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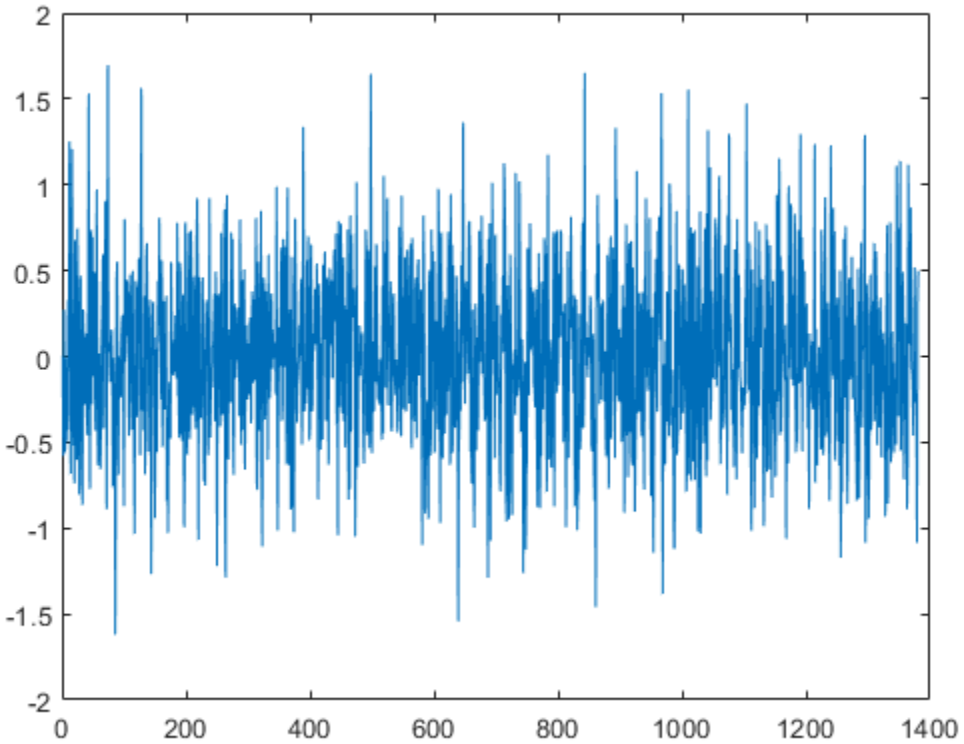
zad1

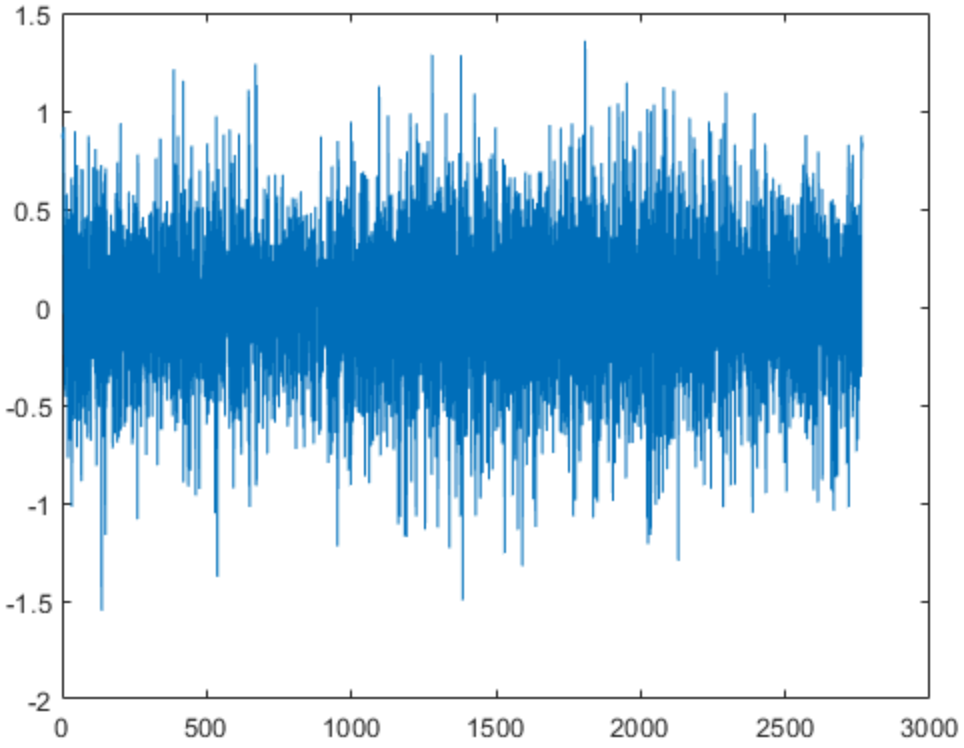
```
[c,l] = wavedec(wiatrak_20, 5, 'db2');
[d5] = detcoef(c,l,[5]);
fid = fopen('wiatrak_20_d5.txt','w+t','n');
fprintf(fid,'%f\n',abs(d5));
fclose(fid);
plot(d5);
```



