```
% SSA output script
close all

% Display significant oscillations
fprintf('The number of significant eigenvectors for each specie:\r
\n');
sum(sigEigDex)
chemNames

% The first 2 eigenvector of Cu
% The first eigenvector of Zn
% Uranium?

j = [1 2 1 1 2];
k = [5 5 6 10 10];


% Plot some eigs and periodograms
for i = 1:5
    figure()
    subplot(2,1,1)
    plot(eigvecs(:,j(i),k(i)));
    title(sprintf('%s eigenvector %i', chemNames{k(i)}, j(i)));
    subplot(2,1,2)
    periodogram(eigvecs(:,j(i),k(i)));
    title(sprintf('%s eigenvector %i periodogram', chemNames{k(i)},
 j(i)));
end

[maxFreq, maxPeriod] = maxFreqPeriod( ...
    [eigvecs(:,1,5), eigvecs(:,2,5), eigvecs(:,1,6), eigvecs(:,1,10),
 eigvecs(:,2,10)])

totalTime = max(years) - min(years);

maxFreqTime = maxFreq ./ totalTime
maxPeriodTime = 1 ./ maxFreqTime

% Look at the RCs of Cu
figure()
subplot(3,1,1)
plot(years, spel_m0(:,5), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,1,5))
title('Cu RC 1');
subplot(3,1,2);
plot(years, spel_m0(:,5), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,2,5));
title('Cu RC 2')
subplot(3,1,3);
plot(years, spel_m0(:,5), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,2,5));
title('Cu RC 1+2')
```

```
% Look at RCs of U
figure()
subplot(3,1,1)
plot(years, spel_m0(:,10), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,1,10))
title('U RC 1');
subplot(3,1,2);
plot(years, spel_m0(:,10), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,2,10));
title('U RC 2')
subplot(3,1,3);
plot(years, spel_m0(:,10), 'Color', [0.7 0.7 0.7]); hold on;
plot(years, RC(:,2,10));
title('U RC 1+2')
```

The number of significant eigenvectors for each specie:

ans =

0 0 0 0 2 1 0 0 0 600

chemNames =

'Na' 'Mg' 'Al' 'P' 'Cu' 'Zn' 'Sr' 'Ba' 'Y' 'U'

