

```
% script for memory task analysis
```

## Parameter Setting

```
subject = 'Group';
plot_window=[1 25 1920 1080];
home_dir = '/bigvault/Projects/seeg_pointing';
group_dir = '/bigvault/Projects/seeg_pointing/results/memory_group/';
```

## Time window

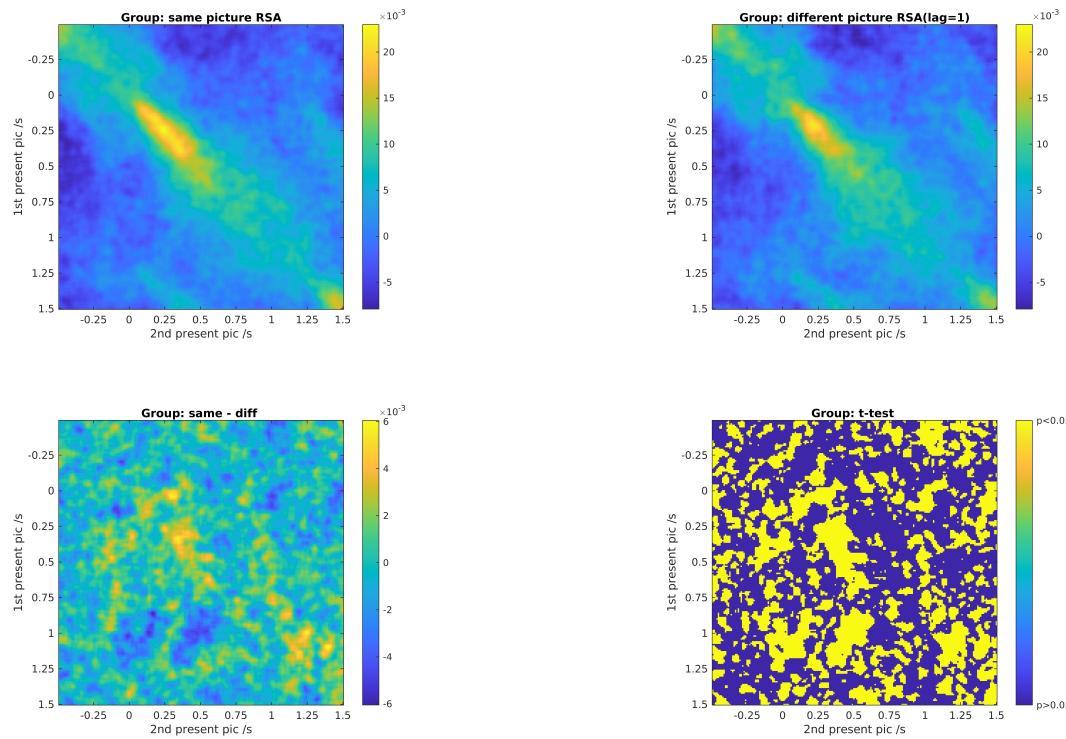
1. same VS different picture RSA
2. pre vs after RSA

