**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.

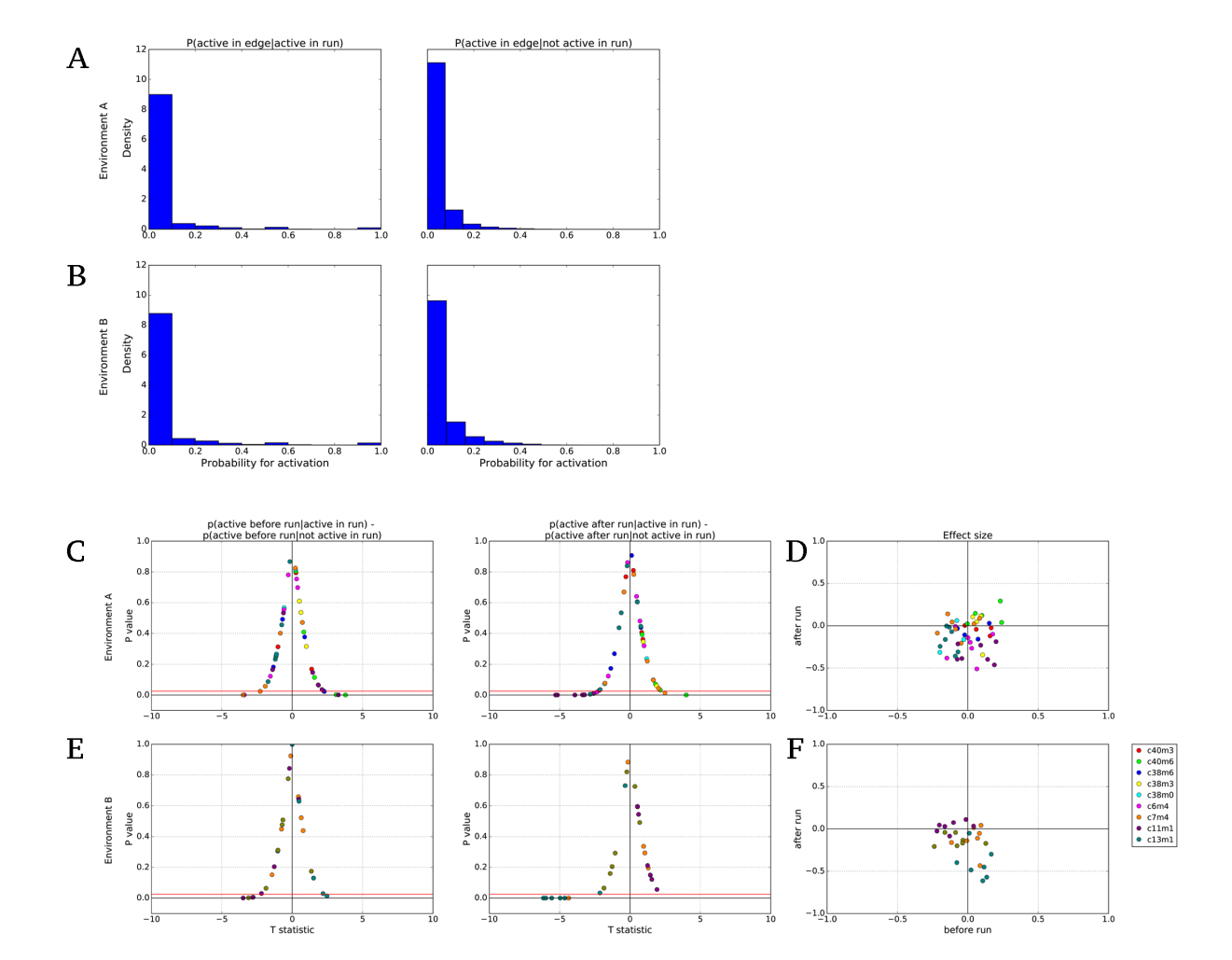
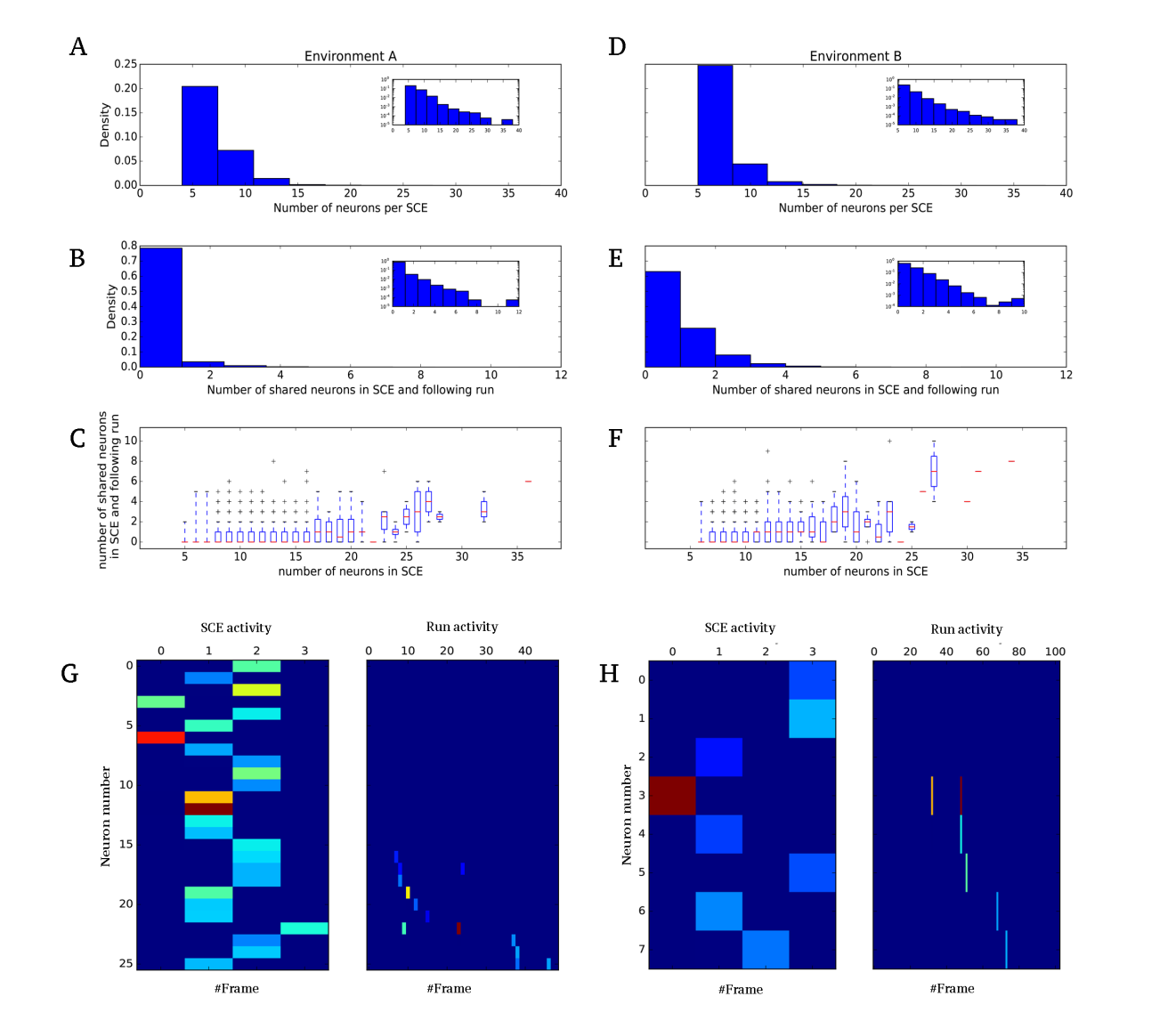