maxFreq =

*1.0e-03 **

0 0.9766 0 0 0.9766

maxPeriod =

Inf 1024 Inf Inf 1024

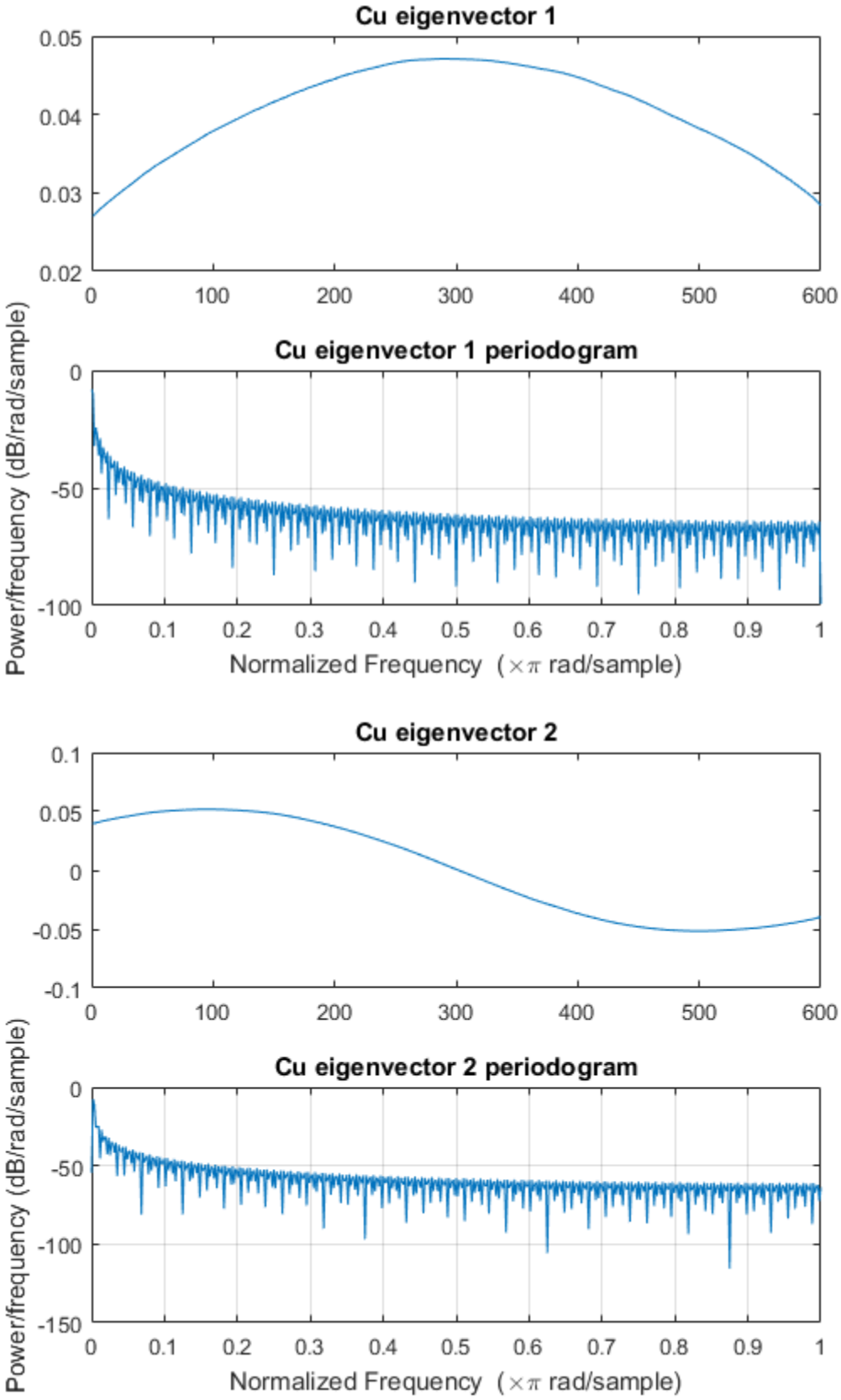
maxFreqTime =

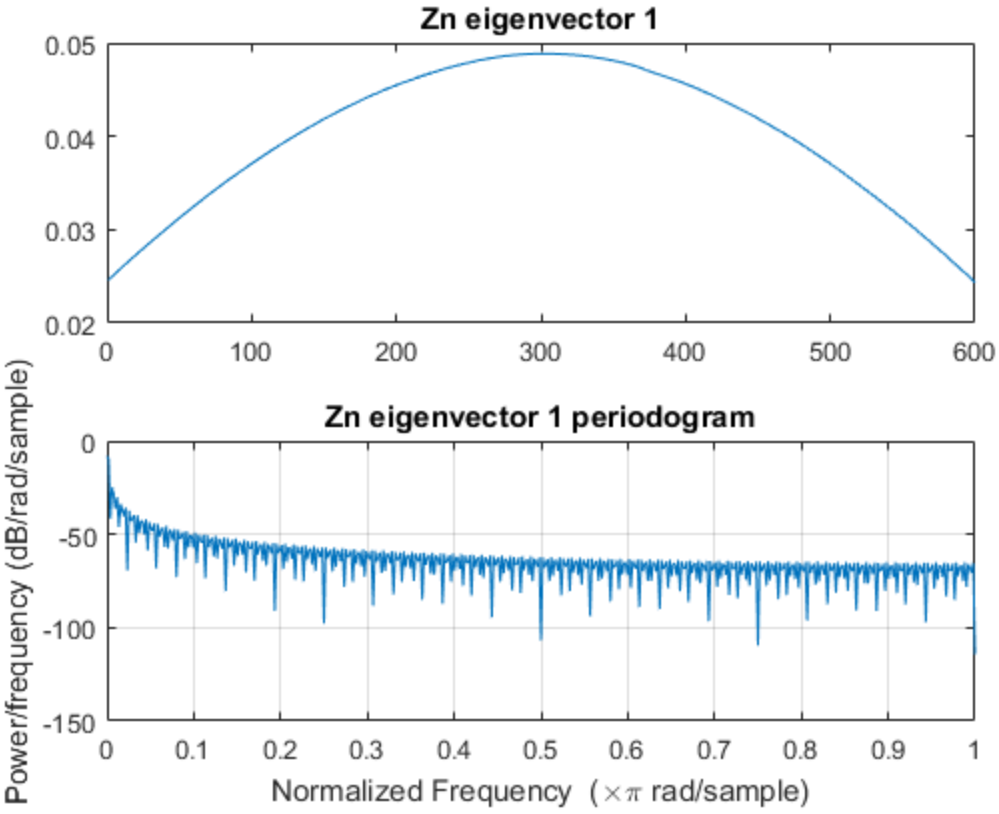
*1.0e-06 **

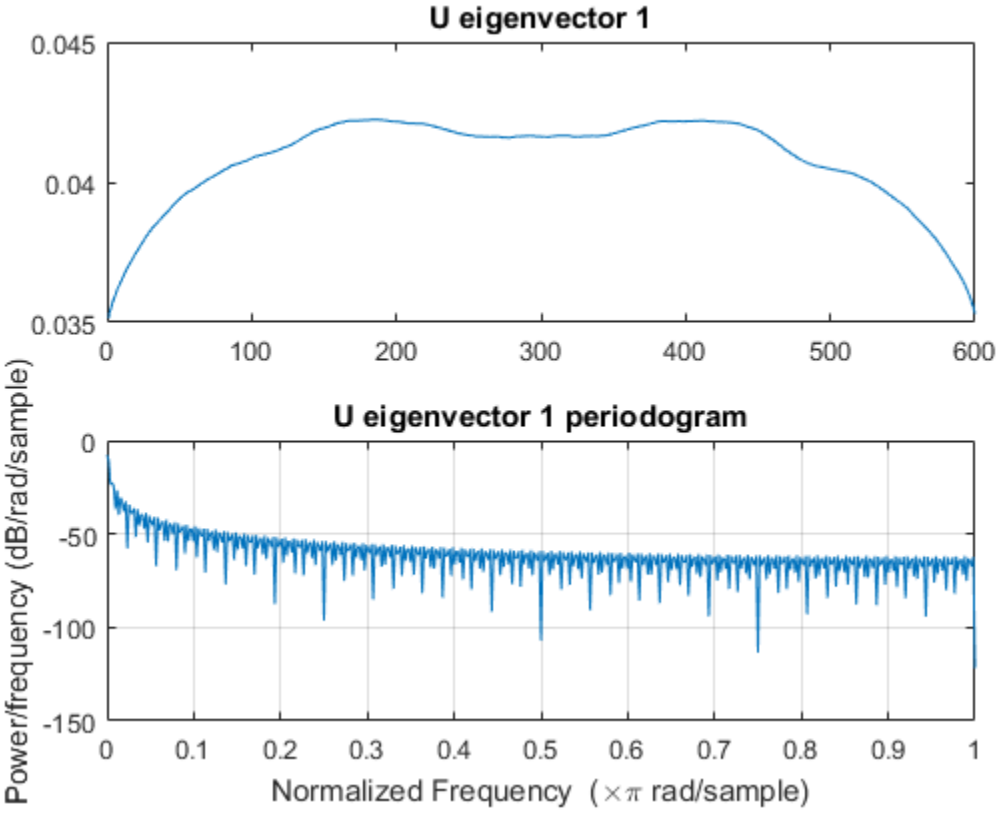
0 0.3317 0 0 0.3317

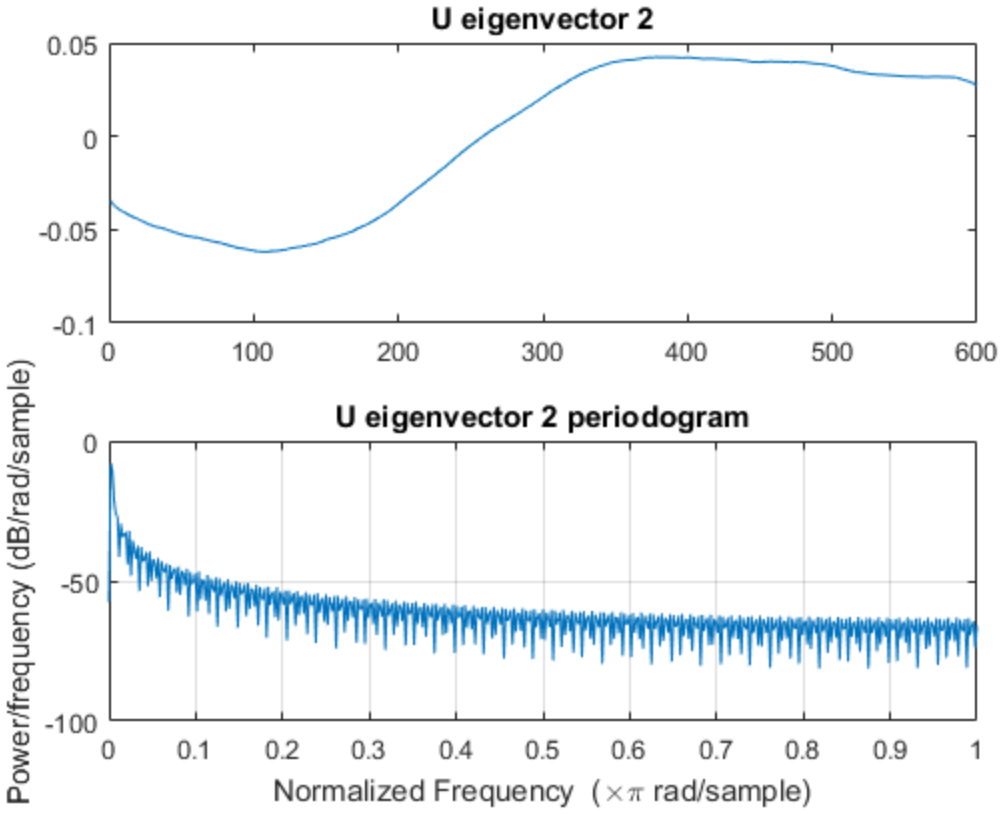
maxPeriodTime =

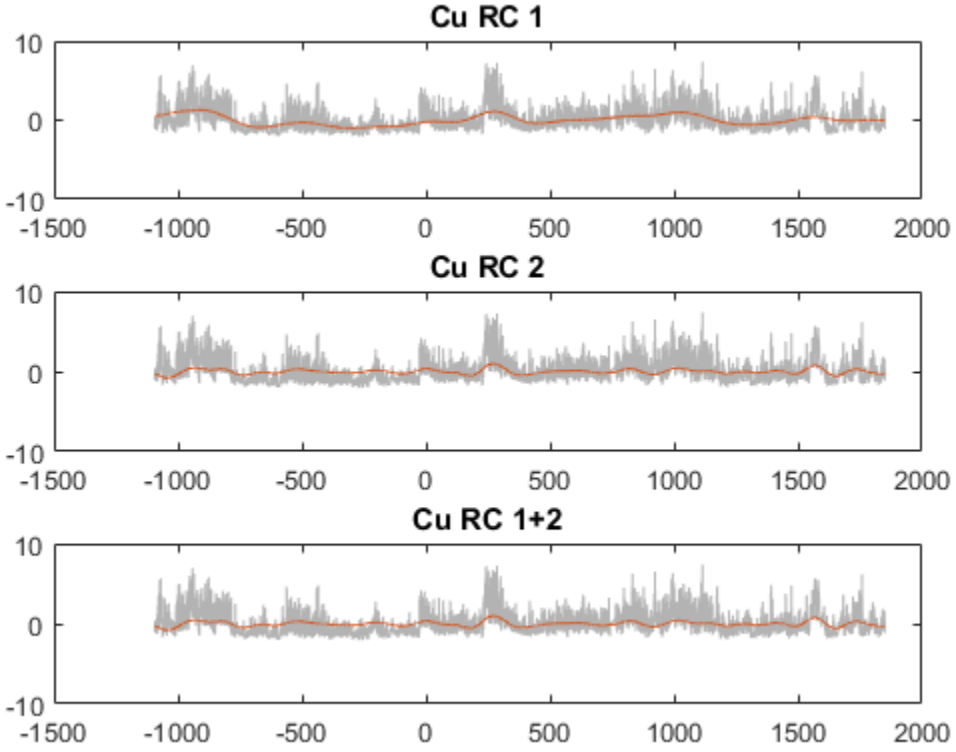
Inf 3014400 Inf Inf 3014400

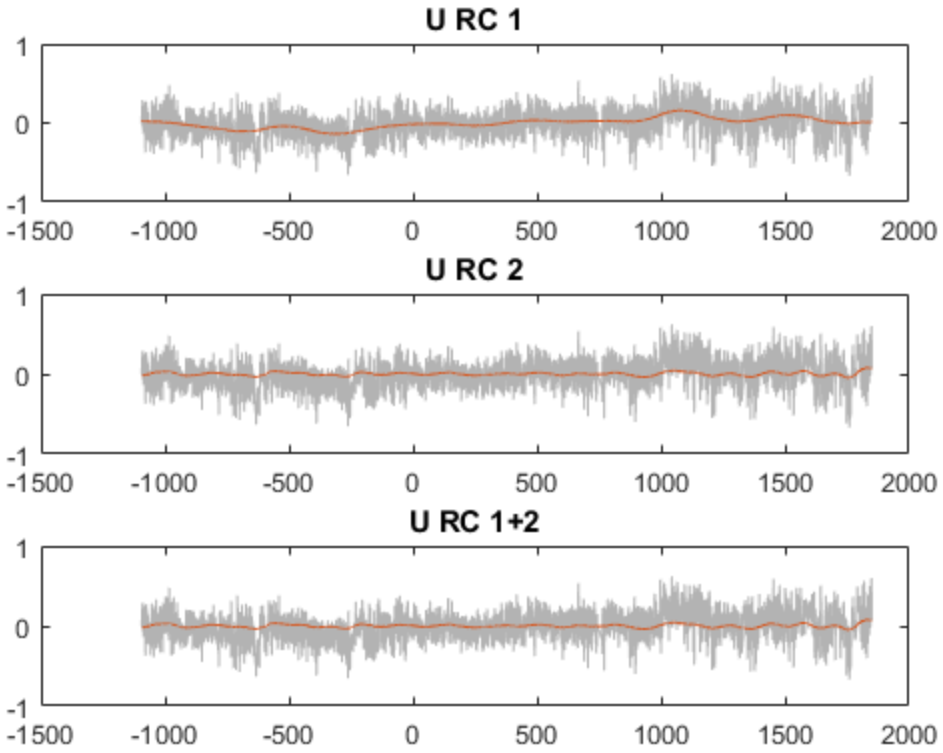

Cu eigenvector 1
0.05