## Neural Time Windows in Object Recognition Task

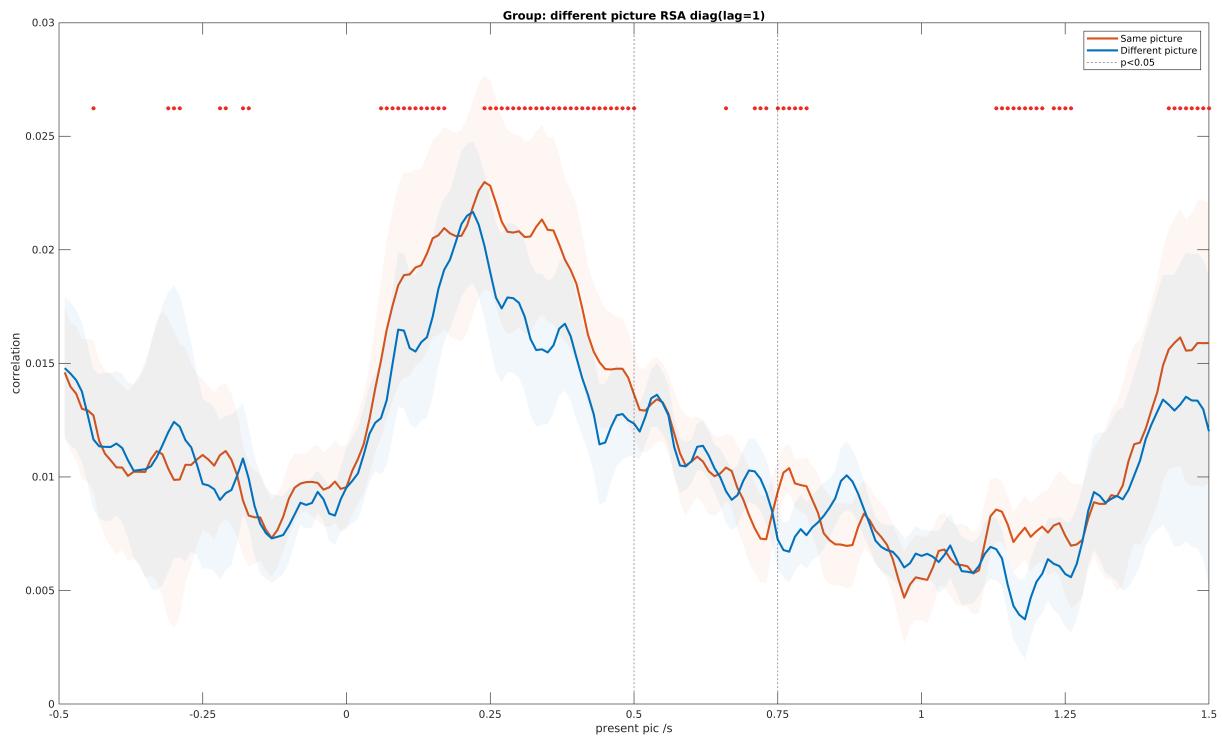
```
% load
load([group_dir,'rsa_obj_group.mat'], 'rsa_group')
disp(['subject: ',num2str(rsa_group.sub_id)])

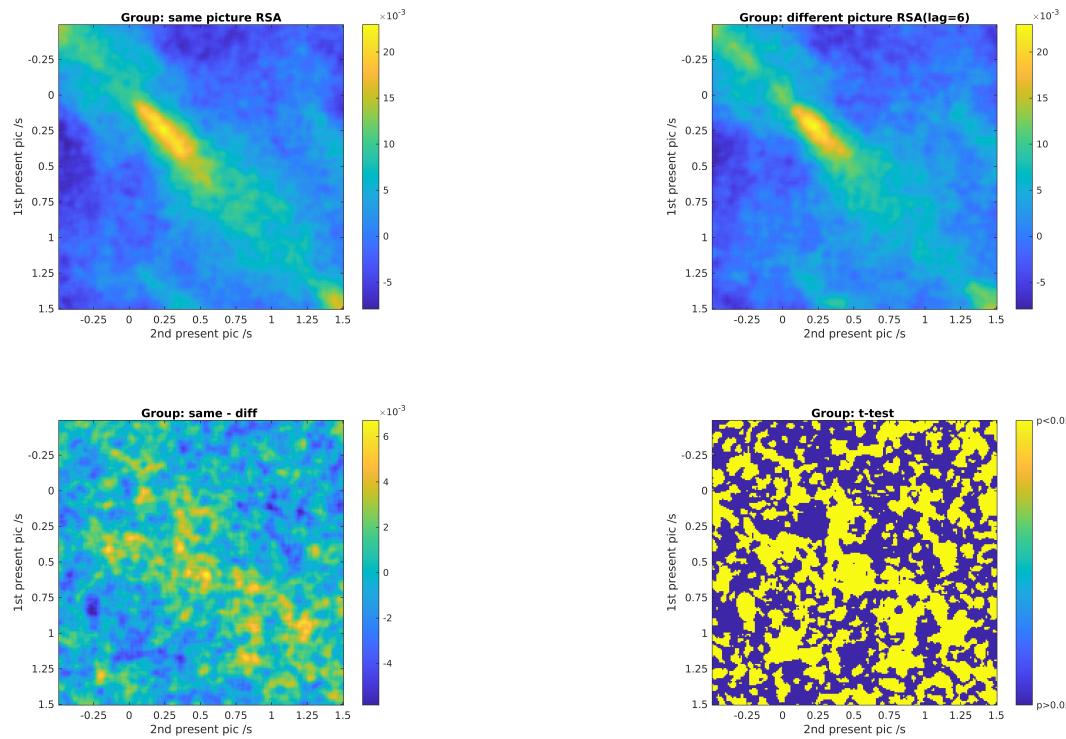
subject: 1   2   3   4   7   12  15  16  17  18  19  20  21  24  25  26

rsa_same= rsa_group.same;
for lag = 1:5:20
    rsa_diff = rsa_group.diff{lag};
    % 1. object same diff
    plt_rsa_obj_sd(rsa_same, rsa_diff, subject, lag, plot_window)
    % 2. object diag
    plt_rsa_obj_diag(rsa_same,rsa_diff,subject,lag,plot_window)
end
```