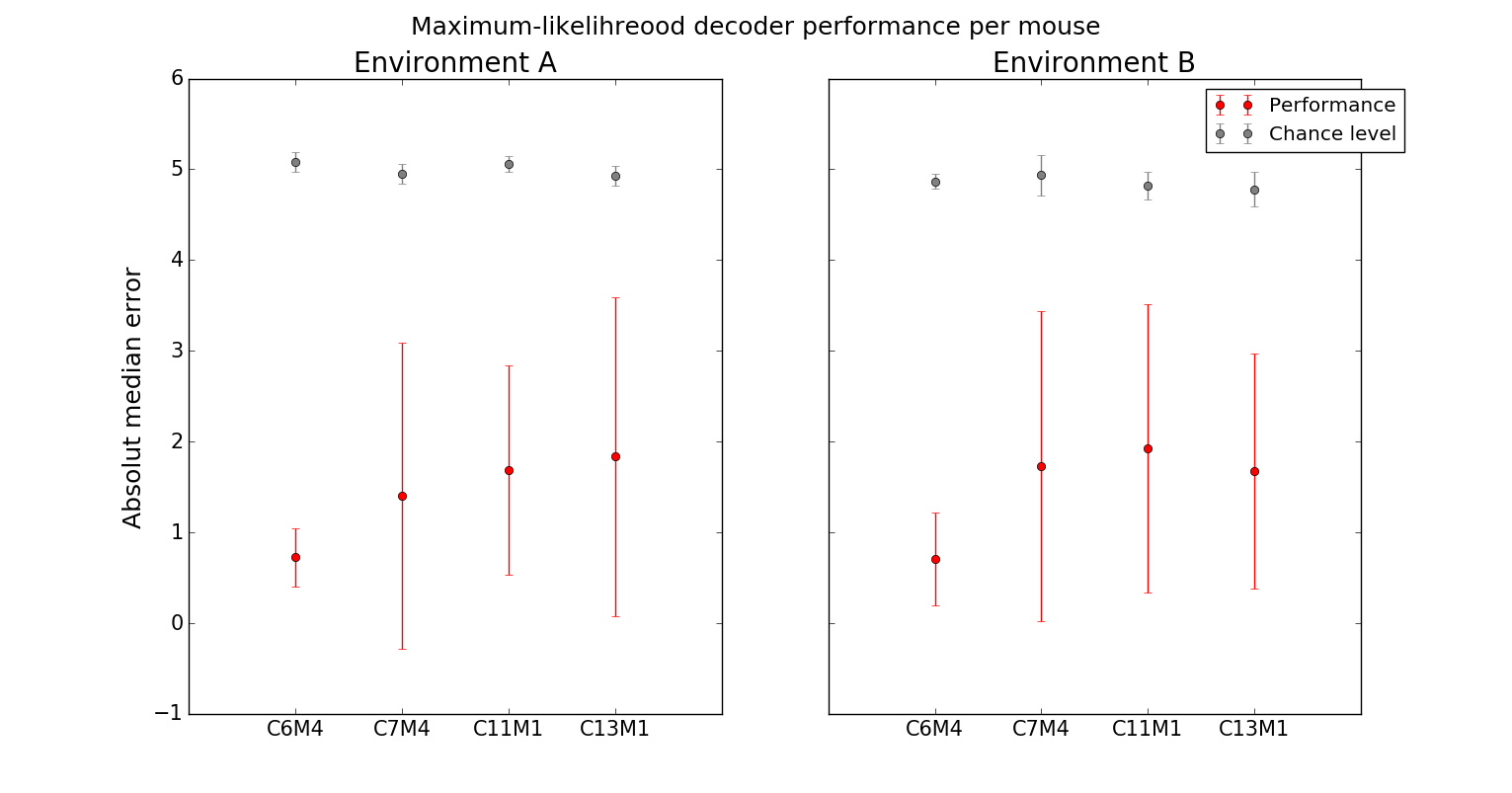
Figure : Neurons that participate in synchronous calcium events before running are unlikely to be activated in upcoming run epoch

