**LIMO toolbox: LInear Modeling of EEG data.**

**List files saved on the disk and their dimensions**

**Cyril Pernet**

[**cyril.pernet@ed.ac.uk**](mailto:cyril.pernet@ed.ac.uk)

**From 1st level analysis using mass univariate approach**

*In the subject analysis folder, the data, parameters and results are saved*

Yr.mat: the EEG data from the .set reorganized to fit X, that is grouped by conditions if Cat ~=0; dimension [electrodes x time frames x trials]

Yhat.mat: the predicted data; dimension [electrodes x time frames x trials]

Beta.mat: the beta values (parameter estimates); dimension [electrodes x time frames x number of parameters in the model (columns of X)]

Res.mat: the residuals (non modelled) data; dimension [electrodes x time frames x trials]

R2.mat: the model fit statistic, i.e. percentage of variance explained; dimension [electrodes x time frames x R2/F/p values]

Condition\_effect\_X: refers to a factor effect in categorical designs; dimension [electrodes x time frames x F/p values).

Interaction\_effect\_X: refers to an interaction between factors, dimension [electrodes x time frames x F/p values).

Covariate\_effect\_X: refers to the effect of a continuous regressor, dimension [electrodes x time frames x F/p values).

semi\_partial\_coef\_X.mat: refers to the semi-partial coefficient of a factor (defined by LIMO.design.nb\_conditions) or a covariate (defined in LIMO.design.nb\_continuous), dimension [electrodes x frames x R2/F/p values].

con\_X.mat: refers to a t contrast, dimension [electrodes x frames x cB/standard error/df/t/p values].

ess\_X.mat: refers to a F contrast, dimension [electrodes x frames x cB/standard error/df/t/p values].

*--- adding bootstrap, in the H0 subfolder*

boot\_table: the resampling table used, dimension [number of trials x number of bootstraps]

H0\_Betas: dimension [electrodes x time frames x number of parameters in the model (columns of X) x number of bootstraps]

H0\_R2: dimension: [electrodes x time frames x R2/F/p values x number of bootstraps]

H0\_Condition\_effect\_X: dimension [electrodes x time frames x F/p values x number of bootstraps]

H0\_Interaction\_effect\_X: dimension [electrodes x time frames x F/p values x number of bootstraps]

H0\_Covariate\_effect\_X: dimension [electrodes x time frames x F/p values x number of bootstraps]

H0\_semi\_partial\_coef\_X.mat: dimension [electrodes x frames x R2/F/p values x number of bootstraps].

H0\_con\_X.mat: dimension [electrodes x frames x cB/t/p values x number of bootstraps].

H0\_ess\_X.mat: dimension [electrodes x frames x cB/F/p values x number of bootstraps].

*--- adding tfce, in the TFCE subfolder*

tfce\_R2: dimension: dimension [electrodes x time frames]

tfce\_Condition\_effect\_X: dimension [electrodes x time frames]

tfce\_Interaction\_effect\_X: dimension [electrodes x time frames]

tfce\_Covariate\_effect\_X: dimension [electrodes x time frames]

tfce\_semi\_partial\_coef\_X.mat: dimension [electrodes x frames].

tfce\_con\_X.mat: dimension [electrodes x frames].

tfce\_ess\_X.mat: dimension [electrodes x frames].

*In the H0 subfolder, the tfce score maps under H0*

tfce\_H0\_R2: dimension [electrodes x time frames x number of bootstraps]

tfce\_H0\_Condition\_effect\_X: dimension [electrodes x time frames x number of bootstraps]

tfce\_H0\_Interaction\_effect\_X: dimension [electrodes x time frames x number of bootstraps]

tfce\_H0\_Covariate\_effect\_X: dimension [electrodes x time frames x number of bootstraps]

tfce\_H0\_semi\_partial\_coef\_X.mat: dimension [electrodes x frames x number of bootstraps].

tfce\_H0\_con\_X.mat: dimension [electrodes x frames x number of bootstraps].

tfce\_H0\_ess\_X.mat: dimension [electrodes x frames x number of bootstraps].

**From 2nd level analysis using mass univariate approach**

**One sample t-test**

*one\_sample\_ttest\_parameter\_X.mat*: returns the trimmed mean parameter values and associated statistics (dimensions electrodes x frames x 5). The last dimension codes mean values, standard error, degrees of freedom, t and p.

*H0\_one\_sample\_ttest\_parameter\_X.mat*: this file constrains the T and p values obtained under H0 for each bootstrap (dimensions electrodes x frames x 2 x nboot)

*tfce\_one\_sample\_ttest\_parameter\_X.mat*: tfce scores of the t-test (dimensions electrodes x frames)

*H0\_tfce\_one\_sample\_ttest\_parameter\_X.mat*: tfce scores of the –test under H0 (dimensions electrodes x frames x nboot)