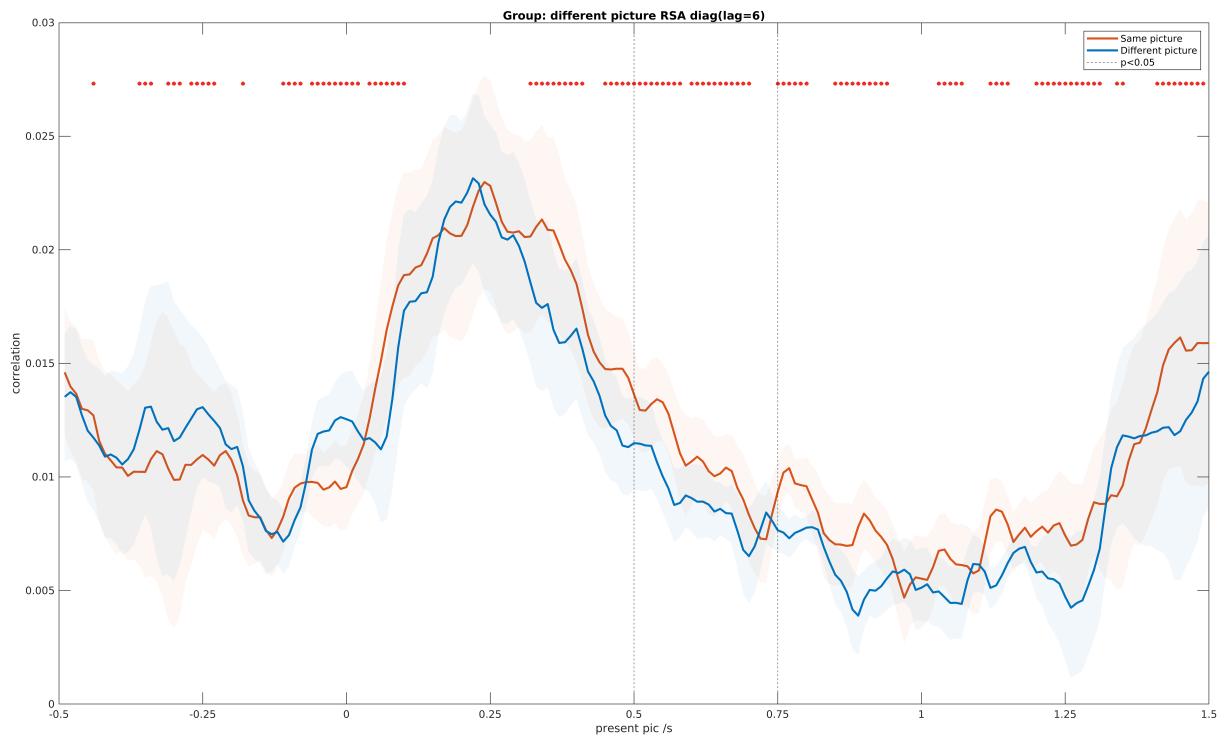


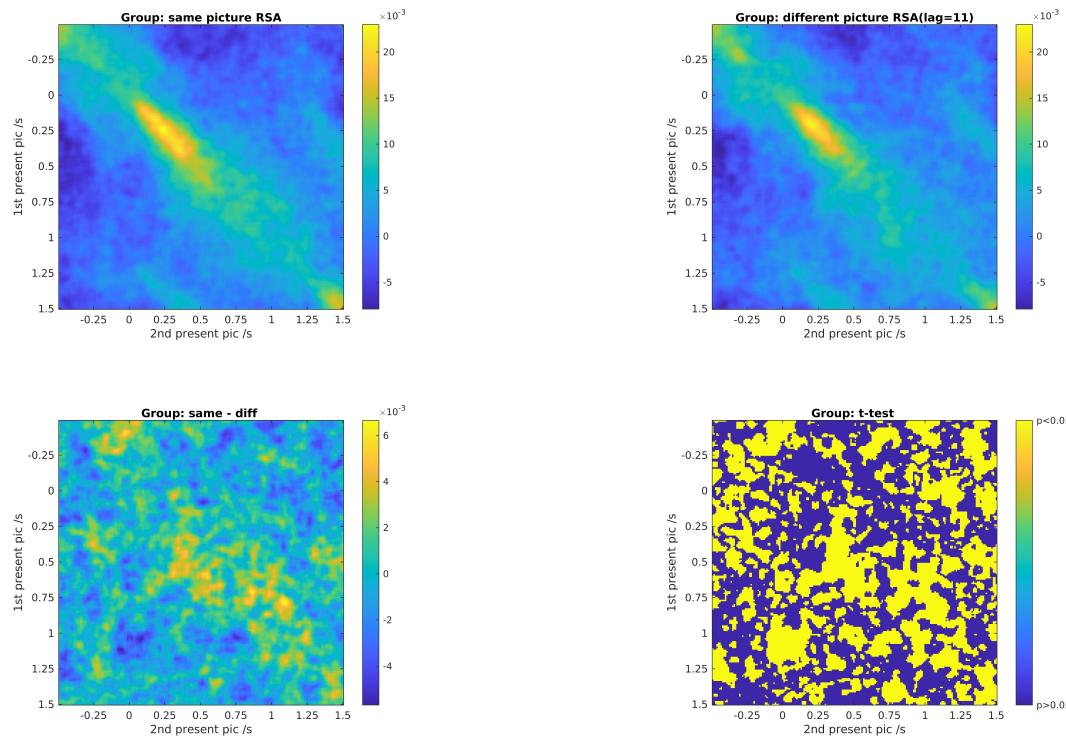
subjects number=16



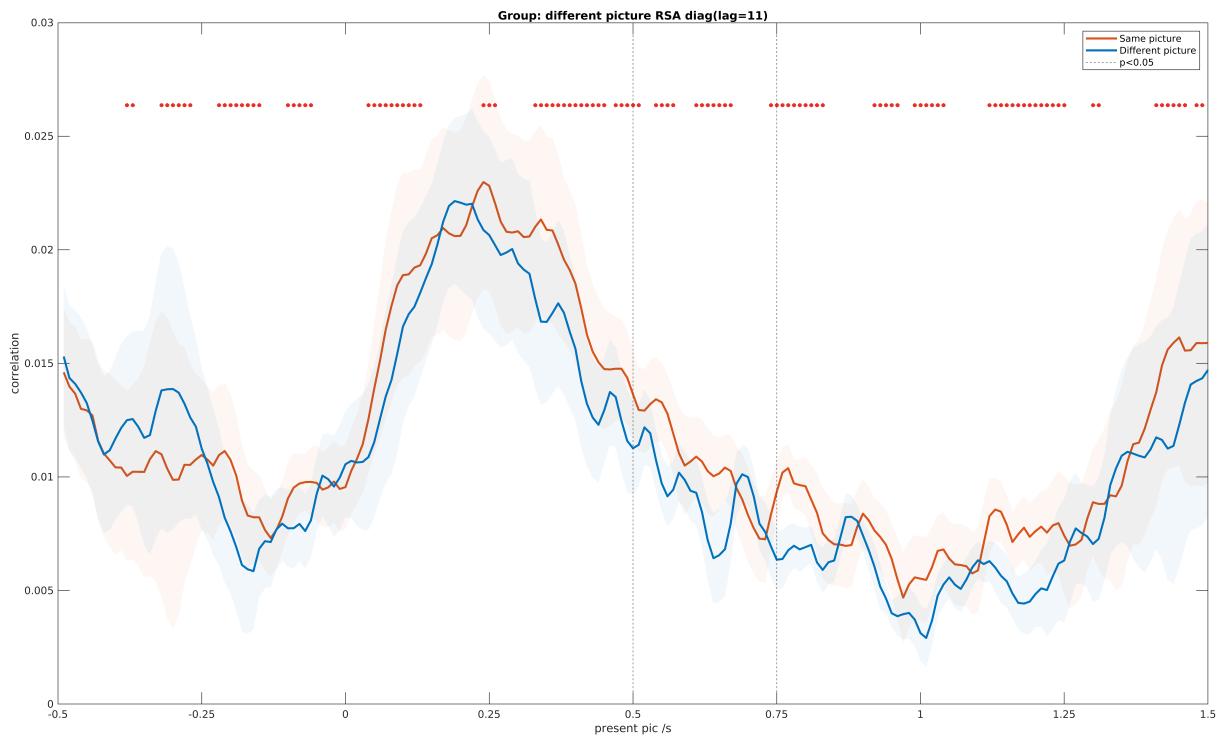


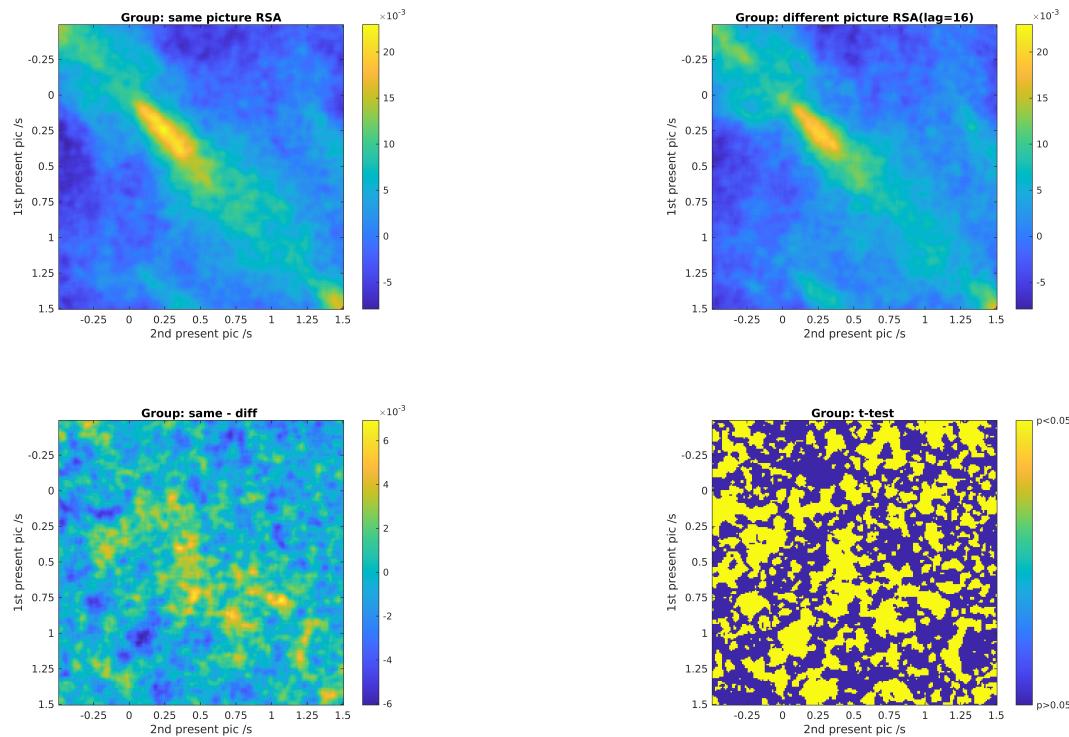
subjects number=16



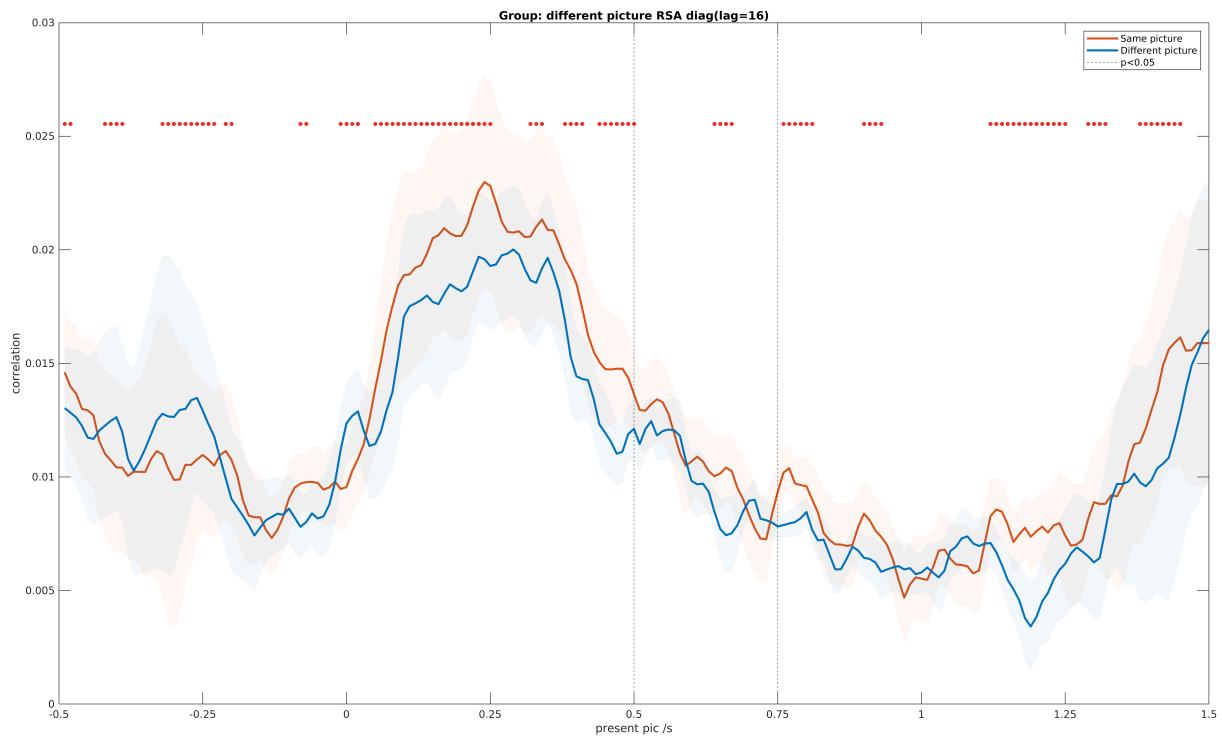


subjects number=16





subjects number=16



## Consistency of neural activity across Object and Sequence

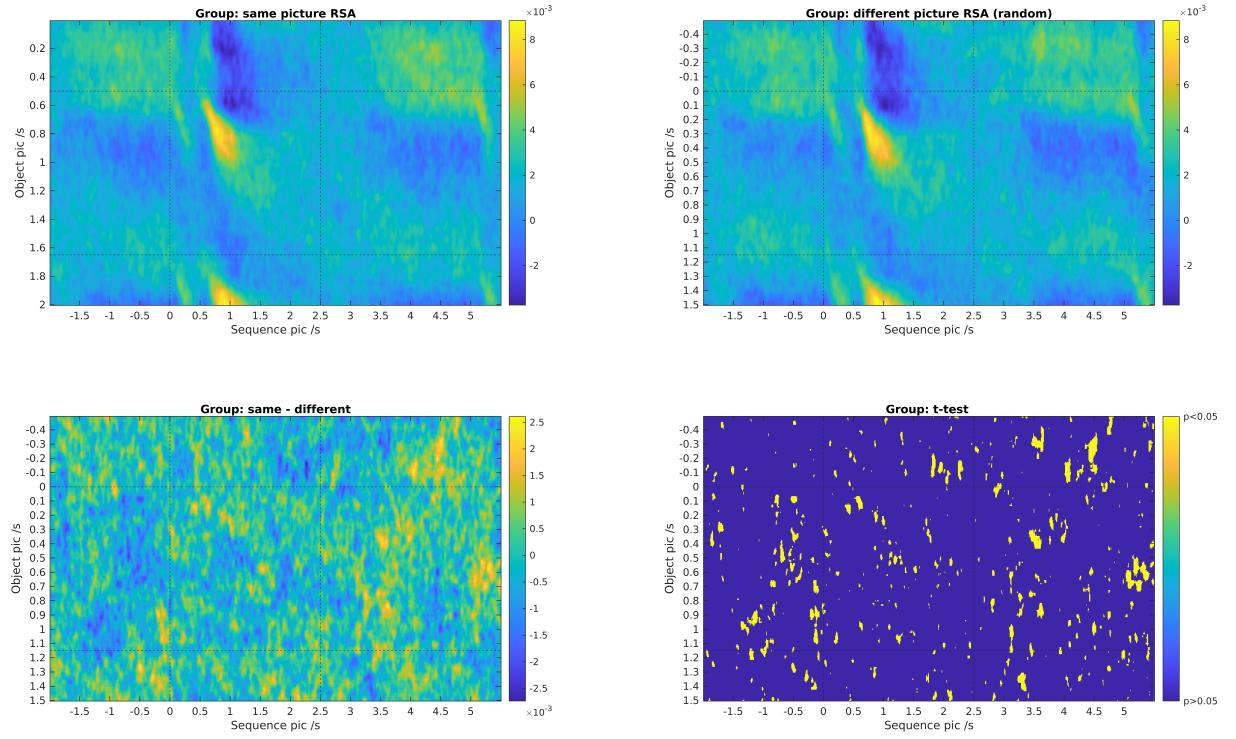
```
rsa_obj2seq_group = load_mat([group_dir, 'rsa_obj2seq_group.mat']);
```

```