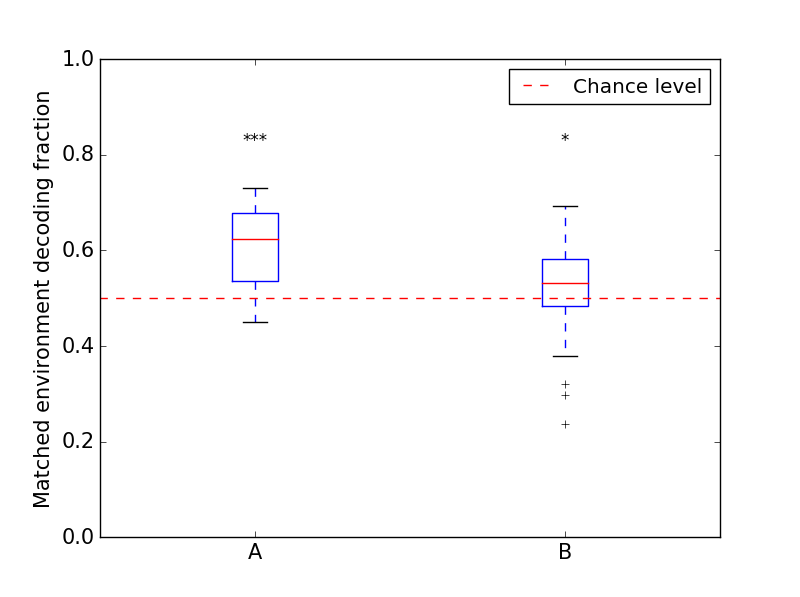
1. Distribution of number of neurons per synchronous calcium event (SCE) in environment A, calculated for all neurons (not only place cells). Data pooled from n=9 mice running on a linear track. Inset show the same in log scale on y axis.
2. Distribution of number of neurons that participated in SCE 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.
4. Same as A) for environment B
5. Same as B) for environment B
6. Same as C) for environment B
7. +H) Examples of SCE and the following run activity. Color is the amplitude of the peak of the calcium event. In both examples, some of the neurons active in the SCE participate in the following run epoch

