Overview

Geometry.zip contains scripts for reproducing the figures in Rosenthal et al, 2020 (Curr Biology). Contained within it are also post processed decoding results that follow the computationally demanding decoding analysis performed with the Neural Decoding Toolbox (Meyers, 2013). To reproduce the decoding analysis, please download the data files contained on neicommons on the MEGco Data set page (https://neicommons.nei.nih.gov/#/MEGco).

Within Geometry.zip, you will find the following directories:

`Geometry` contains the scripts that produce the figures as well as post-processed decoding results.

`Decoding` contains the scripts for performing the decoding analysis (which require the download of the MEGco data files)

`Behavioral_Data` contains data for the hue and luminance matching tasks that participants performed in the scanner while viewing stimuli. In the main experiment, subjects only performed the hue matching task, and in the task control experiment, subjects performed both tasks.

`Scan Sessions` contains data from the color naming experiment that was done in person with the 18 subjects

`mTurk` contains data from the color naming experiment that was done using Amazon Mechanical Turk

`toolbox` contains functions that are necessary for many of the scripts to run.

There are also several empty directories. These directories are populated by the decoding scripts or by the downloaded MEGco data. The directory structure was maintained for convenience, but the data was to large to include in HueLum.zip.

The decoding scripts used in the analysis are modified files from the Neural Decoding Toolbox that was graciously provided, with permission, by Ethan Meyers (Meyers, 2013). Anyone interested in using these files should contact Ethan Meyers directly, and cite his paper:

Meyers, E. (2013). The Neural Decoding Toolbox. Frontiers in Neuroinformatics, 7:8