rsa_same = rsa_obj2seq_group.same;
rsa_diff = rsa_obj2seq_group.diff;
methods = 'ttest';

% 4. obj2seq same diff
plt_rsa_obj2seq_sd(rsa_same,rsa_diff,subject,plot_window)

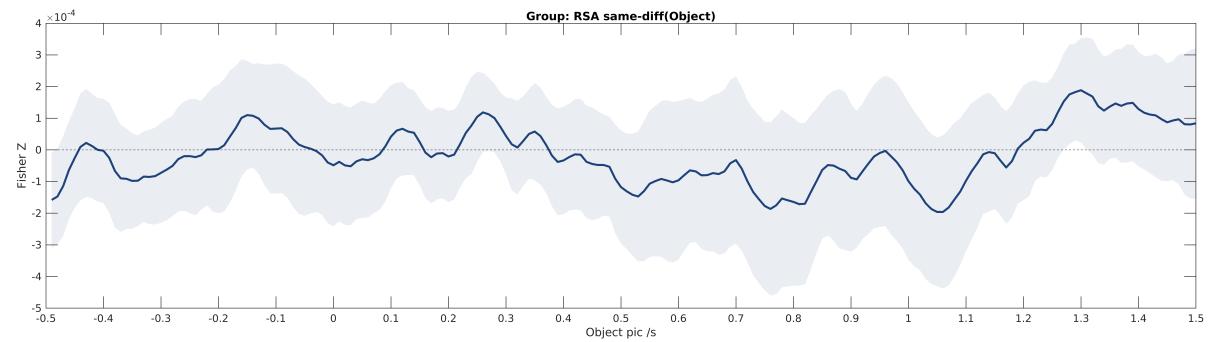
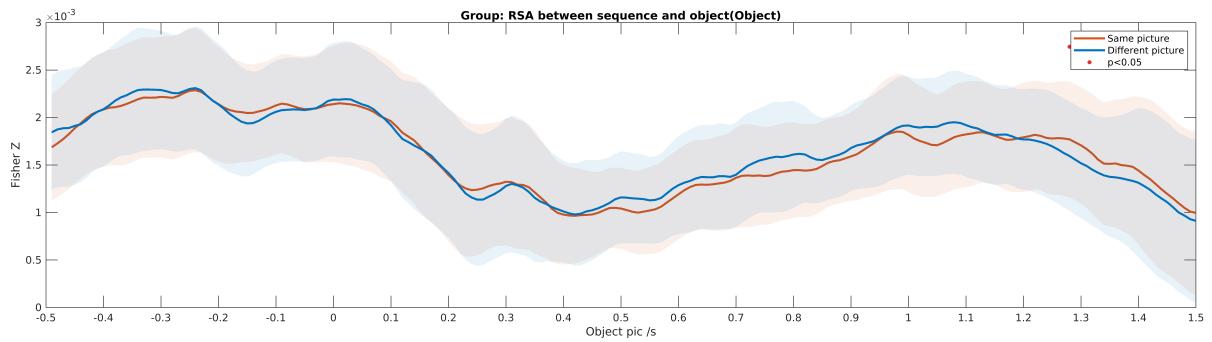
```