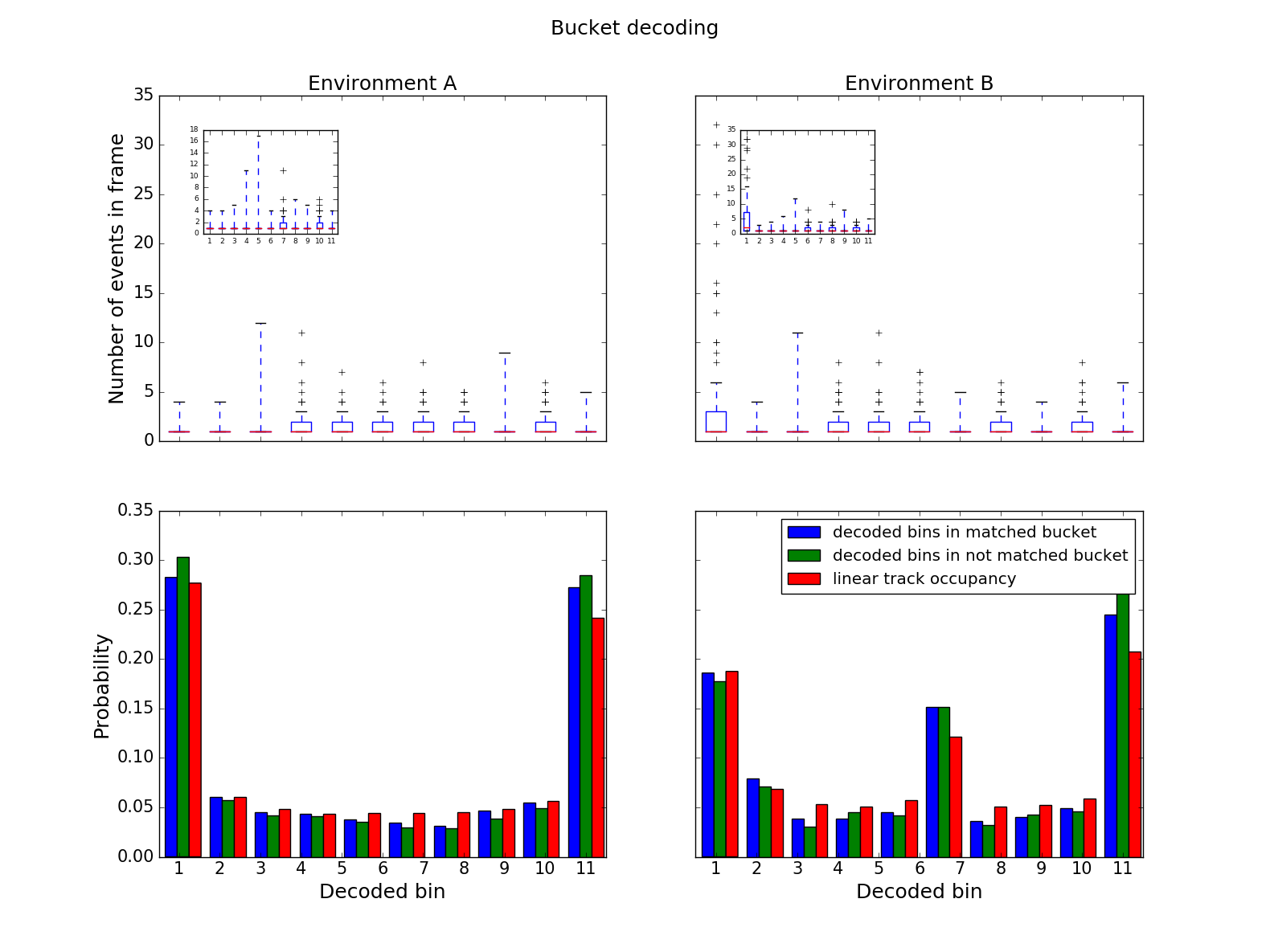


**Fig 4 : decoding bucket trials show no significant edge (reward?) representation**

1. Maximum likelihood estimation decoder on track, for each mouse separately. Absolute mean error units in bins, each bin is 8 cm long. .
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. Examples of decoder performance on the linear track
4. 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)
5. Density of the decoded bins in the matched\non matched environment and the natural occupation.