zad2

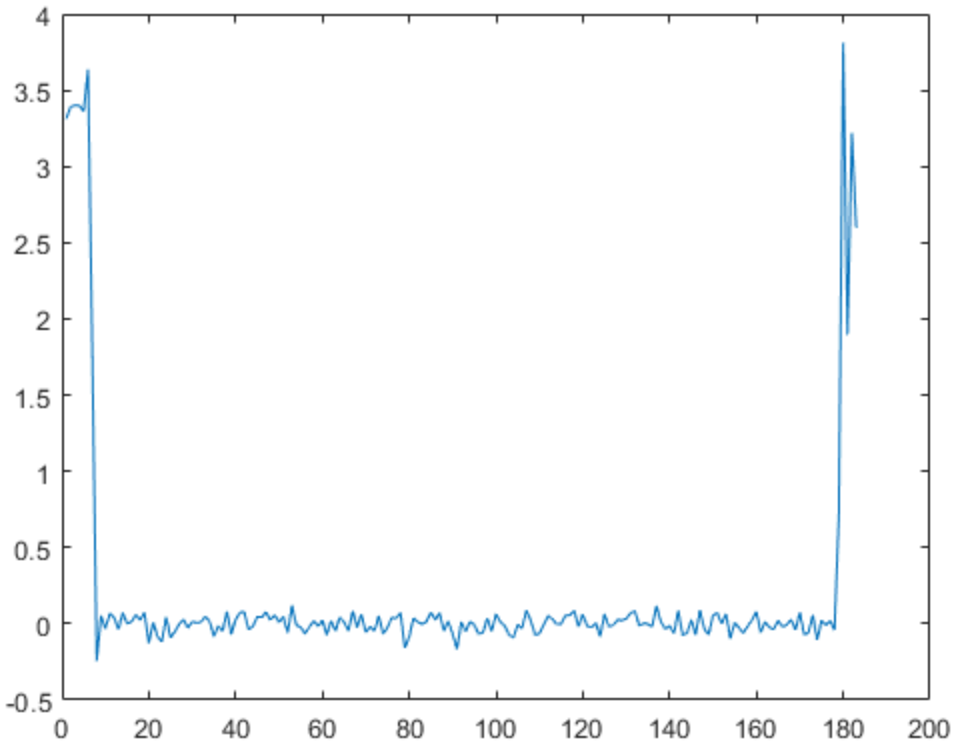
```
[c,l] = wavedec(wiatrak_20, 4, 'coif2');
```

```
a4 = appcoef(c,l,'coif2');
fid = fopen('wiatrak_20_a4.txt','w+t','n');
fprintf(fid,'%f\n',abs(a4));
fclose(fid);
plot(a4);
```



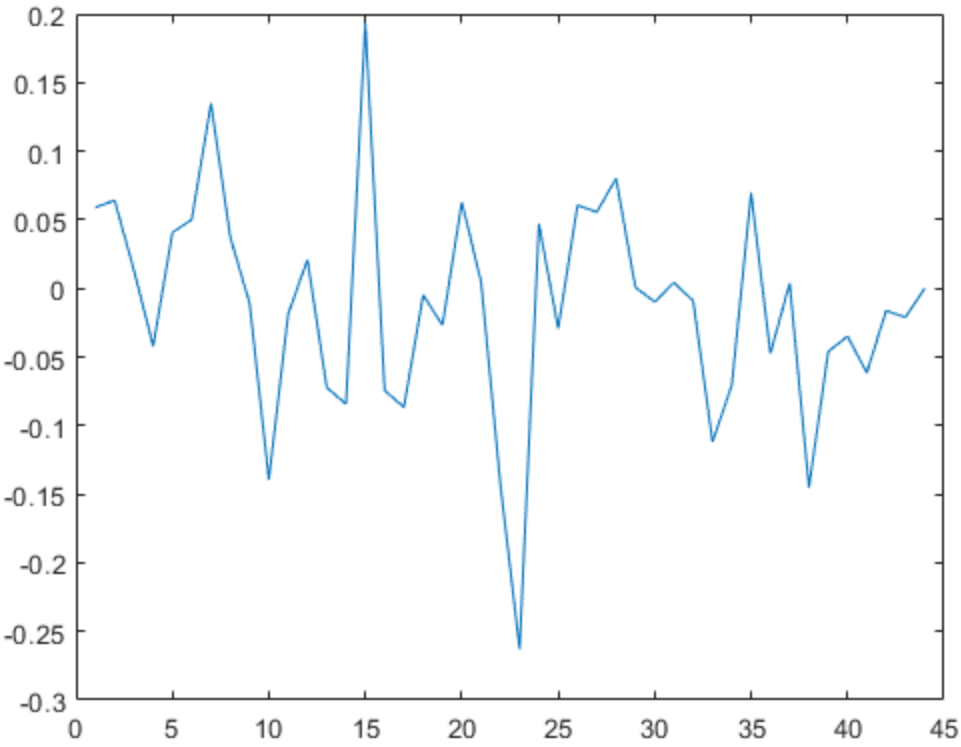
zad3

```
[c,l] = wavedec(wiatrak_20, 8, 'coif2');
a8 = appcoef(c,l,'coif2');
fid = fopen('wiatrak_20_a8.txt','w+t','n');
fprintf(fid,'%f\n',abs(a8));
fclose(fid);
plot(a8);
```



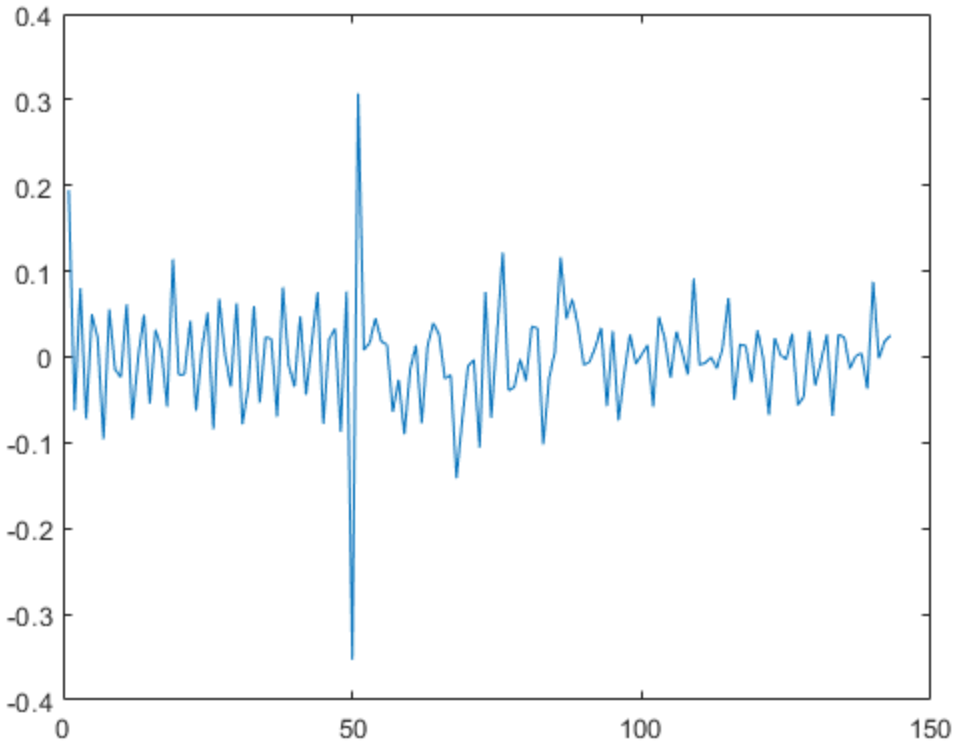
zad4

```
[c,l] = wavedec(wiatrak_20, 10, 'haar');
[d10_haar] = detcoef(c,l,[10]);
fid = fopen('wiatrak_20_d5.txt','w+t','n');
fprintf(fid,'%f\n',abs(d10_haar));
fclose(fid);
plot(d10_haar);
```



