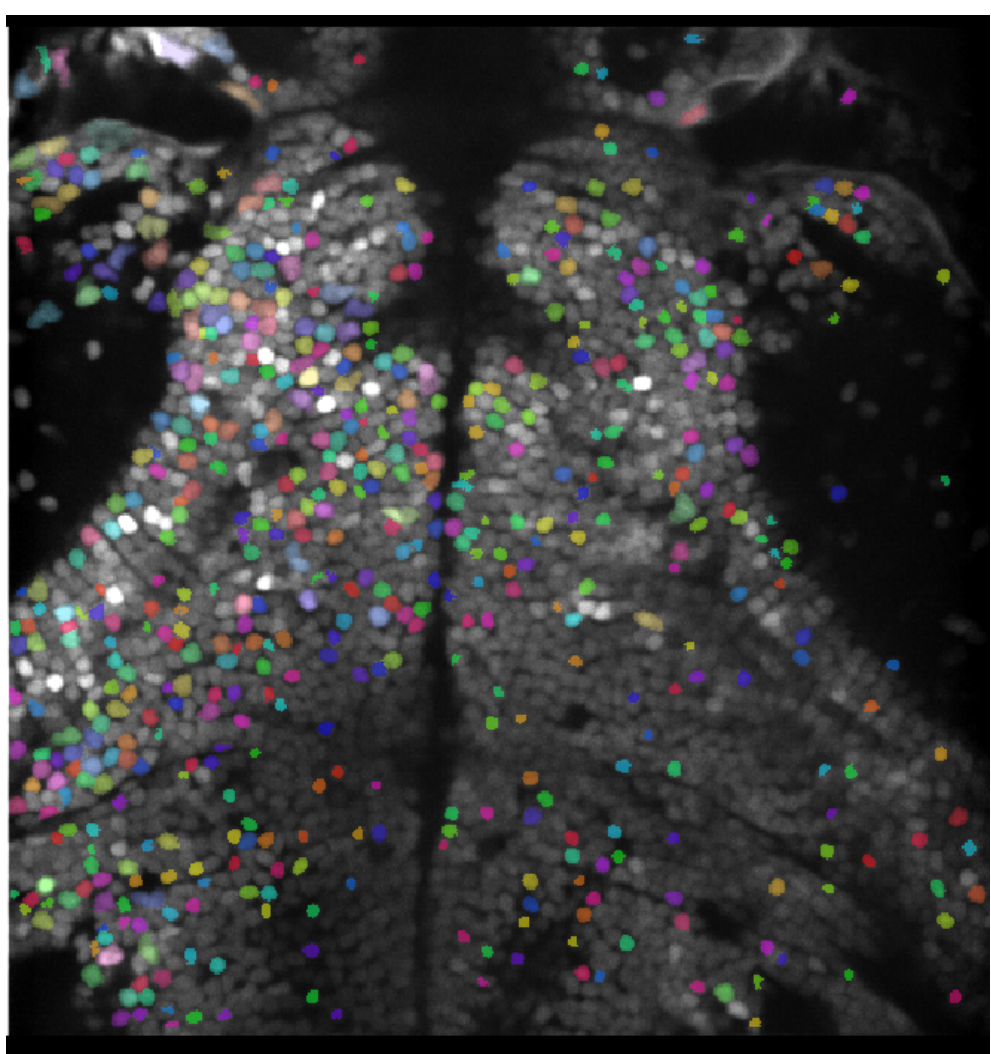


Motion blindness induced by color in zebrafish larvea

Danio rerio

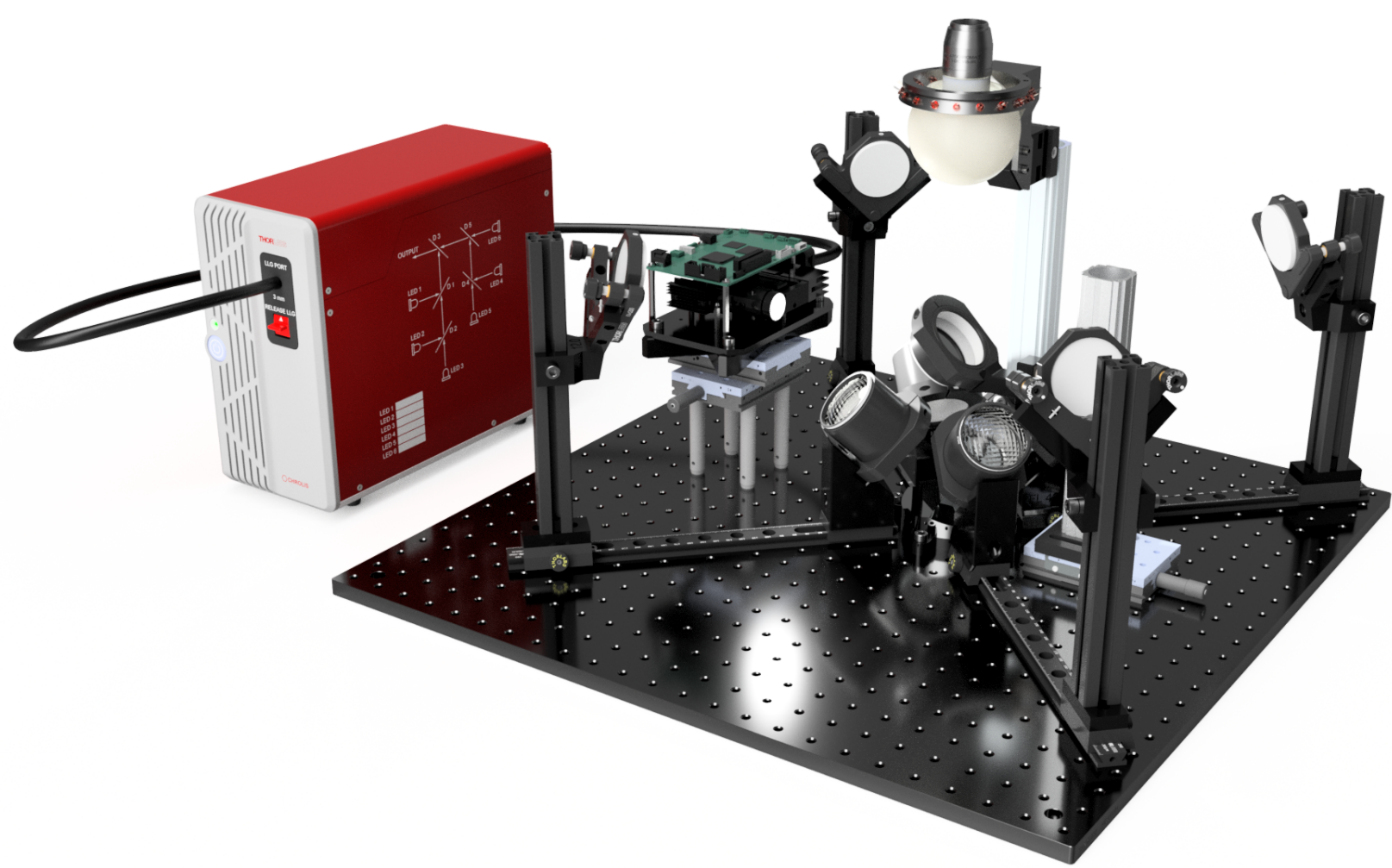
Alexander Wendt, Patrick Weygoldt

Systems Neurobiology, Department of Neurobiology, University of Tuebingen