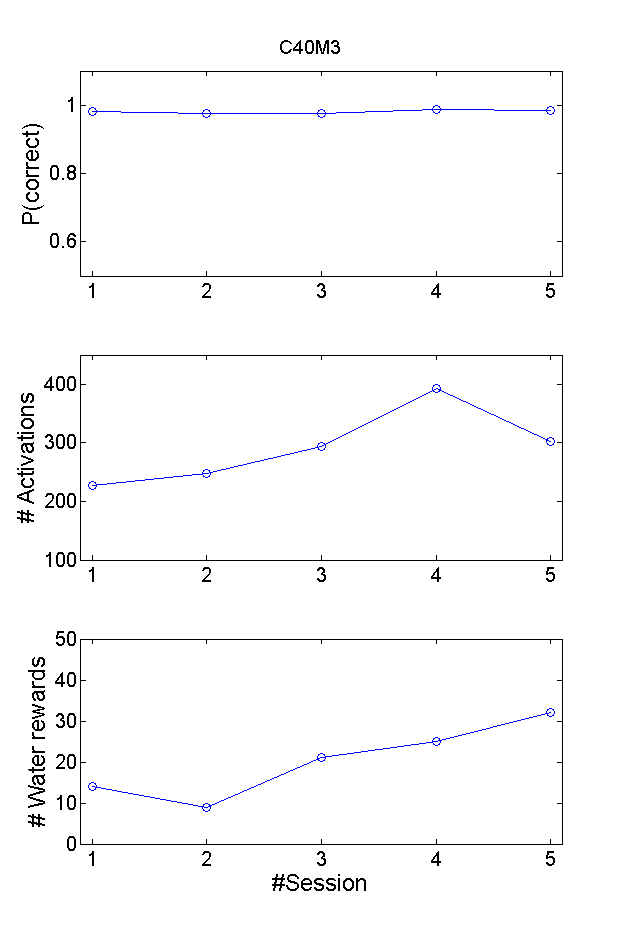




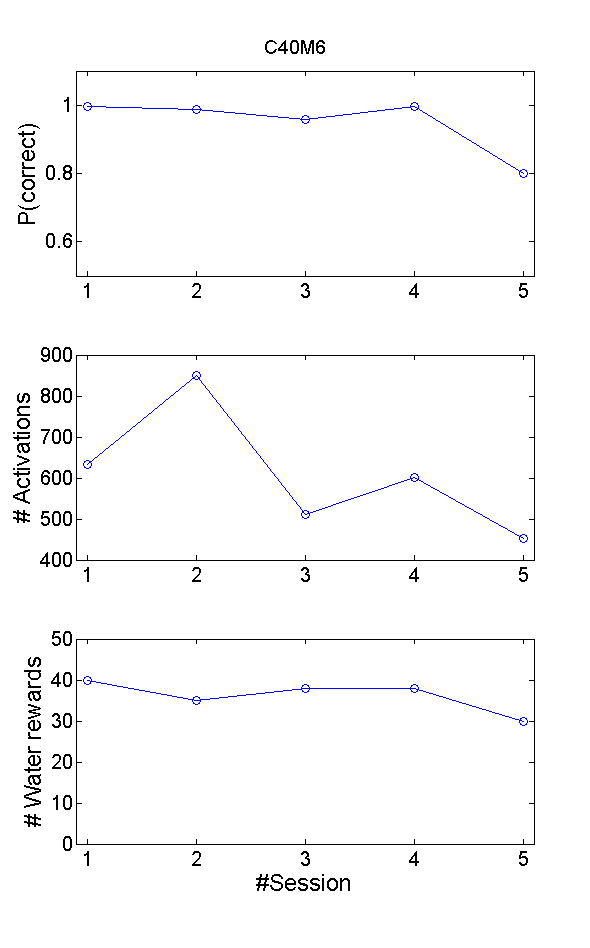
Figures for BAMBI results:

(not yet organized in order so each will have its description beneath

Phase 0 and 1:

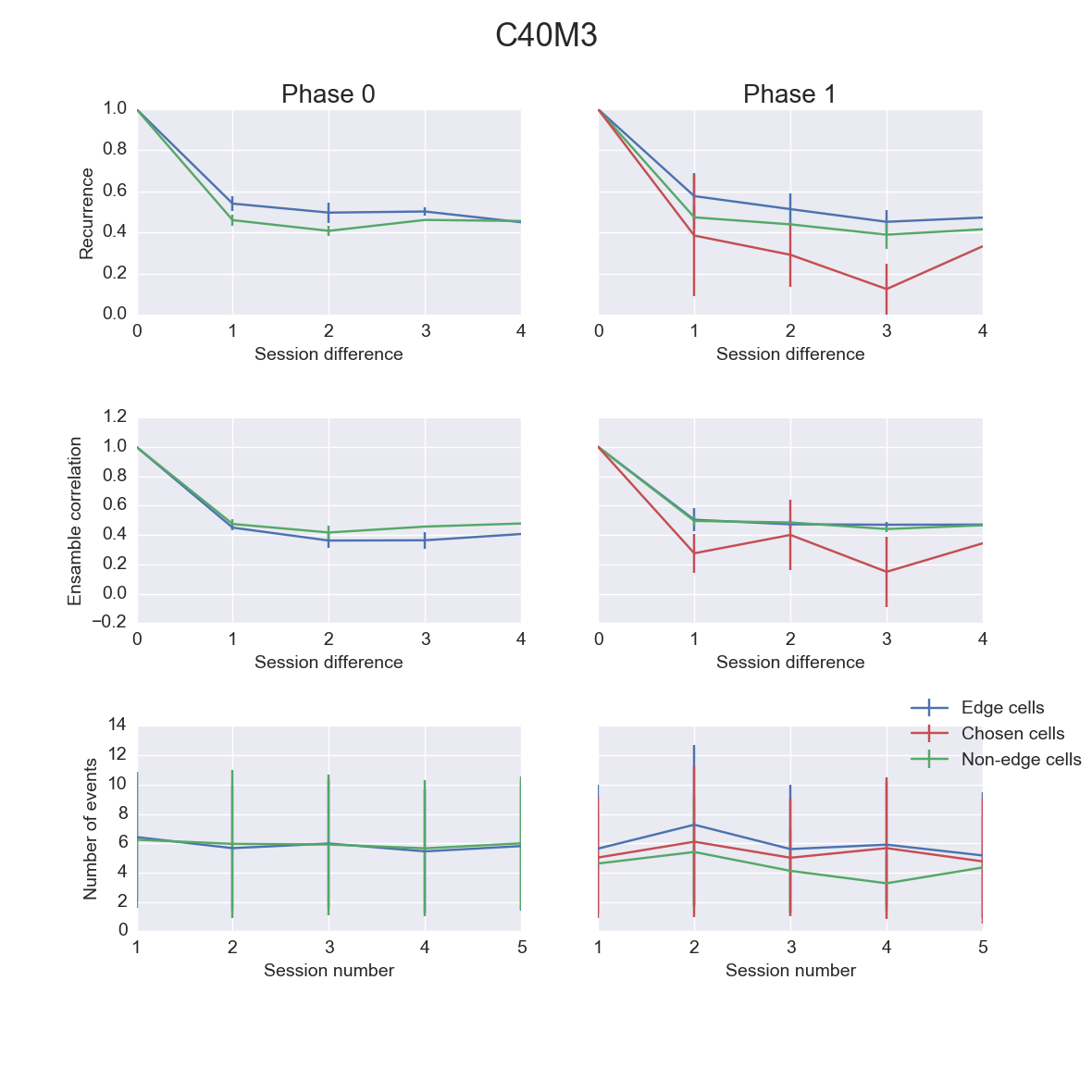


Number of activations (two cells that are active on the same window of time put of chosen edge cells) and dispensing of water reward for mouse 3. No significant increase.

