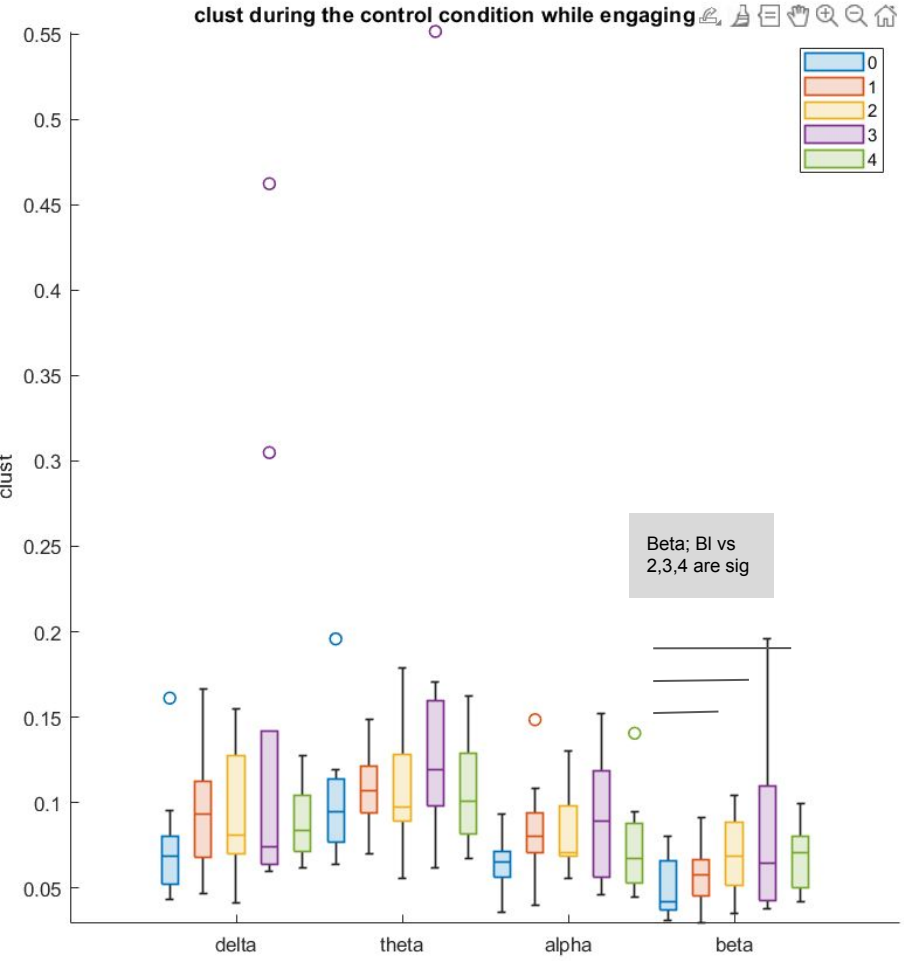
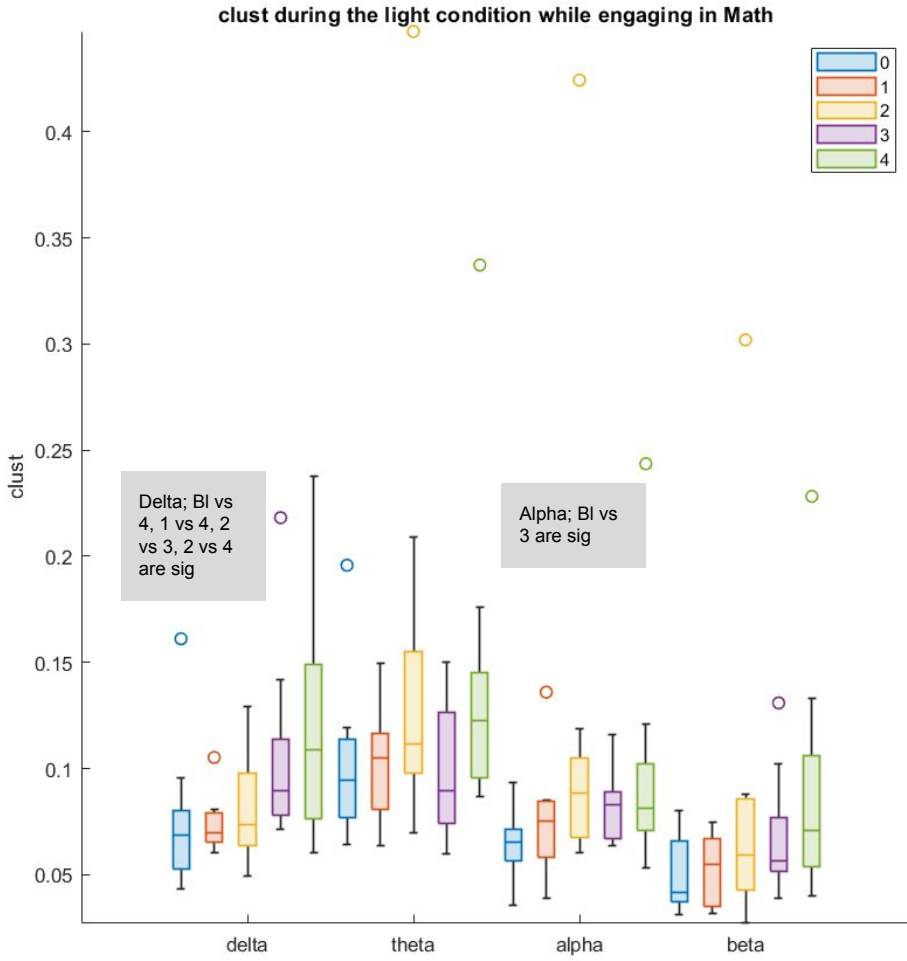
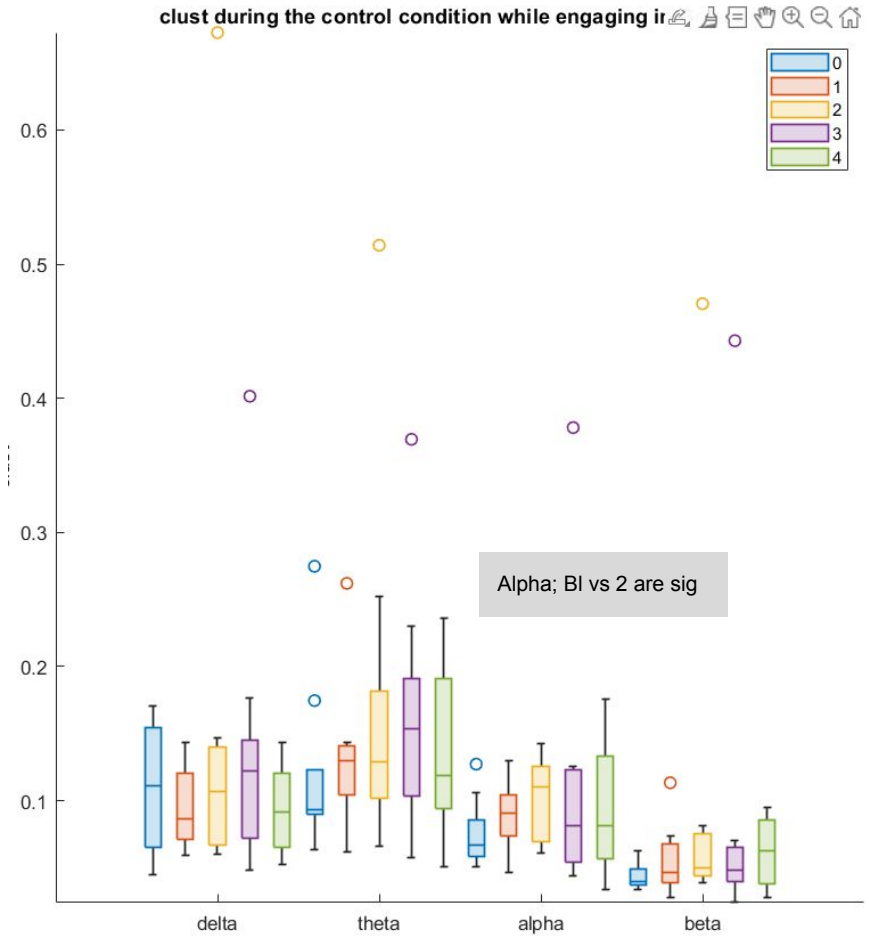
1. compare temporal evolution of metrics within frequency bands and tasks, i.e., reproduce figures 1 and S1 from the paper for the rest of the tasks. For this, compare all the time points within one frequency band and task (e.g., not just baseline and t1,t2, etc.)