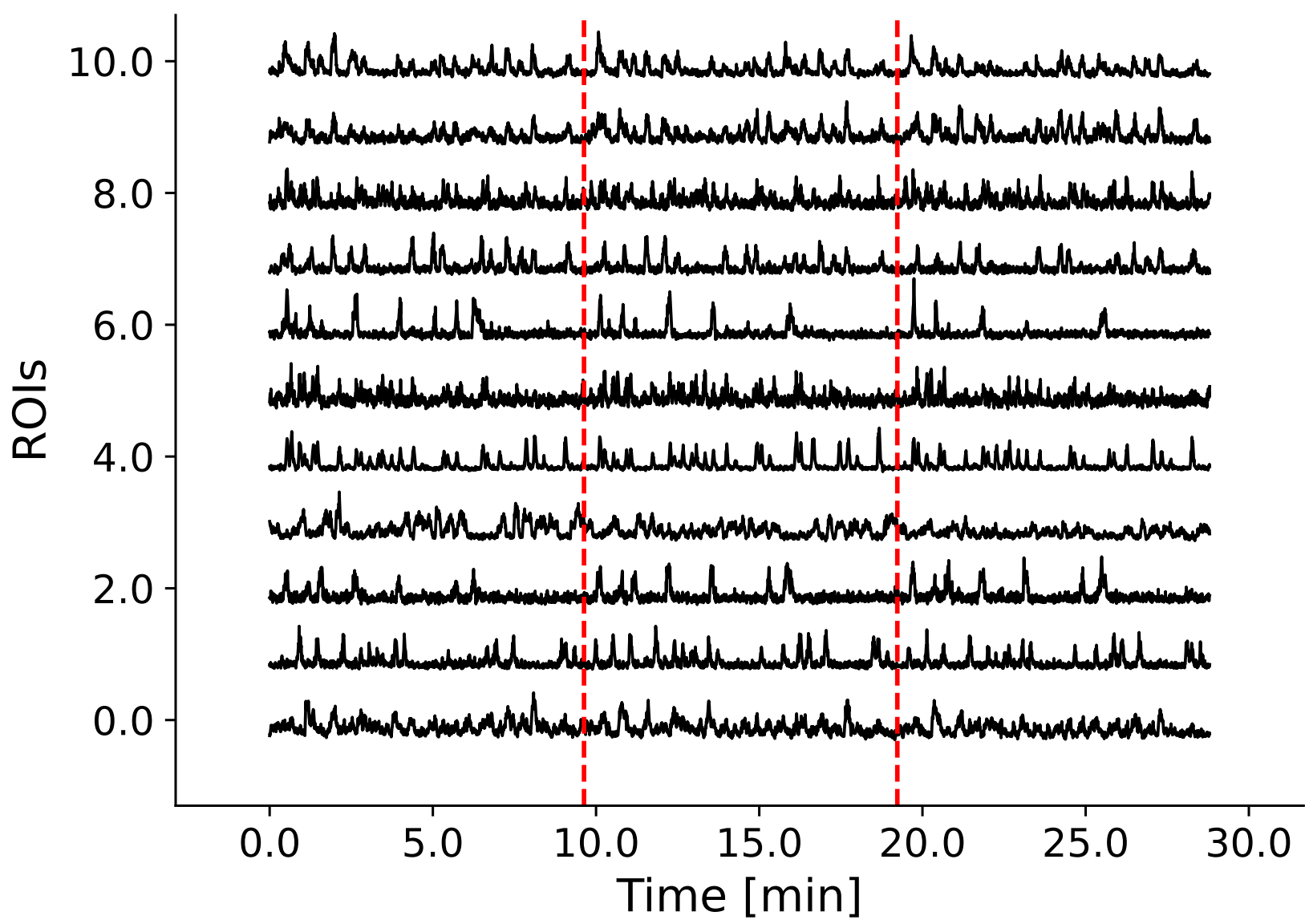
Introduction

Color has a big influence on motion vision in zebra-fish. Michael B. Orger (2004) displayed that zebra-fish in behavioural experiments show motion blind-ness to a grating of different colors, but little is known about the cortical structures conveying the „color-motion“ perception. We wanted to the investigate the optic tectum of the zebrafish larvae with calci-um imaging.