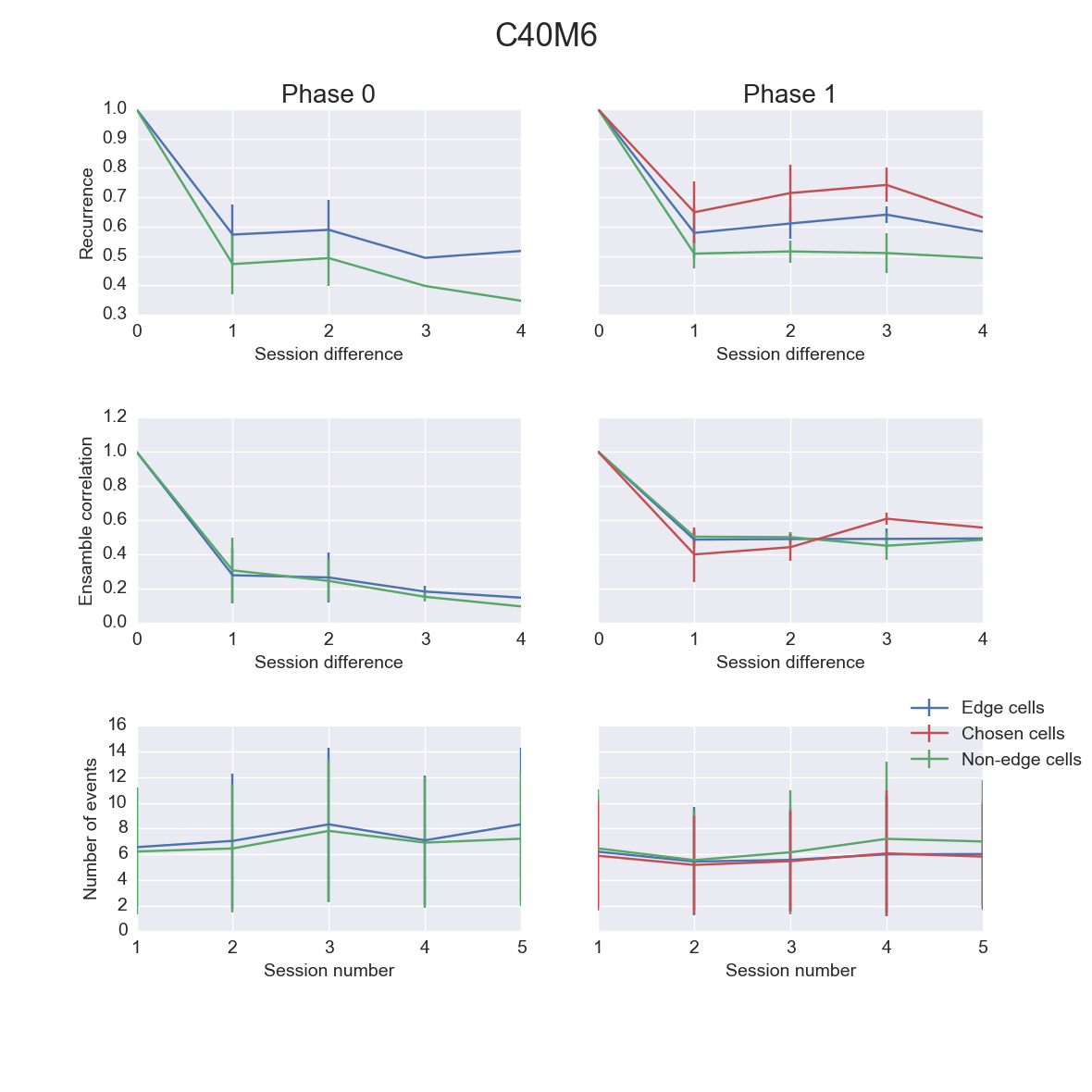


Same as before for mouse 6

Bucket dynamics:

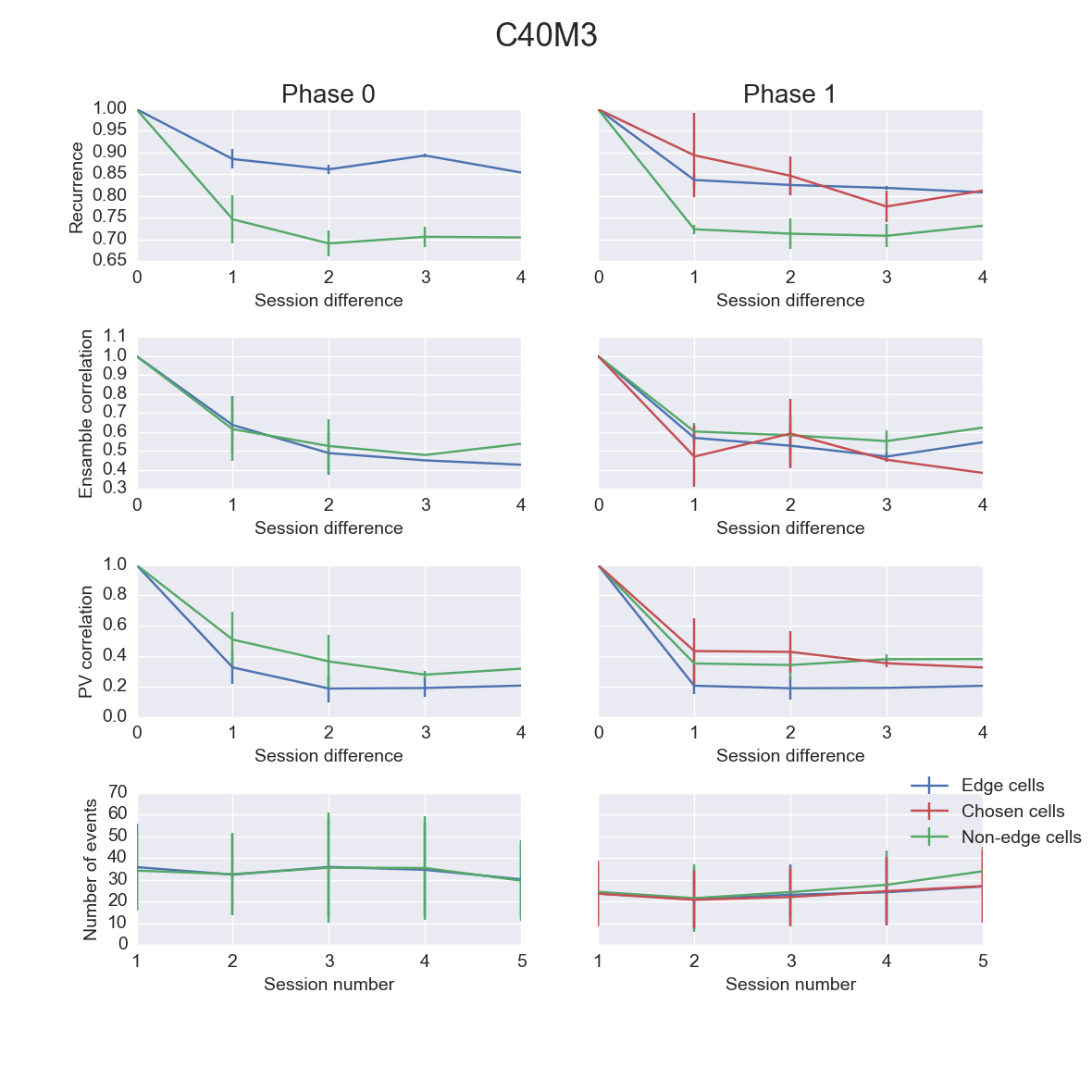


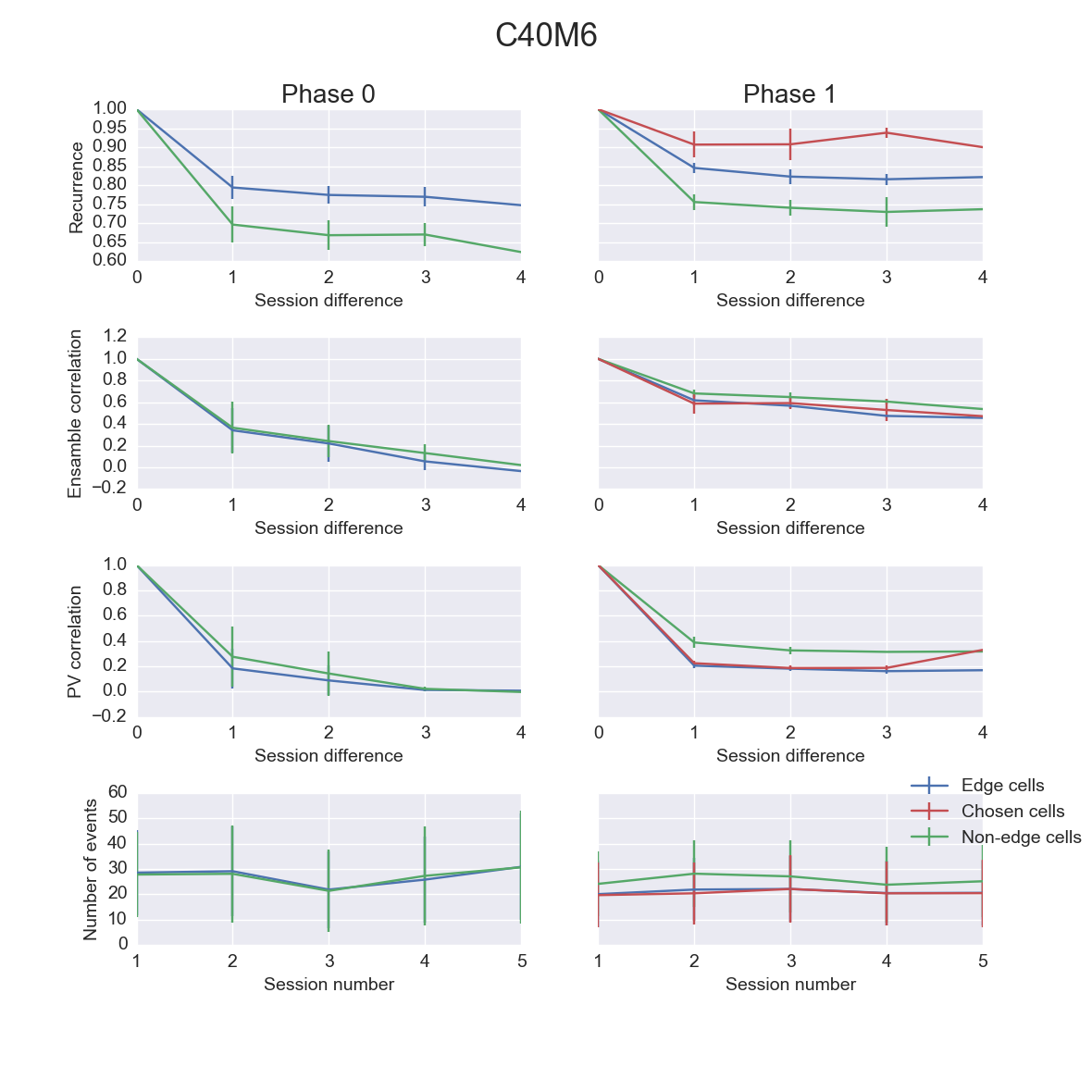
Dynamics tests for the bucket trials of mouse 3. The edge cells were chosen by parameters from the linear track, and the tests were done on the bucket trials for each session separately, and then averaged.



