

Data for an article by Menciloglu, Grabowecky, & Suzuki (2019), titled “Neural, functional, and aesthetic impacts of spatially heterogeneous flicker: A potential role of natural flicker,” in press at *PLoS ONE*

1. EEG data:

Each MATLAB file contains the Morlet-wavelet convolved and baselined EEG data (surface-Laplacian transformed) for a specific experimental condition (averaged across trials per condition) as a function of time (relative to stimulus onset) and wavelet center frequency for each scalp site and each participant. Each file is formatted as a 4-dimensional matrix: [60 wavelet center frequencies] by [2,561 1/512-s time-points] by [18 participants] by [64 scalp sites]. The wavelet-center-frequency indices can be translated to frequencies using **freq.mat**. The time-points can be translated to time (in seconds) relative to stimulus onset using **tpt2sec.mat**. The mapping of site indices to conventional scalp site names is presented on the next page.

E1_m02_v.mat <— Experiment 1, 2-region multistable, visual only
E1_m04_v.mat <— Experiment 1, 4-region multistable, visual only
E1_m16_v.mat <— Experiment 1, 16-region multistable, visual only
E1_lc_v.mat <— Experiment 1, local control, visual only
E1_gc_m02_v.mat <— Experiment 1, global control matched to 2-region multistable, visual only
E1_gc_m04_v.mat <— Experiment 1, global control matched to 4-region multistable, visual only
E1_gc_m16_v.mat <— Experiment 1, global control matched to 16-region multistable, visual only
E1_m02_av.mat <— Experiment 1, 2-region multistable, audiovisual
E1_m04_av.mat <— Experiment 1, 4-region multistable, audiovisual
E1_m16_av.mat <— Experiment 1, 16-region multistable, audiovisual
E1_lc_av.mat <— Experiment 1, local control, audiovisual
E1_gc_m02_av.mat <— Experiment 1, global control matched to 2-region multistable, audiovisual
E1_gc_m04_av.mat <— Experiment 1, global control matched to 4-region multistable, audiovisual
E1_gc_m16_av.mat <— Experiment 1, global control matched to 16-region multistable, audiovisual
E2_m02_v.mat <— Experiment 2, 2-region multistable, visual only
E2_m04_v.mat <— Experiment 2, 4-region multistable, visual only
E2_m16_v.mat <— Experiment 2, 16-region multistable, visual only
E2_lc_v.mat <— Experiment 2, local control, visual only
E2_gc_m02_v.mat <— Experiment 2, global control matched to 2-region multistable, visual only
E2_gc_m04_v.mat <— Experiment 2, global control matched to 4-region multistable, visual only
E2_gc_m16_v.mat <— Experiment 2, global control matched to 16-region multistable, visual only
E2_sa_m02_v.mat <— Experiment 2, spatial average matched to 2-region multistable, visual only
E2_sa_m04_v.mat <— Experiment 2, spatial average matched to 4-region multistable, visual only
E2_sa_m16_v.mat <— Experiment 2, spatial average matched to 16-region multistable, visual only
E2_m02_av.mat <— Experiment 2, 2-region multistable, audiovisual
E2_m04_av.mat <— Experiment 2, 4-region multistable, audiovisual
E2_m16_av.mat <— Experiment 2, 16-region multistable, audiovisual
E2_lc_av.mat <— Experiment 2, local control, audiovisual
E2_gc_m02_av.mat <— Experiment 2, global control matched to 2-region multistable, audiovisual
E2_gc_m04_av.mat <— Experiment 2, global control matched to 4-region multistable, audiovisual
E2_gc_m16_av.mat <— Experiment 2, global control matched to 16-region multistable, audiovisual
E2_sa_m02_av.mat <— Experiment 2, spatial average matched to 2-region multistable, audiovisual
E2_sa_m04_av.mat <— Experiment 2, spatial average matched to 4-region multistable, audiovisual
E2_sa_m16_av.mat <— Experiment 2, spatial average matched to 16-region multistable, audiovisual
freq.mat <— a row vector that translates wavelet-center-frequency indices to frequencies
tpt2sec.mat <— a row vector that translates time-points into seconds

Site-index-to-conventional-scalp-site-name mapping

1: Fp1	23: P7	45: FC4
2: AF7	24: P9	46: FC2
3: AF3	25: PO7	47: FCz
4: F1	26: PO3	48: Cz
5: F3	27: O1	49: C2
6: F5	28: Iz	50: C4
7: F7	29: Oz	51: C6
8: FT7	30: POz	52: T8
9: FC5	31: Pz	53: CP8
10: FC3	32: CPz	54: CP6
11: FC1	33: Fpz	55: CP4
12: C1	34: Fp2	56: CP2
13: C3	35: AF8	57: P2
14: C5	36: AF4	58: P4
15: T7	37: AFz	59: P6
16: TP7	38: Fz	60: P8
17: CP5	39: F2	61: P10
18: CP3	40: F4	62: PO8
19: CP1	41: F6	63: PO4
20: P1	42: F8	64: O2
21: P3	43: FC8	
22: P5	44: FC6	

2. Behavioral data

The mean aesthetic response to each experimental condition (averaged across trials per condition as with the EEG data) is provided for each participant in the Excel file named, **behavioral_data.xlsx**. The data from Experiment 1 and Experiment 2 are presented in separate worksheets. In each worksheet, the left column shows participant identification numbers, the middle column specifies conditions (the labeling is the same as for the EEG data; see above), and the right column presents the trial-averaged aesthetic responses. Within each experiment, the numerical participant identifiers are consistent for the behavioral and EEG data. Separate groups of participants participated in the two experiments.