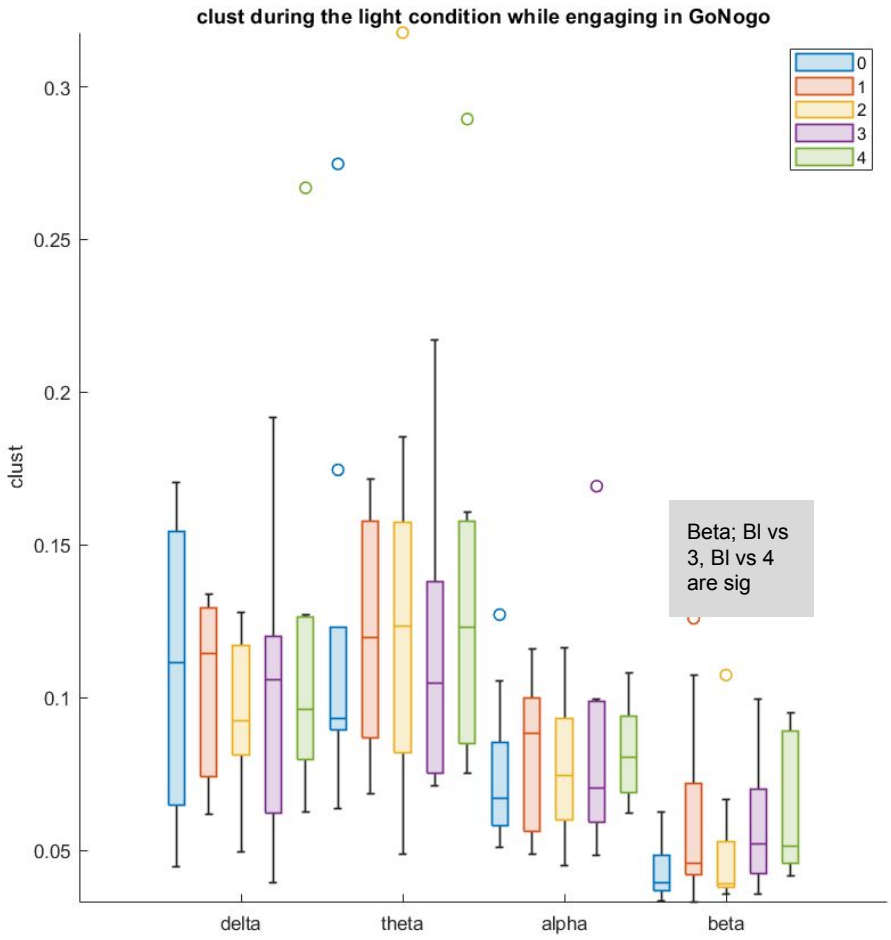
Math task: Clustering



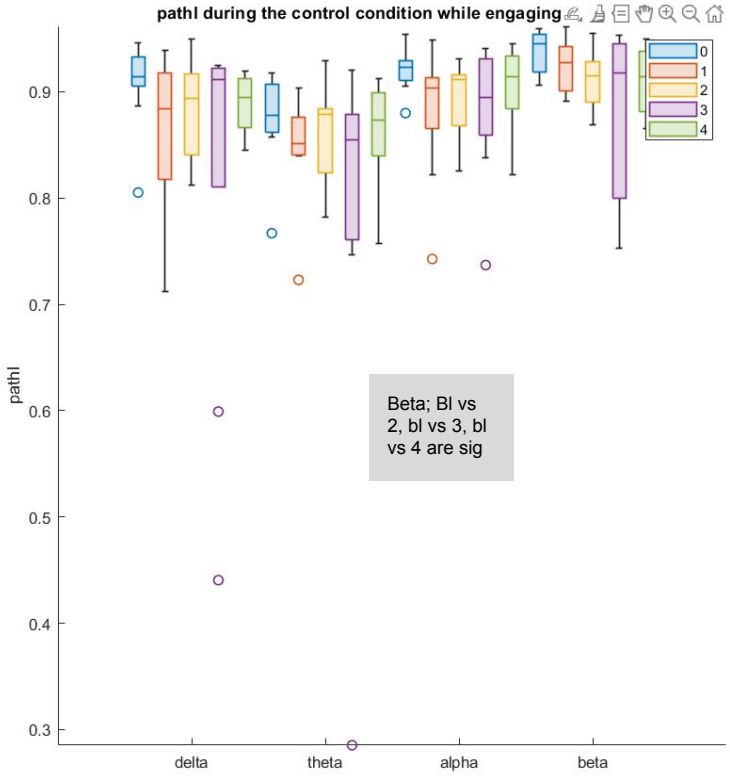


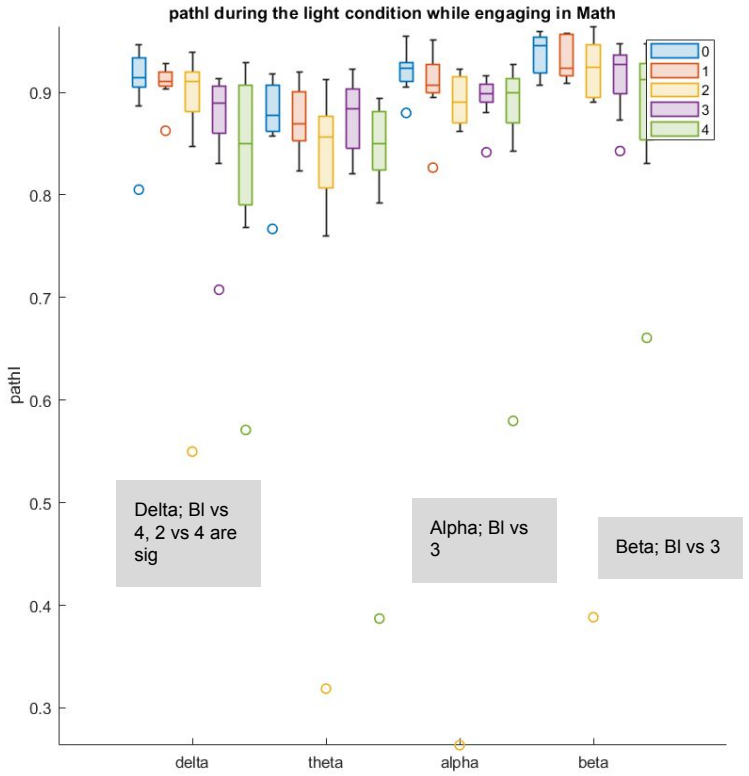
Go-no go task: Clustering



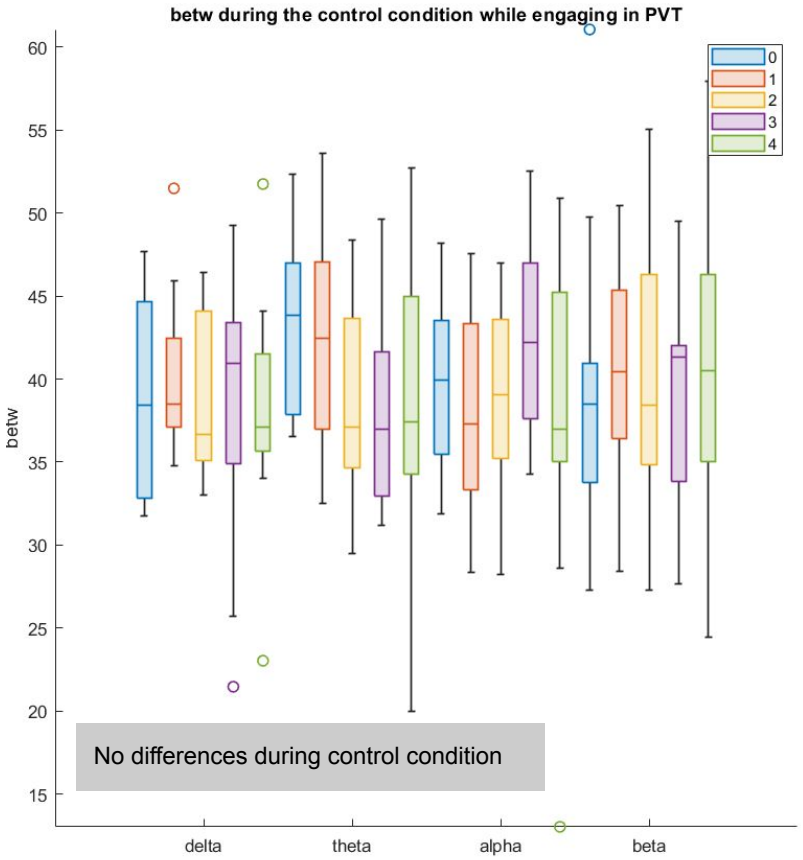


Math task: path length

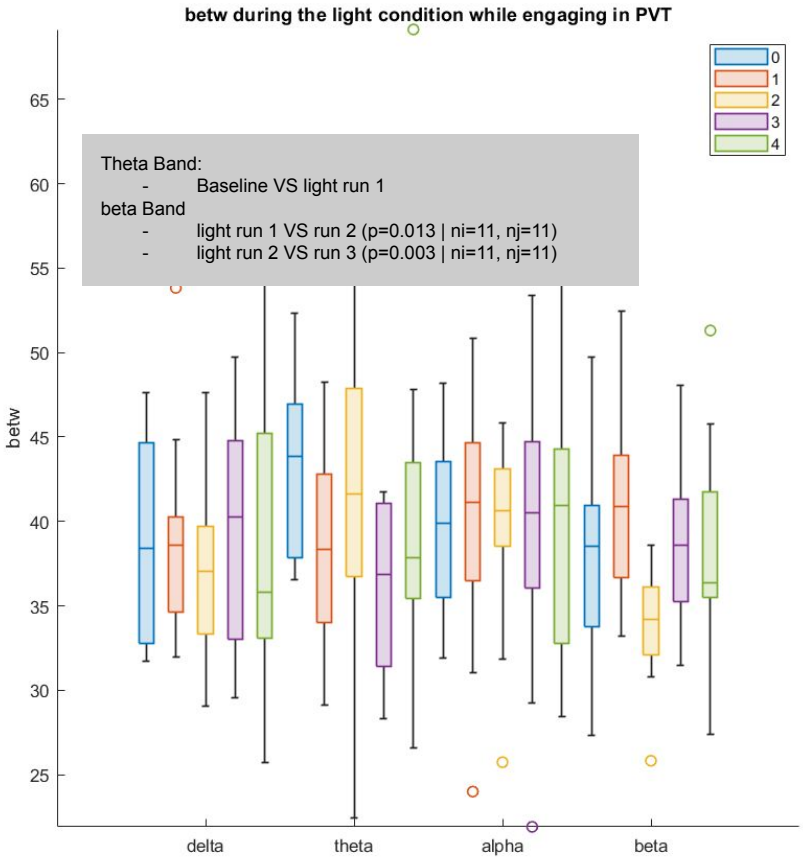




PV Task: Betweenness Centrality



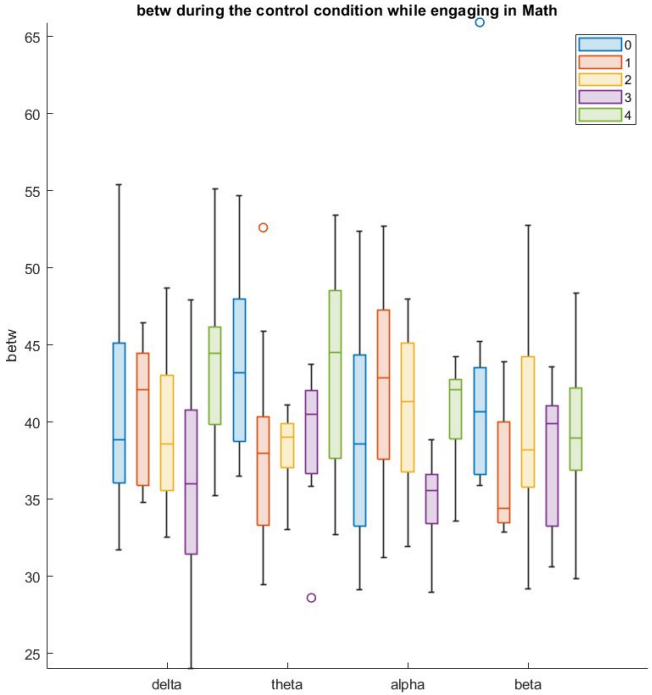
No differences during control condition

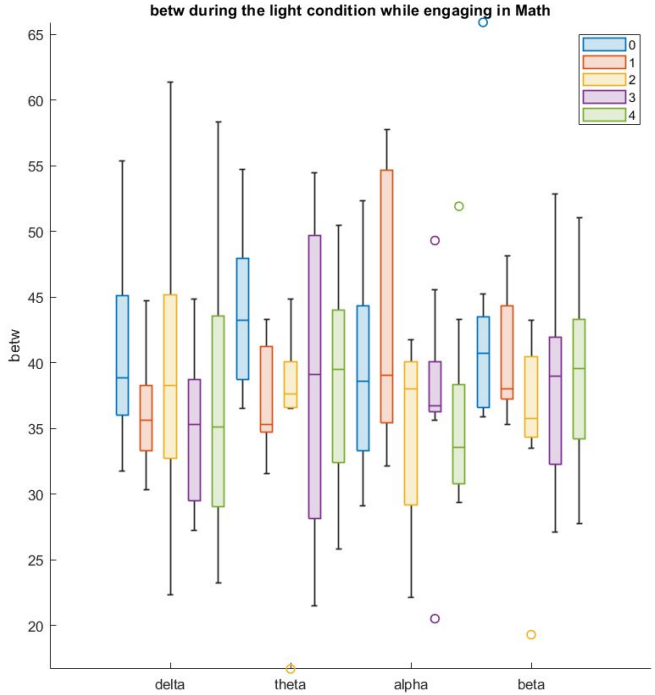


Theta Band:
- Baseline VS light run 1

beta Band
- light run 1 VS run 2 (p=0.013 | ni=11, nj=11)
- light run 2 VS run 3 (p=0.003 | ni=11, nj=11)

MathTask: Betweenness Centrality





control

delta

- control run 3 VS run 4 * SIGNIFICANT (p=0.027 | ni=9, nj=9)

alpha

- control run 1 VS run 3 * SIGNIFICANT (p=0.011 | ni=9, nj=9)
- control run 2 VS run 3 * SIGNIFICANT (p=0.023 | ni=9, nj=9)
- control run 3 VS run 4 * SIGNIFICANT (p=0.003 | ni=9, nj=9)

light

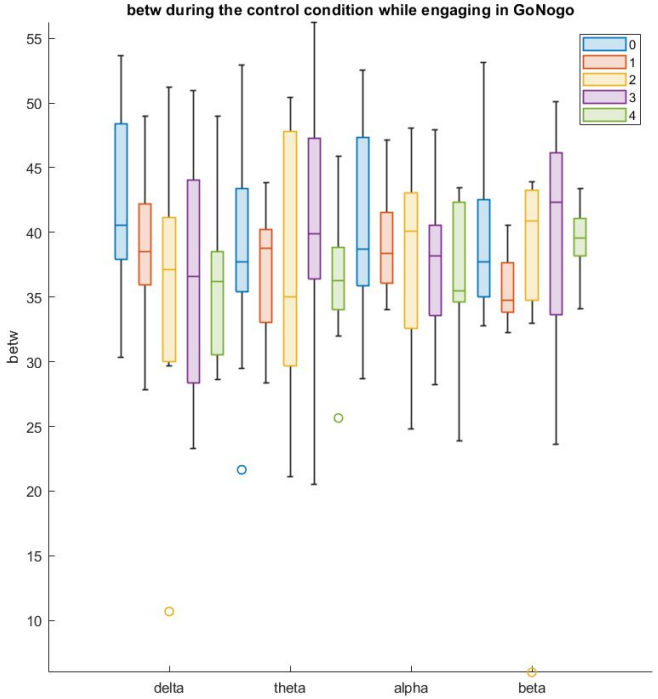
theta

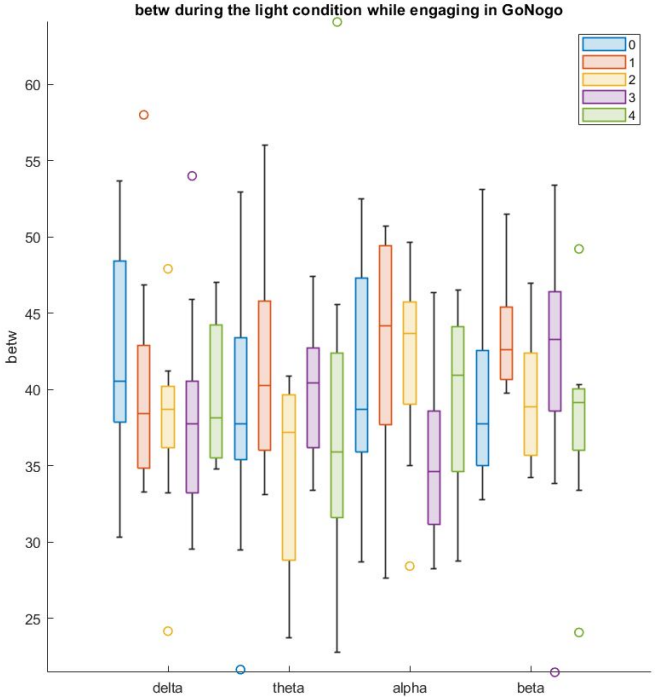
- Baseline VS light run 1 * SIGNIFICANT!!!

alpha

- light run 1 VS run 4 * SIGNIFICANT (p=0.040 | ni=9, nj=9)

Go NoGo : Betweenness Centrality





control

delta

- Baseline VS control run 2 * SIGNIFICANT!!!
- Baseline VS control run 4 * SIGNIFICANT!!!

light

theta

- light run 2 VS run 3 * SIGNIFICANT (p=0.014 | ni=9, nj=9)