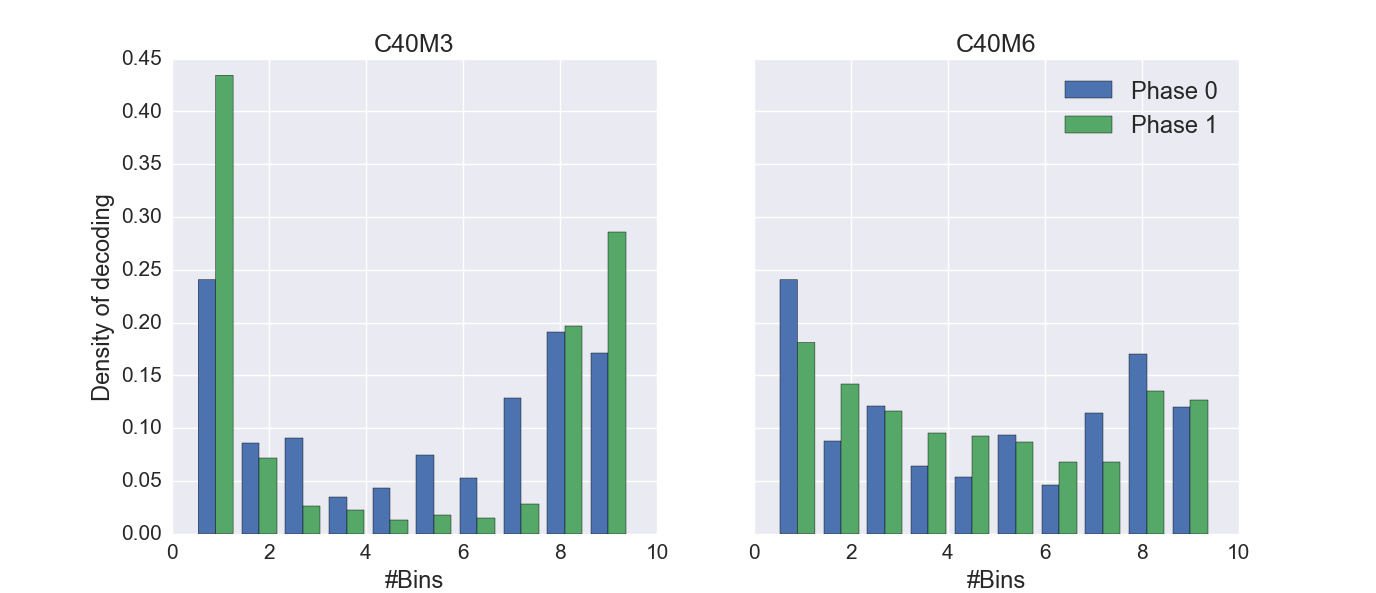
Same as before for mouse 6

Linear track dynamics:





Bucket decoding:



Density of decoding in bucket trials. Pool taken from all bucket trials for each mouse. Mouse 3 show higher edge decoding in phase 1 compared to its phase 0, while mouse 6 doesn’t.

Phase 2:

