**Fig 1: No significant activation in rest epochs given activation during run epochs**

1. Environment A density of *P(cell active in rest | cell active in run)* (right) and *P(cell active in rest | cell* ***not*** *active in run)* (left) taken from n=48 sessions, from 9 mice
2. Same as A) for environment B taken from n=28 sessions, from 4 mice
3. Scatter plot of a matched t-test for the conditional probabilities:

*P(cell active in rest | cell active in run)* - *P(cell active in rest | cell* ***not*** *active in run)*

when rest can be before run(right), and after (left) in a linear track. Dots are the different color for each mouse. Red line is p=0.025 for two tailed matched t-test. Most sessions show no significant difference between the two conditional probabilities

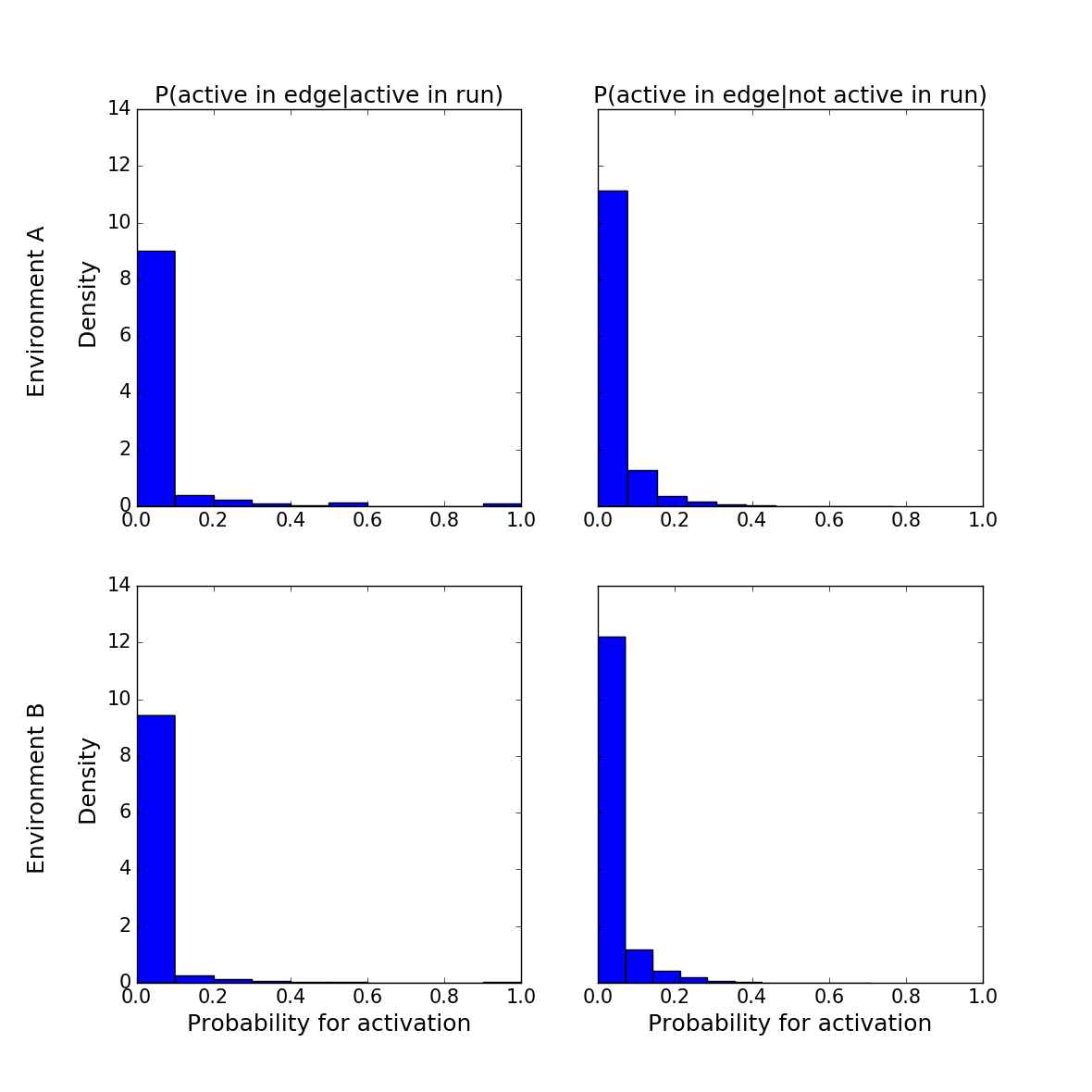
1. Scatter plot of effect size of the difference between the conditional probabilities in C) axis X is for effect size of the difference:

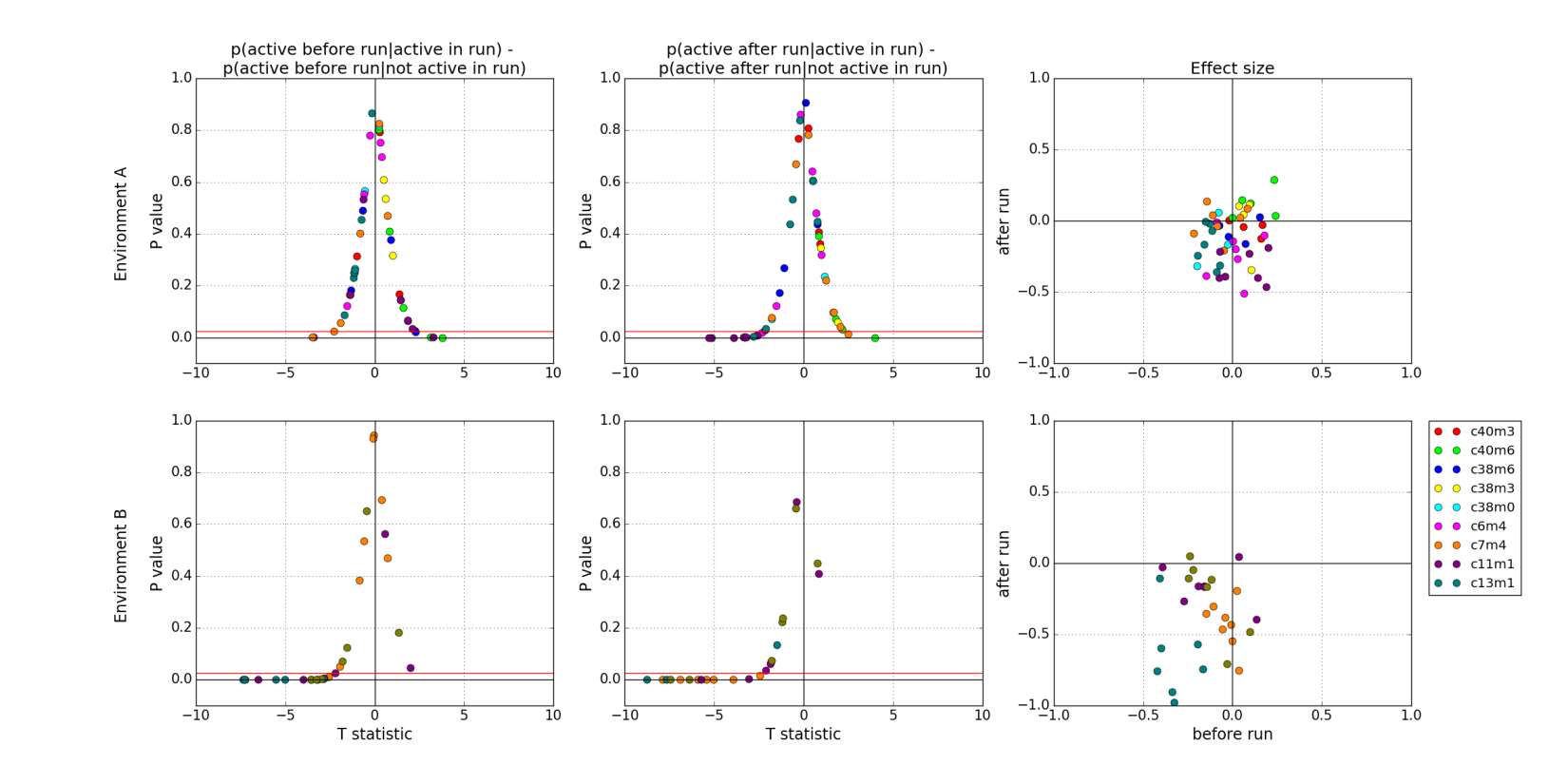
*P(cell active rest* ***before*** *run | cell active in run)* - *P(cell active in rest* ***before*** *run | cell* ***not*** *active in run)*

axis Y is for effect size of the difference:

*P(cell active rest* ***after*** *run | cell active in run)* - *P(cell active in rest* ***after*** *run | cell* ***not*** *active in run)*

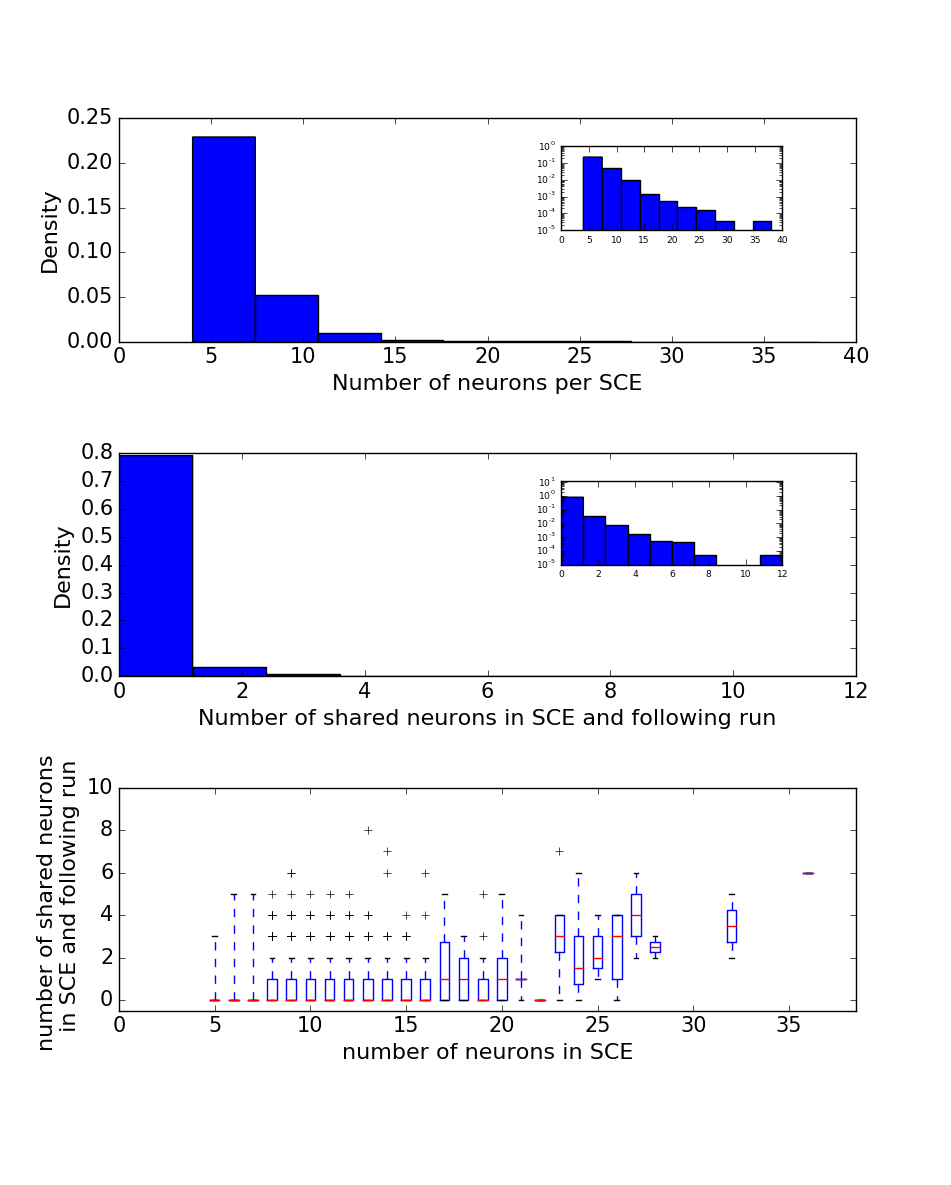
1. *+*  F) same as C)+ D) respectively, for L-shape track. Most significant sessions show higher probability for activation in edge given lack of activation in run epoch.





**Fig 2: Neurons that participate in synchronous calcium events before running are unlikely to be activated in upcoming run epoch.**

1. Distribution of number of neurons per synchronous calcium event (SCE), calculated for all neurons (not only place cells). Data pooled from n=9 mice running on a linear track. Inset show the same in log scale on y axis.
2. Distribution of number of neurons that participated in SCE and in the following run. Inset show the same in log scale on y axis.
3. Box plot of the number of neurons that were active in SCE and in the run epoch that followed.

A 

(Commit: f63e698)

**Fig 3: decoding bucket trials show no significant edge (reward?) representation**

1. Maximum likelihood estimation decoder performance on the linear track, for each mouse separately. Absolute mean error units in cm.
2. Fraction of frames decoding the proximate environment in time to the bucket trial. Pooled from n=56 bucket trials from 4 mice in each environment. The decoding fraction of frames was significant in both bucket trial’s types
3. Box plot of the number of events in frame for each decoded bin, when the proximate environment was decoded (in inset is when the other environment was decoded)
4. Density of the decoded bins in the matched\non matched environment and the natural occupation. The estimation is significantly different then the natural occupation by Kolmogorov-Smirnov test (p~0).