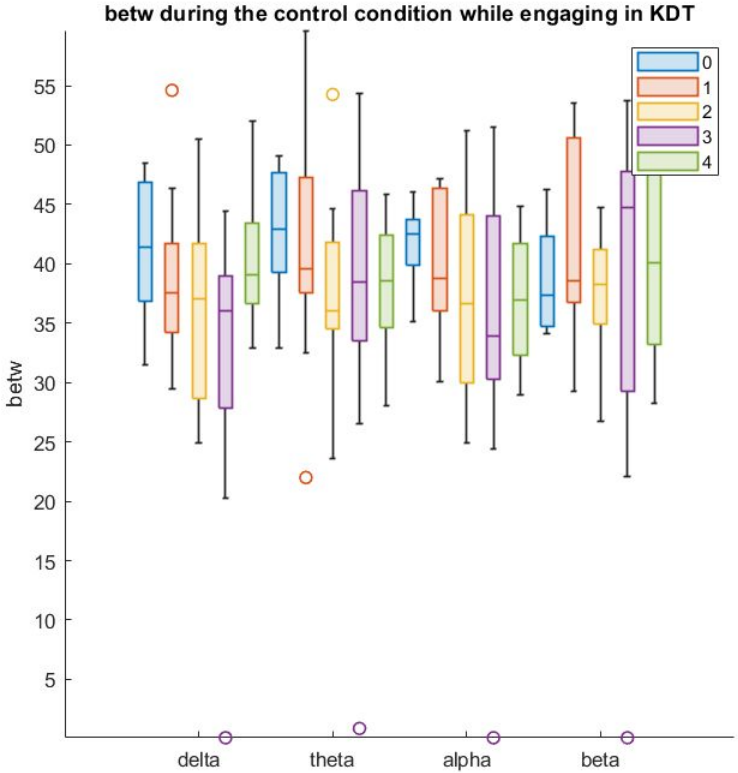
alpha

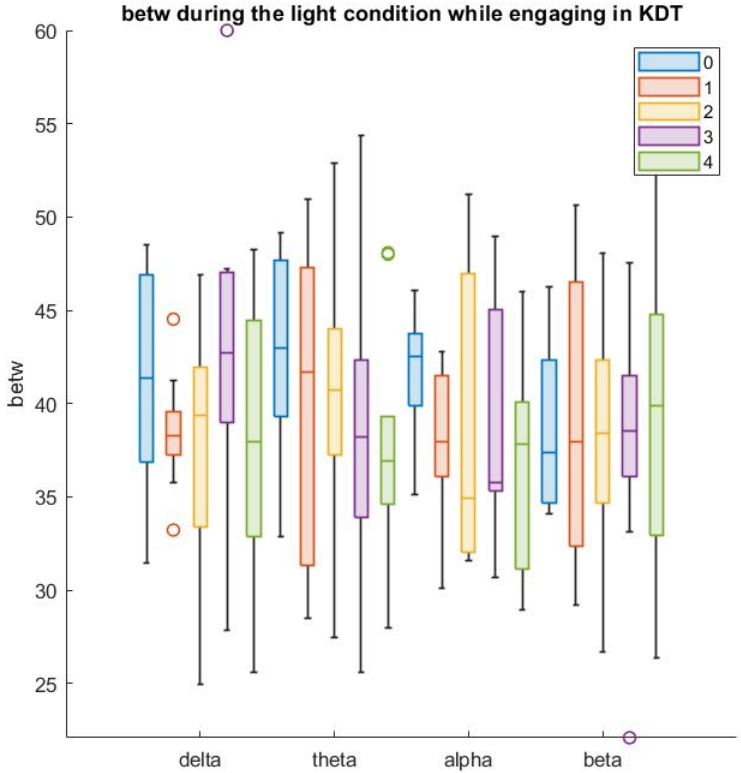
- Baseline VS light run 3 * SIGNIFICANT!!!
- light run 2 VS run 3 * SIGNIFICANT (p=0.047 | ni=9, nj=9)

beta

- Baseline VS light run 1 * SIGNIFICANT!!!

KD task: Betweenness Centrality





control

Alpha band

- Baseline VS control run 4 * SIGNIFICANT!!!

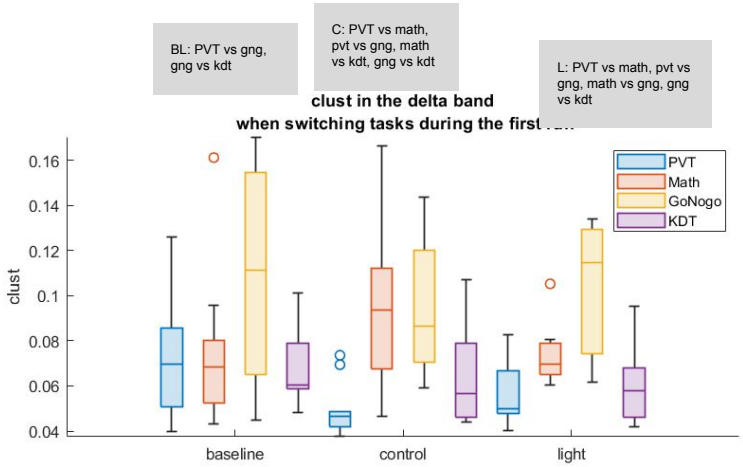
Light

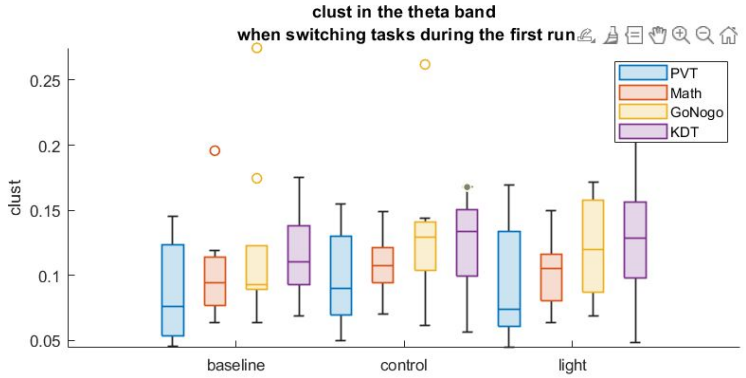
alpha

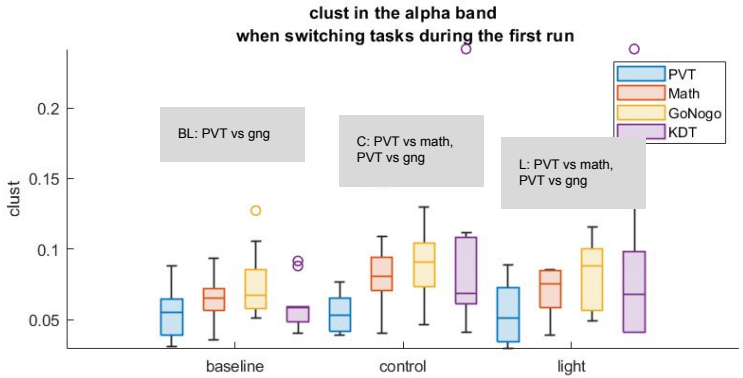
- Baseline VS light run 1 * SIGNIFICANT!!!
- Baseline VS light run 4 * SIGNIFICANT!!!

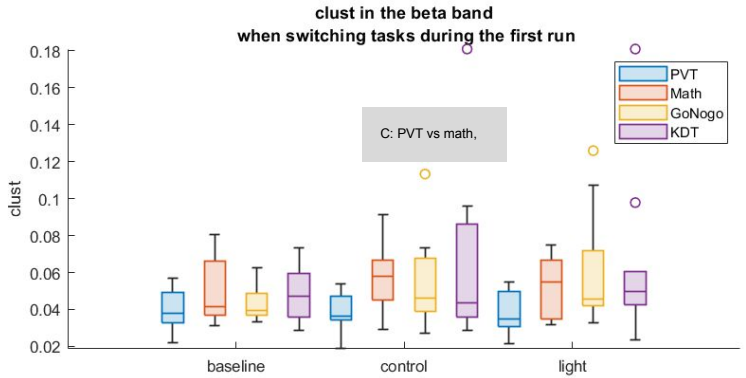
2. compare tasks for baseline and first time point only after waking up, within specific frequency bands.

