double] (nSamples, nROIs) Cross-correlograms of firing rates and running speed during darkness
_ss_crossCorrs.nullValues	[double] (nSamples, 500, nROIs) Cross-correlograms of firing rates and running speed during darkness after randomly shifting the running trace
_ss_crossCorrs.timestamps	[double] (nSamples) Time lags of cross-correlograms