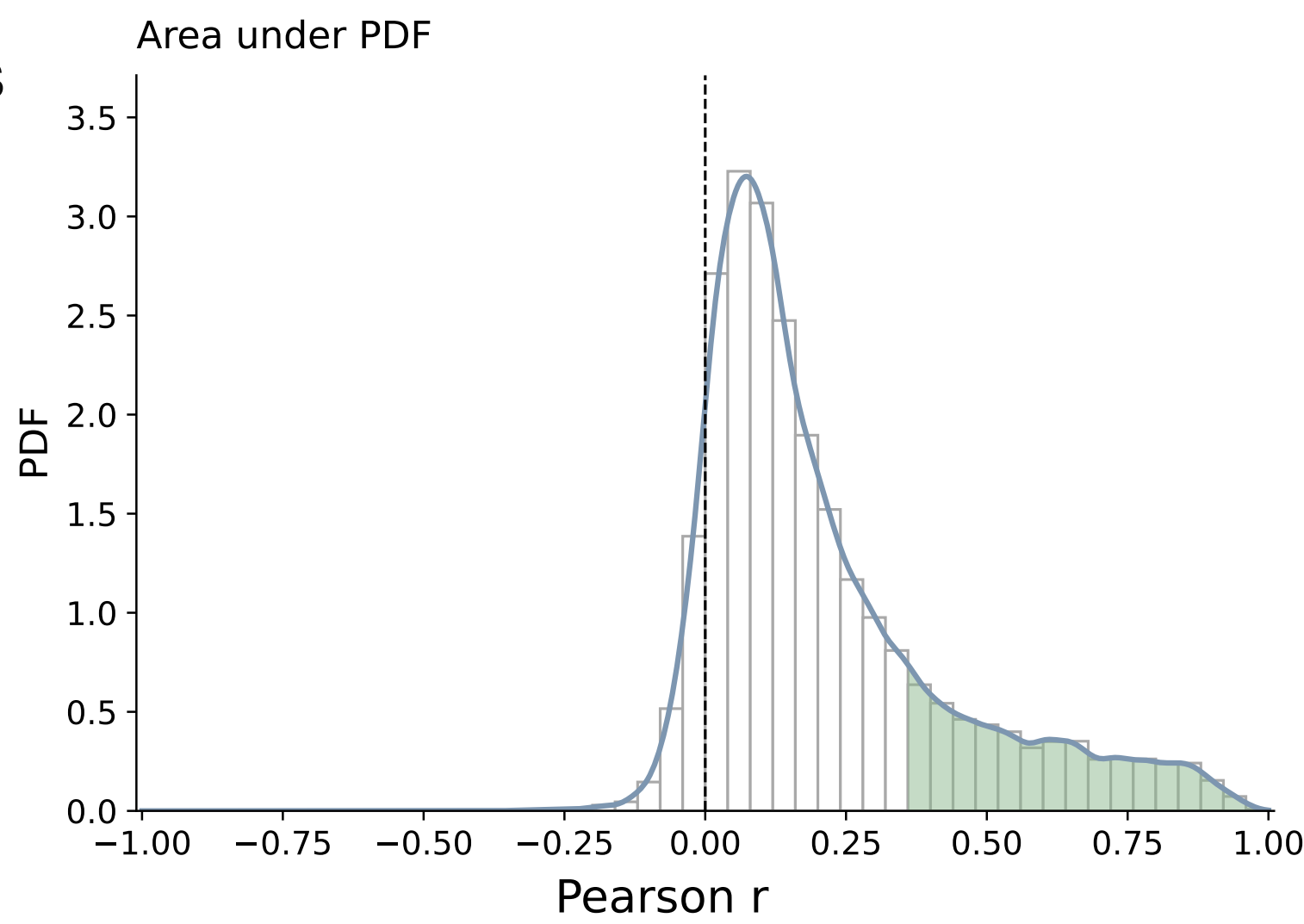


Preprocessing:

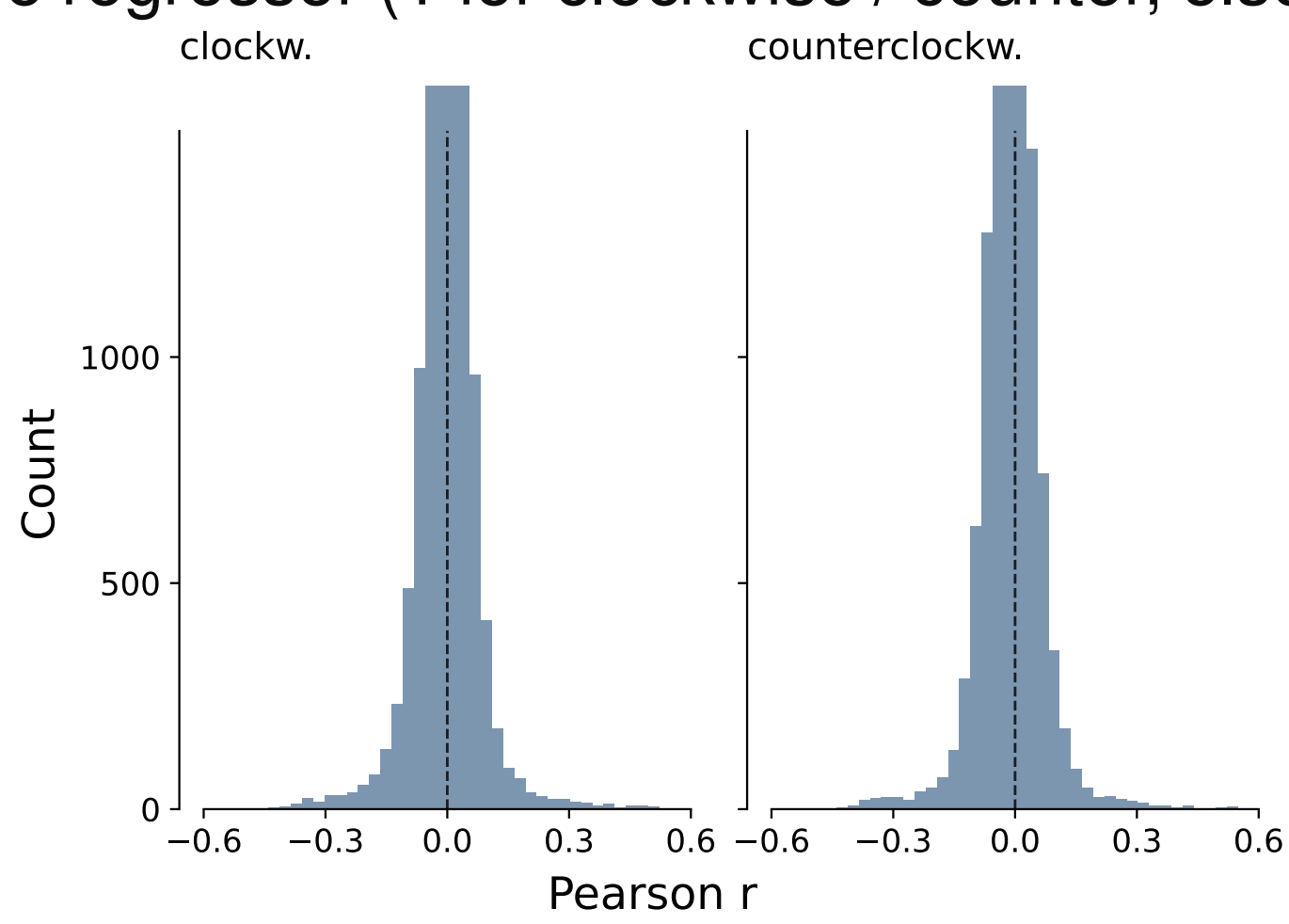
1. Region of Interests (ROI): corosponds to neu-rons with genetically. The lumiance F of the calcium imaging is calculated from the change of luminance normalized to the average luminance $F = \frac{\Delta F}{F}$.