Clustering: Comparing tasks during the first run

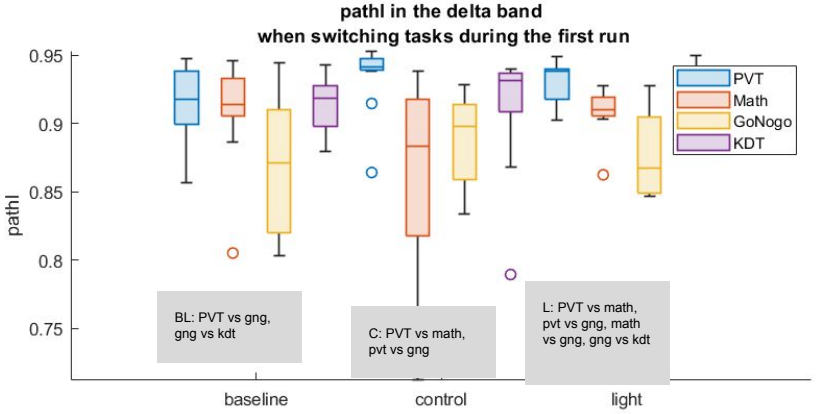


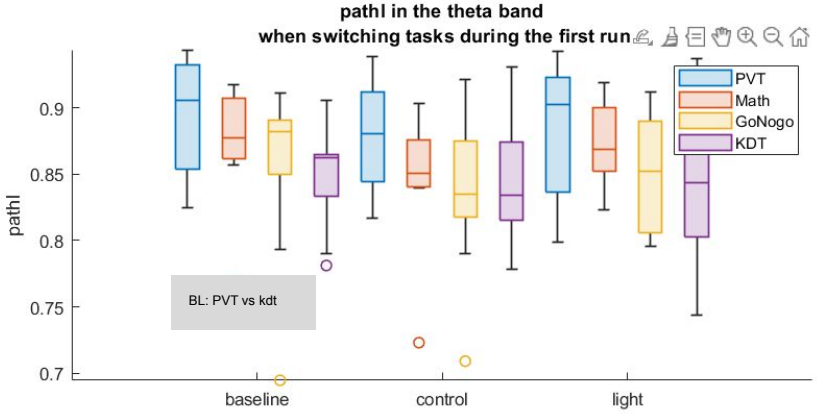


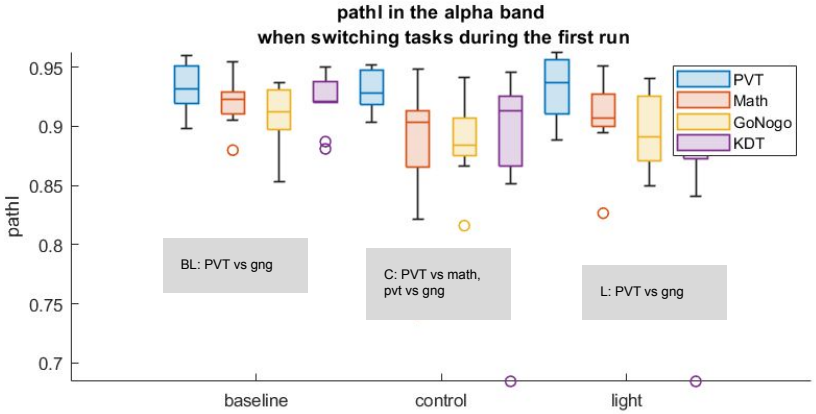


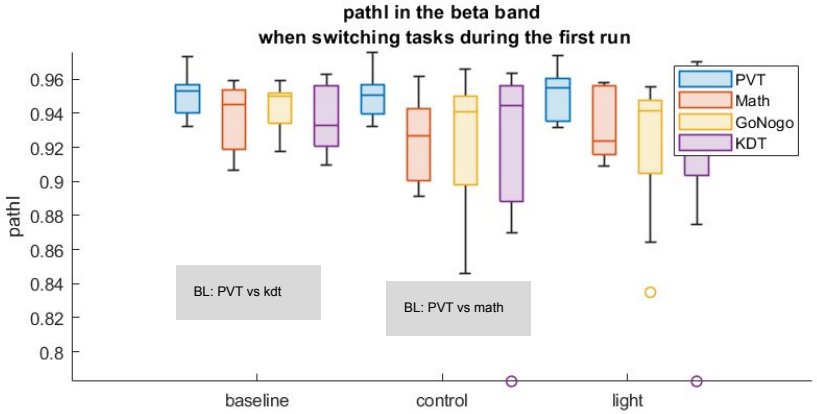


Path length: Comparing tasks during the first run

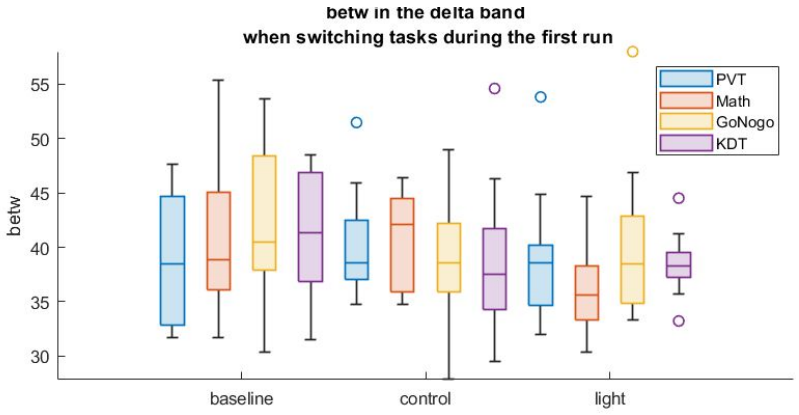


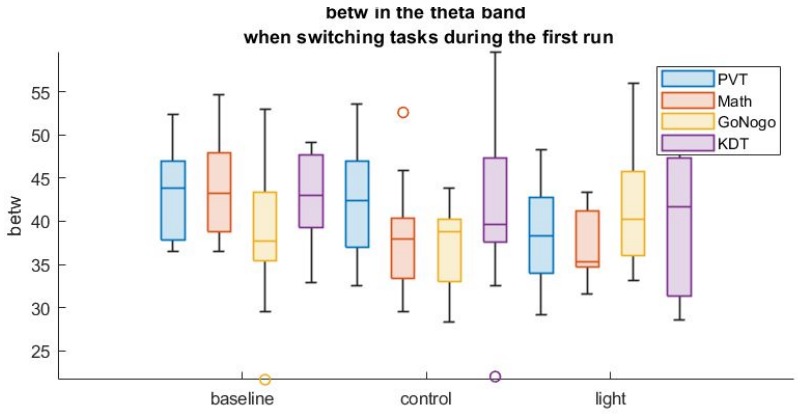


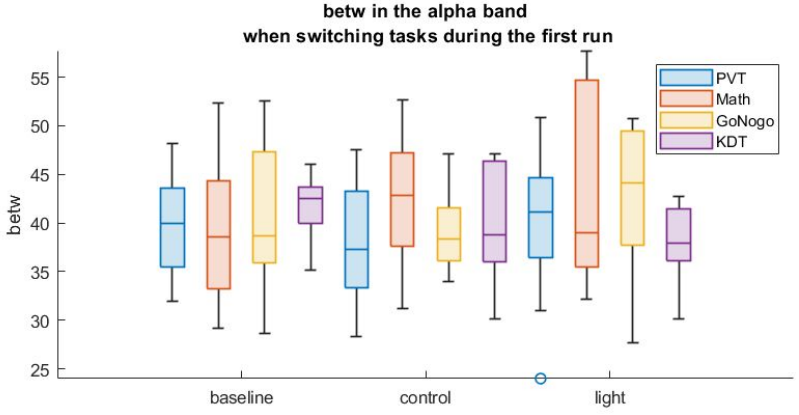


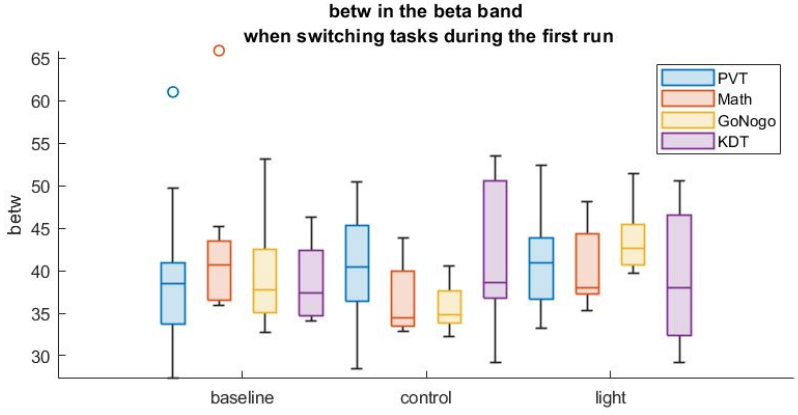


Betweenness Centrality: Comparing tasks during the first run