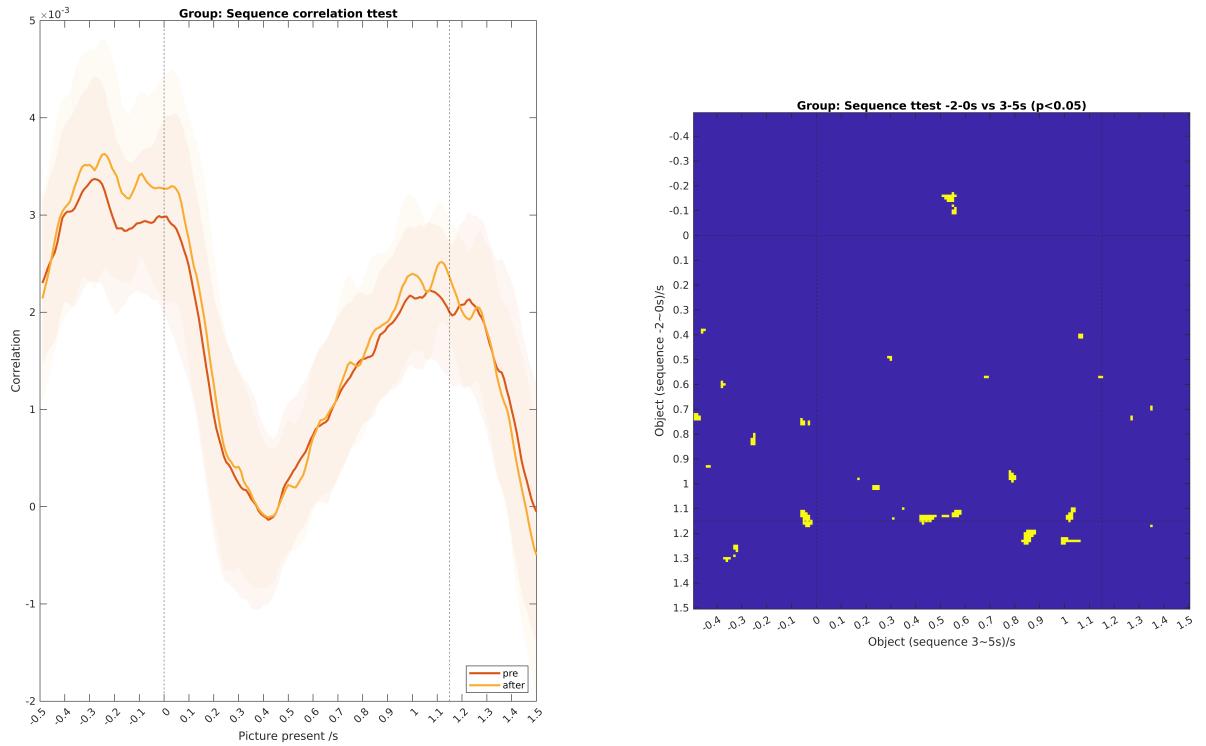
```

% 5. obj2seq flatten
%plt_rsa_obj2seq_flatten(rsa_same, rsa_diff, 1, subject, plot_window)
plt_rsa_obj2seq_flatten(rsa_same, rsa_diff, 2, subject, plot_window)