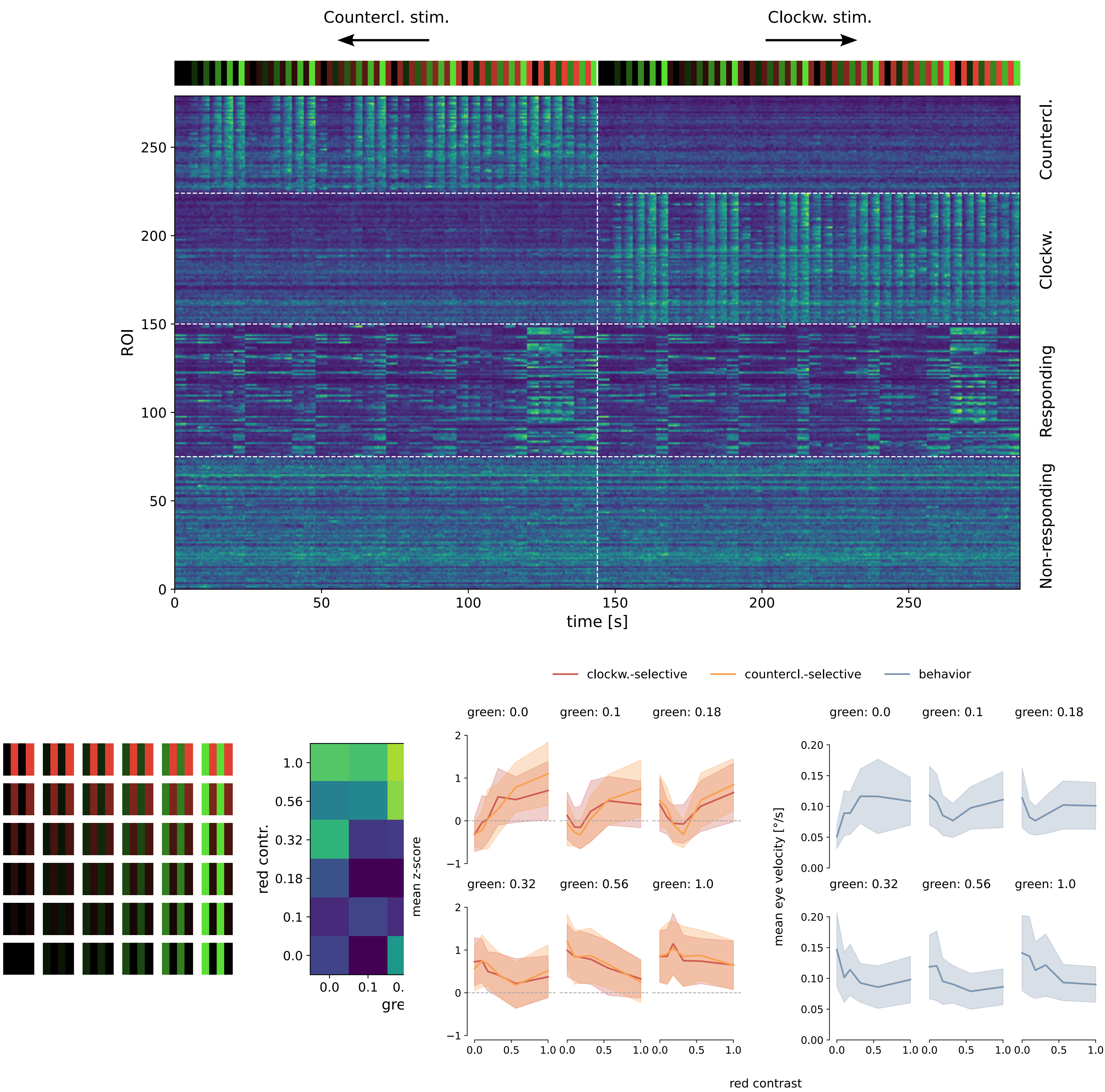
2. Active ROIs: To get the active ROIs we computed the correlation within 3 repeats of the same stimu-lus



2. Direction selective ROIs: next Step was to search for ROIs that correlated with a direction se-lective regressor (1 for clockwise / counter, else is 0)