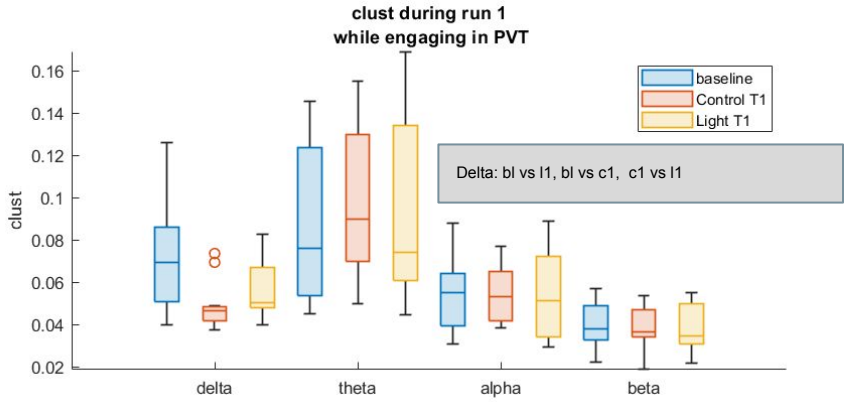


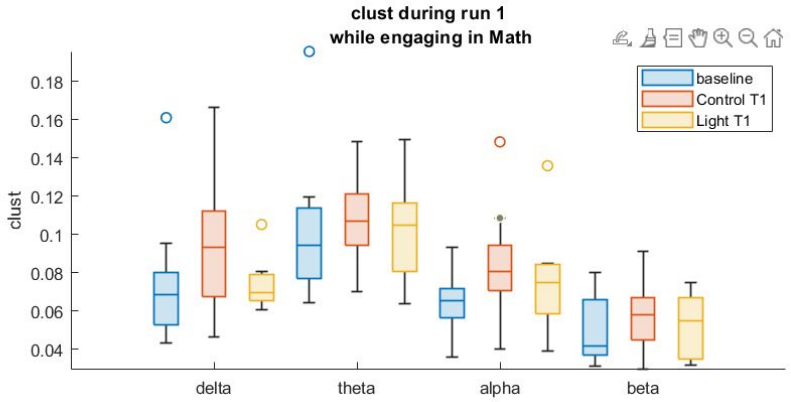


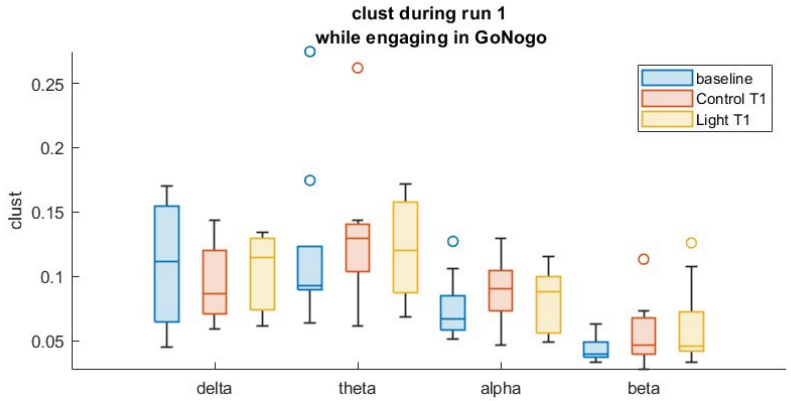
NO Significant differences during the first run except in the
beta band under the CONTROL condition
- PVT vs GoNogo is SIGNIFICANT (p=0.048|ni=11|nj=9)

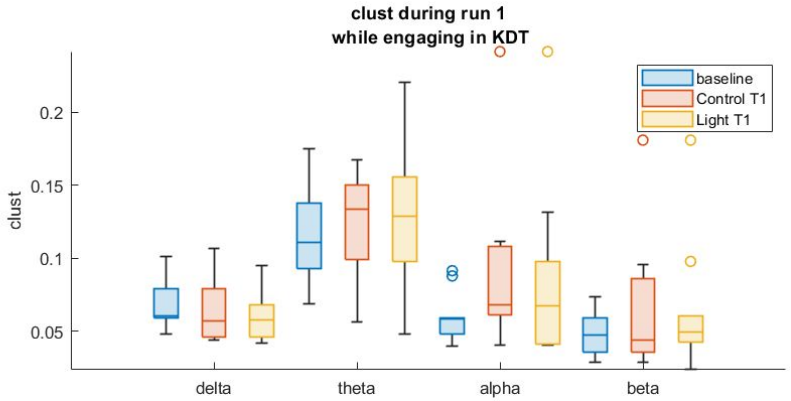
3. compare baseline, t1_control, and t1_light for each frequency band and task separately (reproduce figures 2 and S2 from the paper for the rest of the tasks).