0.04
0.03
0.02
0
100
200
300
400
500
600
Cu eigenvector 1 periodogram
Power/frequency (dB/rad/sample)
0
-50
-100
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Normalized Frequency (×π rad/sample)
Cu eigenvector 2
0.1
0.05
0
-0.05
-0.1
0
100
200
300
400
500
600
Cu eigenvector 2 periodogram
Power/frequency (dB/rad/sample)
0
-50
-100
-150
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Normalized Frequency (×π rad/sample)


Zn eigenvector 1
0.05
0.04
0.03
0.02
0
100
200
300
400
500
600
Zn eigenvector 1 periodogram
Power/frequency (dB/rad/sample)
0
-50
-100
-150
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Normalized Frequency (×π rad/sample)


U eigenvector 1
0.045
0.04
0.035
0
100
200
300
400
500
600
U eigenvector 1 periodogram
Power/frequency (dB/rad/sample)
0
-50
-100
-150
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Normalized Frequency (×π rad/sample)


U eigenvector 2
0.05
0
-0.05
-0.1
0
100
200
300
400
500
600
U eigenvector 2 periodogram
Power/frequency (dB/rad/sample)
0
-50
-100
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Normalized Frequency (×π rad/sample)


Cu RC 1
10
0
-10
-1500
-1000
-500
0
500
1000
1500
2000
Cu RC 2
10
0
-10
-1500
-1000
-500
0
500
1000
1500
2000
Cu RC 1+2
10
0
-10
-1500
-1000
-500
0
500
1000
1500
2000



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