

Ephys & cluster properties

spikes.times	[s] (nSpikes) Time of each spike
spikes.amps	[uV] (nSpikes) Amplitude of each spike
spikes.clusters	[integer] (nSpikes) Cluster ID of each spike
spikes.depths	[um] (nSpikes) Depth of each spike
clusters.uuids	[integer] (nClusters) .csv file; cluster IDs of all used clusters
clusters.waveforms	[arb. Units] (nClusters, nSamples, nchSub) Mean spike waveform of each cluster across several probe channels (nchSub)
channels.localCoordinates	[um] (nChannels, 2) X- and y-positions of the channels
probe._ss_sampleRate	[1/s] (1) Sampling rate in samples per second
probe.scDepth	[um] (1,2) Lower and upper edge of superior colliculus along probe

Behaviour

_ss_running.speed	[double] (nSamples) Trace of running speed of animal
_ss_running.timestamps	[s] (nSamples) Time stamps of running trace
eye.diameter	[arb. Units] (nFrames) Pupil size
eye.xyPos	[arb. units] (nFrames) Center position of pupil
eye.timestamps	[s] (nFrames) Time stamps for pupil size and position

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_gratingID.laserOn	[logical] (nGratings) 0 if laser was off, 1 if laser was on (for optogenetic experiments)
_ss_gratingID.laserOnTime	[s] (nGratings) Delay of laser onset relative to onset of visual stimulus, NaN if laser was off
_ss_gratingID.laserOffTime	[s] (nGratings) Delay of laser offset relative to offset of visual stimulus, NaN if laser was off

Results of further analyses

_ss_gratingTrials.largePupil	[logical] (nGratings, nRepetitions) True if this trial was categorized as large pupil trial (pupil is mostly larger than median size)
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<code>_ss_tuning.curvesLargeLaserOff</code>	[double] (nROIs, 360) Fitted tuning curve to responses when laser was off (control) and pupil was large: response amplitude for directions of movement from 1 to 360 degrees
<code>_ss_tuning.curvesLargeLaserOn</code>	[double] (nROIs, 360) Fitted tuning curve to responses when laser was on (V1 inactivated) and pupil was large: response amplitude for directions of movement from 1 to 360 degrees
<code>_ss_tuning.curvesSmallLaserOff</code>	[double] (nROIs, 360) Fitted tuning curve to responses when laser was off (control) and pupil was small: response amplitude for directions of movement from 1 to 360 degrees
<code>_ss_tuning.curvesSmallLaserOn</code>	[double] (nROIs, 360) Fitted tuning curve to responses when laser was on (V1 inactivated) and pupil was small: response amplitude for directions of movement from 1 to 360 degrees
<code>_ss_tuning.isSuppressed</code>	[integer] (nROIs) 1 if suppressed by gratings, -1 if driven by gratings, NaN if not responsive to gratings
<code>_ss_tuning.parametersLargeLaserOff</code>	[double] (nROIs, 5) Parameters defining fitted tuning curve to responses when laser was off (control) and pupil was large; 1. Preferred direction, 2. Response amplitude, 3. Direction selectivity, 4. Offset from zero, 5. Tuning width
<code>_ss_tuning.parametersLargeLaserOn</code>	[double] (nROIs, 5) Parameters defining fitted tuning curve to responses when laser was on (V1 inactivated) and pupil was large; 1. Preferred direction, 2. Response amplitude, 3. Direction selectivity, 4. Offset from zero, 5. Tuning width
<code>_ss_tuning.parametersSmallLaserOff</code>	[double] (nROIs, 5) Parameters defining fitted tuning curve to responses when laser was off (control) and pupil was small; 1. Preferred direction, 2. Response amplitude, 3. Direction selectivity, 4. Offset from zero, 5. Tuning width
<code>_ss_tuning.parametersSmallLaserOn</code>	[double] (nROIs, 5) Parameters defining fitted tuning curve to responses when laser was on (V1 inactivated) and pupil was small; 1. Preferred direction, 2. Response amplitude, 3. Direction selectivity, 4. Offset from zero, 5. Tuning width
<code>_ss_tuning.nullBehaviourParametersLargeLaserOff</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser off, pupil large) after randomly shuffling the trial labels for small and large pupil 200 times
<code>_ss_tuning.nullBehaviourParametersLargeLaserOn</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser on, pupil large) after randomly shuffling the trial labels for small and large pupil 200 times
<code>_ss_tuning.nullBehaviourParametersSmallLaserOff</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser off, pupil small) after randomly shuffling the trial labels for small and large pupil 200 times
<code>_ss_tuning.nullBehaviourParametersSmallLaserOn</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser on, pupil small) after randomly shuffling the trial labels for small and large pupil 200 times
<code>_ss_tuning.nullLaserParametersLargeLaserOff</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser off, pupil large) after randomly shuffling the trial labels for laser on/off 200 times
<code>_ss_tuning.nullLaserParametersLargeLaserOn</code>	[double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser on, pupil large) after randomly shuffling the trial labels for laser on/off 200 times

_ss_tuning.nullLaserParametersSmallLaserOff [double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser off, pupil small) after randomly shuffling the trial labels for laser on/off 200 times

_ss_tuning.nullLaserParametersSmallLaserOn [double] (nROIs, 5, 200) Parameters of fitted tuning curves (laser on, pupil small) after randomly shuffling the trial labels for laser on/off 200 times