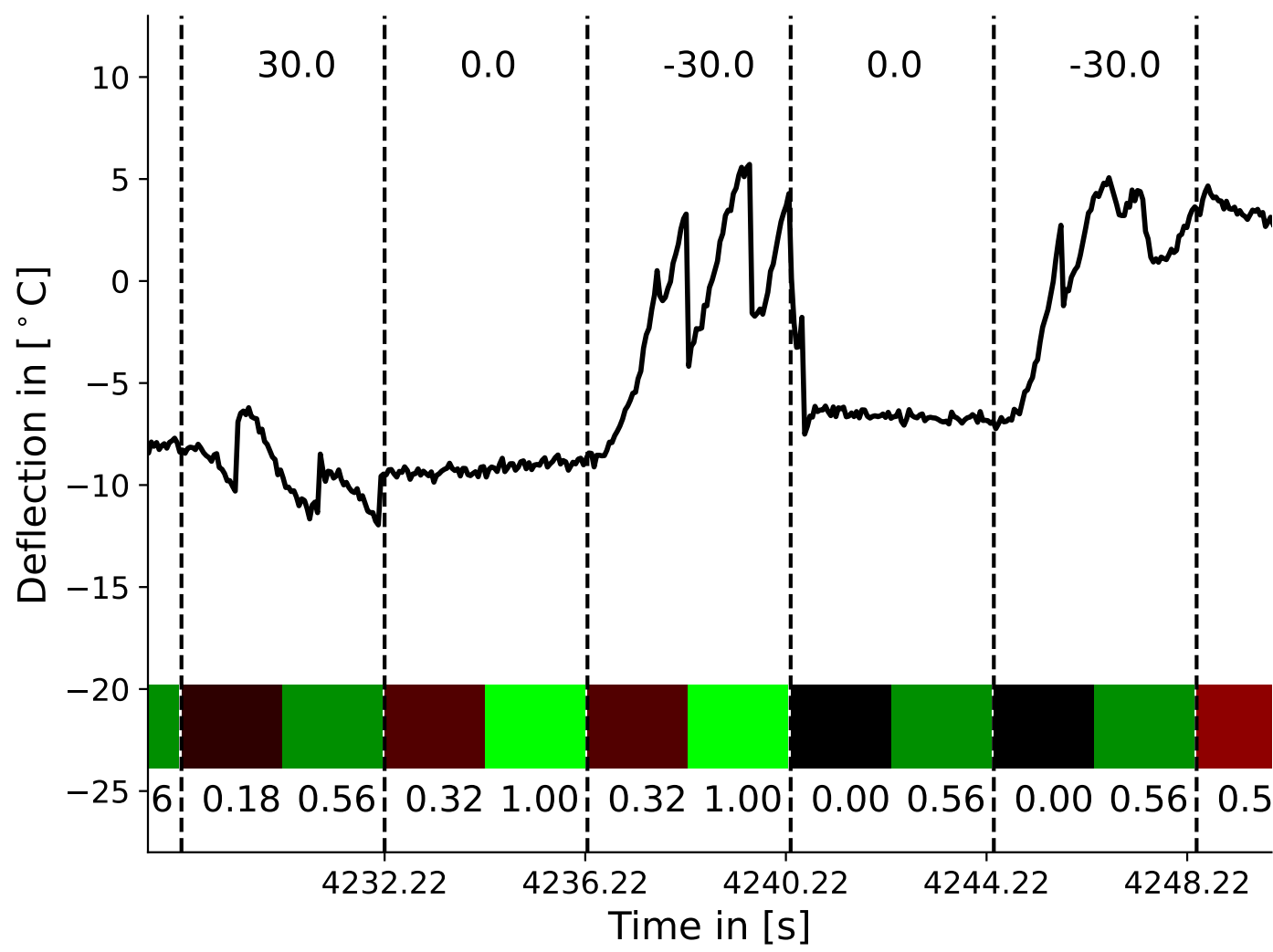


Calcium imaging with two photon microscope



Behavior

Hallo hier ist ein bloxj



Conclusion

- The optic tectum is mottion blind for various contrast levels