```



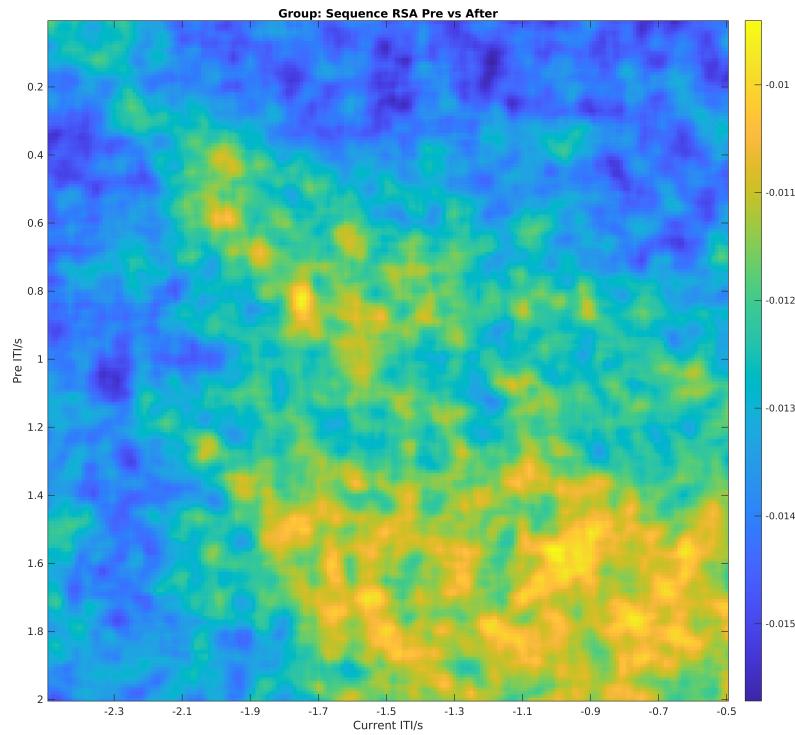
```
% 6. obj2seq region123
plt_rsa_obj2seq_region123(rsa_same,subject,plot_window,methods)
```



## Consistency of neural activity across pre and after in Sequence

```
rsa_group = load_mat([group_dir, 'rsa_seq_pre_after_group.mat']);

plt_rsa_seq_pre_after(rsa_group.same, subject, plot_window)
```



## Item Specific Representation

### Pre/After vs current stimulus

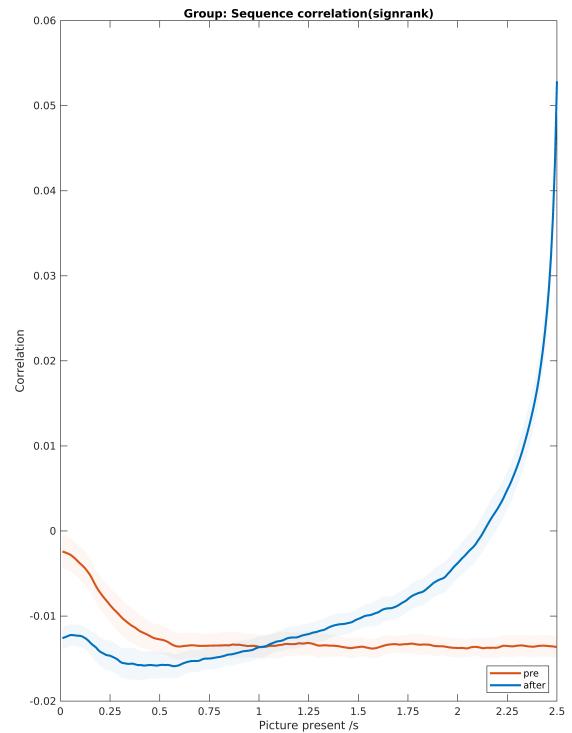
```

rsa_seq_pic_total_group = load_mat([group_dir, 'rsa_seq_pic_total_group.mat']);

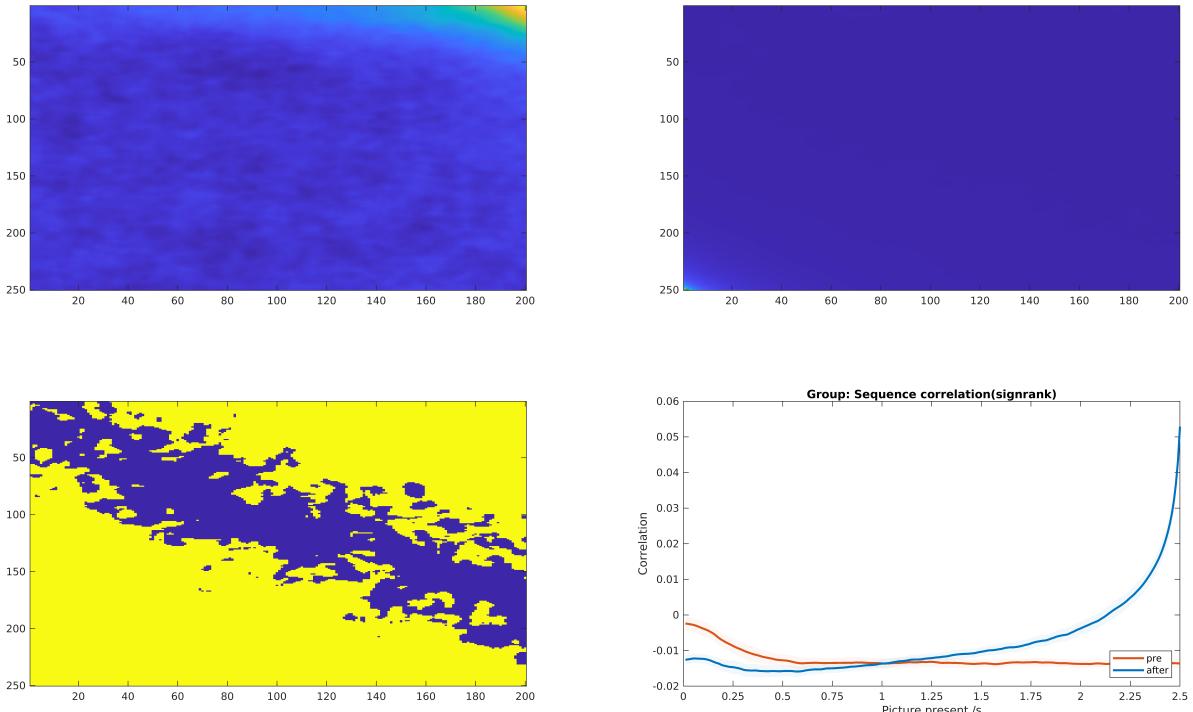
rsa_group = rsa_seq_pic_total_group.same(:,:,2:19);
rsa_group(rsa_group==inf)= nan;

% pic vs total
plt_rsa_seq_pic_total(rsa_group, subject, plot_window)

