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| --- | --- | --- |
| To Do | Method | State |
| firing rate | Matteo’s code |  |
| instantaneous firing rate | BAKS (based on adaptive kernel density estimation. Bandwidth of kernel function think as random variable with a prior distribution that parametrized with alpha and beta parameters)  alpha = 4  beta = N ^ (4/5) |  |
| mean of ISI |  |  |
| median of ISI |  |  |
| std of ISI |  |  |
| skewness |  |  |
| kurtosis |  |  |
| coefficient of variation | CV is a measure of spike train irregularity (skewness param) defined as the standard deviation divided by the mean interspike interval) |  |
| local variation | A metric which extracts intrinsic characteristics of neuron. Compare to cv it is more robust. This metric gives almost same value for same neurons on different trials, gives different values for different neurons. |  |
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First statistical orders (mean, median, standard deviation, CV, LV, skewness, shape factor).

For each of them

For each depth\* (or binned depth)

You put together all the values extracted from the neurons of this depth, aligned accorded to the stereotactical zero. You consider these values as different independent TRIALS of the same.

You plot distribution across depths

You compute the ANOVA across depths

[Compute information about depths]

THEN

Same as above but aligned not according to “ideal depth” but according to the final selected target.