

Spike analysis pipeline overview

Folder structure

File	Info
Y:\Projects\project\ephys\version	main folder contains:
population_monkey_session.mat	spike data sorted by unit for each session
sites_monkey_session.mat	LFP data sorted by site for each session
by_block_monkey_session.mat	body signals sorted by block for each session
Mon_sorted_neurons.xls	copies of the used sorted neurons tables from dropbox
keys_Monkey.mat	copy of the keys used when running ph_initiation
tuning_table_combined.mat	Anova results stored in a table
tuning_table_combined_CI.mat	Anova results restructured according to contra/ipsi definitions
tuning_table_combined.xls	simplified excel table
seed.mat	a saved seed to make randomizations reproducible
Subfolders:	
spike_shapes	Spike shapes, firing rates over time, and ISI plots
single_cell_examples	Single cell plots
cell_counts	Anova results as pie plots
scatter	Anova results as scatter plots (one column versus another)
population_analysis	population PSTHs
response timing	tuning over time plots
...	

General Workflow

- `ph_initiation(project,{version1,version2,...})`
 1. loop per monkey
 2. read in general settings → project settings → version settings
 3. run `ph_session_processing` (core function)
 - read in data from `Y:\Data\Monkey_phys_combined_monkeypsych_TDT`
 - run `monkeypsych_analyze` for saccade detection etc.
 - run `ph_run_state_alignment_per_trial`
 1. takes over relevant trial and state (event) information
 2. combines it with Sorted Neuron table information
 3. !! Copies last 1 second of spikes to beginning of next trial
 4. !! Cuts and appends last 1 second of streams to beginning of next trial
 5. !! excludes trials without physiology data And/or NOT matching condition
 - resort data by unit/site/block
 - plot waveforms/ISI/FR_across time per unit
 - exclude units dependent on excel entries (SNR/stability/single rating)
 - plot waveforms/ISI/FR_across time per unit again for remaining units
 - run ANOVAs (`ph_ANOVAS`)
 - create single cell plots (`ph_plot_unit_per_condition`)
 - save files per session
 4. format tuning table (create `tuning_table_combined_CI.mat` and

tuning_table_combined.xls)

5. ph_get_filelist for crossreferencing with behavior

6. ph_initiate_population_analysis also runs population analysis

Synchronization

- Very important: In additi

Associated code

hmm

From:
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