```



```
% Curve of Pre/After vs current stimulus  
plt_rsa_seq_pic_total2(rsa_group, subject, plot_window)
```



## Hippocampus

### Neural Time Windows in Object Recognition Task

### Consistency of neural activity across Object and Sequence

### Consistency of neural activity across pre and after in Sequence

### Pre/After vs current stimulus

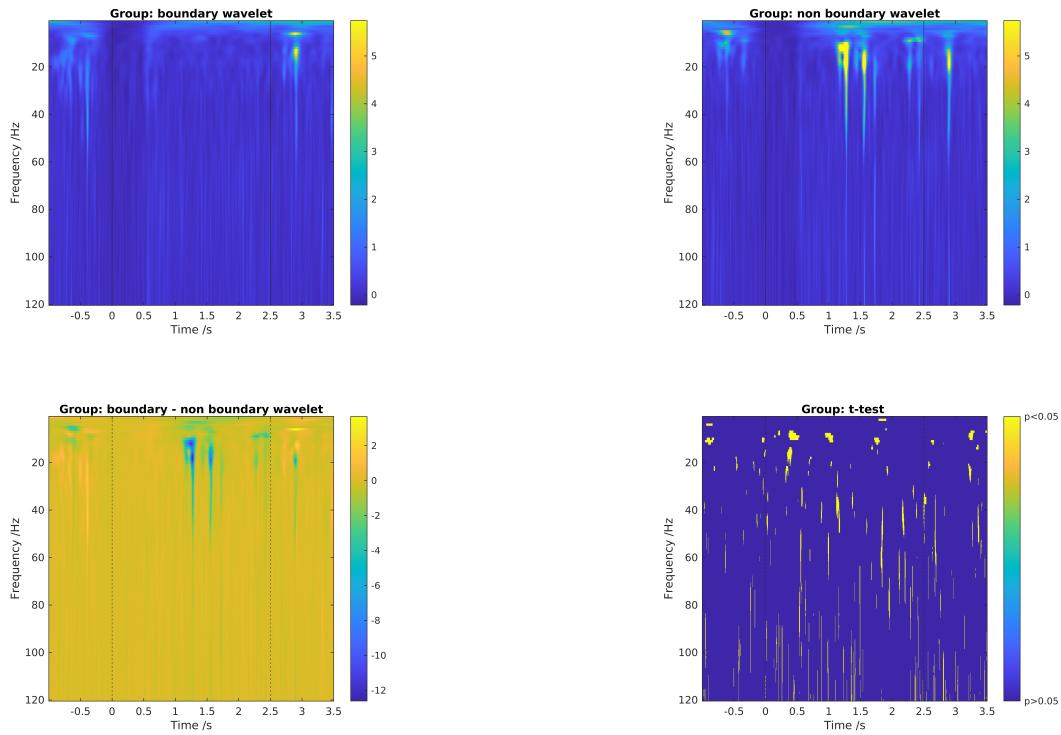
### Power change in Boundary and Nonboundary

```
wavelet_subject = load_mat('~/bigvault/Projects/seeg_pointing/results/sequence_memory/te

[wavelet_boundary, idx] = cell2matrix(wavelet_subject.boundary);
[wavelet_non_boundary, idx] = cell2matrix(wavelet_subject.non_boundary);
[wavelet_before_boundary, idx] = cell2matrix(wavelet_subject.before_boundary);
```

## Boundary vs Non-boundary

```
plt_wavelet_region_bd(wavelet_boundary, wavelet_non_boundary, subject, plot_window)
```



## Boundary vs pre-boundary

```
plt_wavelet_region_bd(wavelet_boundary, wavelet_before_boundary, subject, plot_window)
```