Clustering: Comparing conditions @ t1

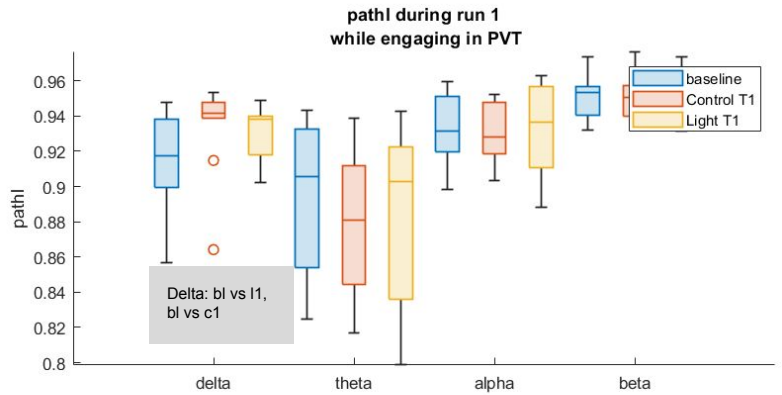


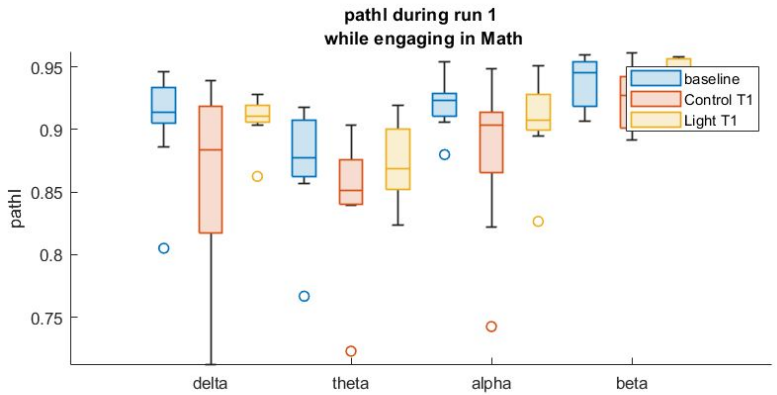


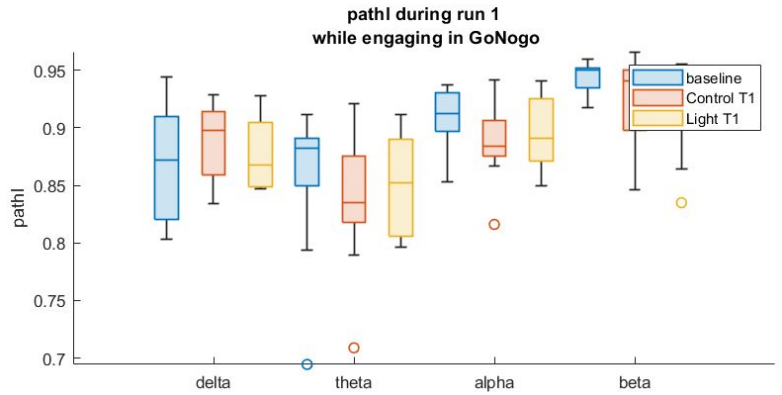


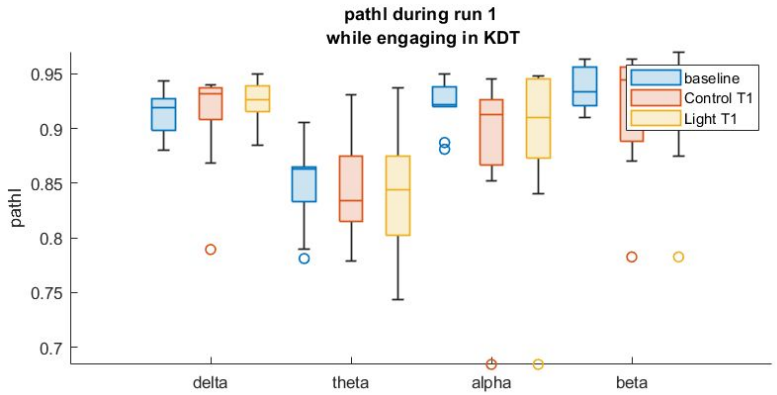


Path length: Comparing conditions @ t1





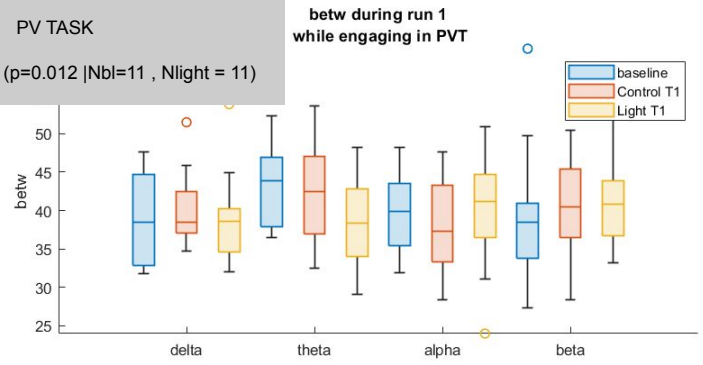




Betweenness: Comparing conditions @ t1

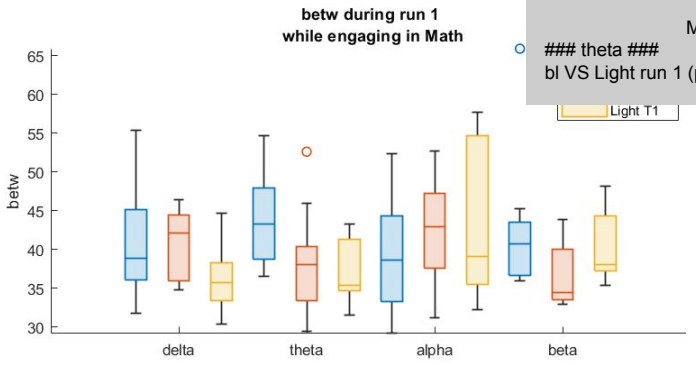
PV TASK

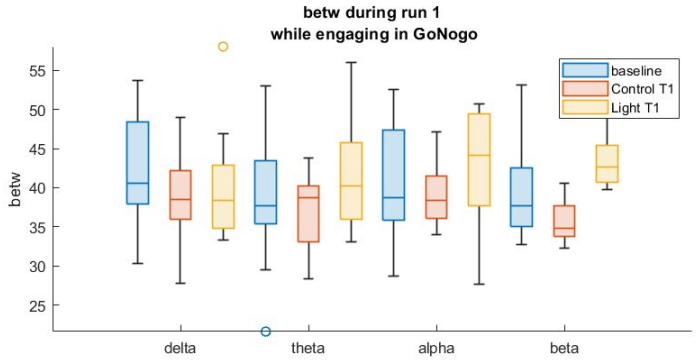
theta
- bl VS Light run 1 (p=0.012 |Nbl=11 , Nlight = 11)

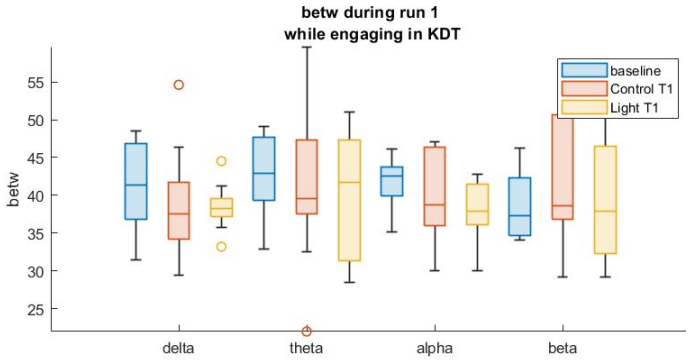


MATH TASK

theta
bl VS Light run 1 (p=0.024 |Nbl=9 , Nlight = 9)







GoNoGo TASK

beta
- bl VS Light run 1 (p=0.041 |Nbl=9 , Nlight = 9)
- Control run1 VS Light run 1 (p=0.002 |Ncntl=1 , Nlight = 9)

KD TASK

Alpha Band
- bl VS Light run 1 * SIGNIFICANT (p=0.015 |Nbl=10 , Nlight = 10)

P = clust + condition + clust*condition