STUDY clustering overview

STEP 1
Build a STUDY

STEP 2
Precompute the data

STEP 3
Precluster the data

STEP 4
Cluster the data

STEP 5
Edit/view the clusters
STUDY clustering overview

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Memory options should change when using STUDY vs single dataset.
Build a STUDY

Create study
- Using all loaded datasets
- Browse for datasets

Load existing study
- Save current study
- Save current study as
- Clear study

Memory and other options
- Save history
- Quit

Import data
- Import epoch info
- Import event info
- Export

Load existing dataset
- Save current dataset(s)
- Clear dataset(s)
Build a STUDY, cont'd
ICs to cluster
STUDY structure

```
STUDY =

    name: 'Synonyms'
    task: 'Word Recognition'
    notes: ''
    filename: 'workshop.study'
    cluster: [1x1 struct]
    history: [1x6654 char]
    datasetinfo: [1x10 struct]
    filepath: '/data/STUDY'
    subject: {'S02' 'S05' 'S07' 'S08' 'S10'}
    group: {}
    session: []
    condition: {'non-synonyms' 'synonyms'}
    setind: [2x5 double]
    etc: [1x1 struct]
    preclust: [1x1 struct]
    saved: 'no'
    changrp: []
```

>>

EEGLAB Workshop VII, Apr. 20-22, 2009, Bloomington, IN: Julie Onton – STUDY GUI
Subject info in STUDY structure

`>> STUDY.datasetinfo`

```
ans =

1x10 struct array with fields:
    filepath
    filename
    subject
    session
    condition
    group
    comps
    index
```

Gives information for each subject
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Edit/view the clusters
Precompute data measures
Precompute data measures

TIP: Compute all measures so you can test different combinations for clustering

Recommend: 'alpha', .01 (time-consuming)
STUDY clustering overview

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STEP 5
Edit/view the clusters
Precluster the data
Precluster the data
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STEP 4
Cluster the data

STEP 5
Edit/view the clusters
Cluster components
Cluster info in 'STUDY'

>> STUDY.cluster

ans =

1x26 struct array with fields:
    name
    parent
    child
    comps
    sets
    algorithm
    centroid
    preclust
    dipole
    topo
    topox
    topoy
    topoall
    topopol

>> STUDY.cluster(2)

ans =

    name: 'Cls 2'
    parent: {'ParentCluster 1'}
    child: []
    comps: [9 10 21 18 26 20 27]
    sets: [2x7 double]
    algorithm: {'Kmeans' [12]}
    centroid: []
    preclust: [1x1 struct]
STUDY clustering overview

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STEP 4
Cluster the data

STEP 5
Edit/view the clusters
View and edit clusters
Plot cluster data

Plot mean scalp maps for easy reference.
Plot cluster data

Choose which cluster

Choose which components