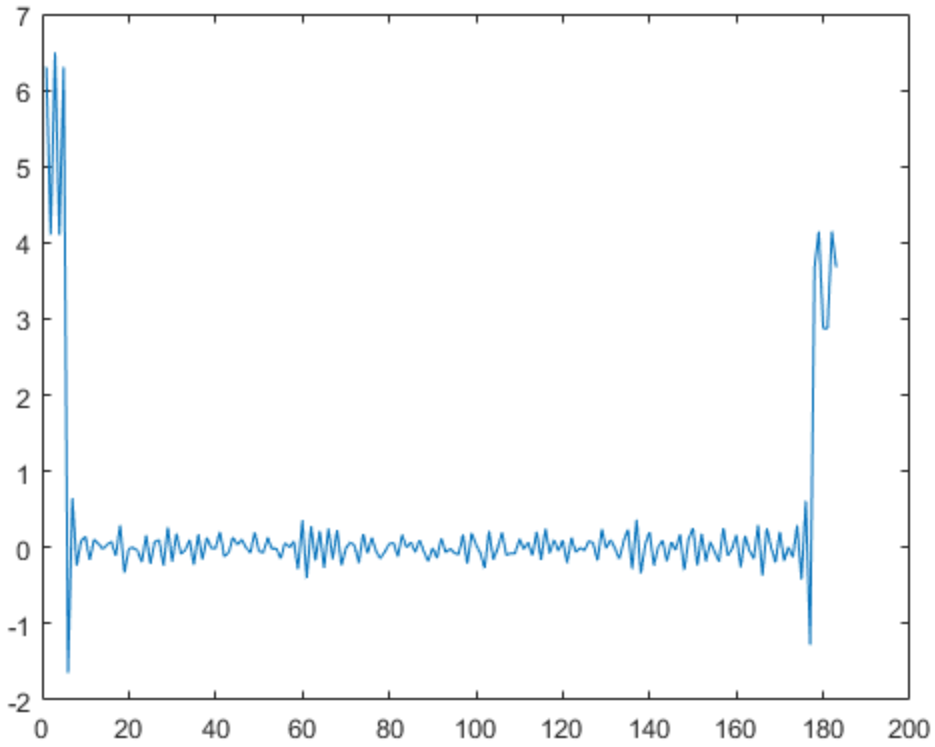
zad5

```
[c,l] = wavedec(wiatrak_20, 10, 'dmey');
[d10_dmey] = detcoef(c,l,[10]);
fid = fopen('wiatrak_20_d5.txt','w+t','n');
fprintf(fid,'%f\n',abs(d10_dmey));
fclose(fid);
plot(d10_dmey);
```



zad6

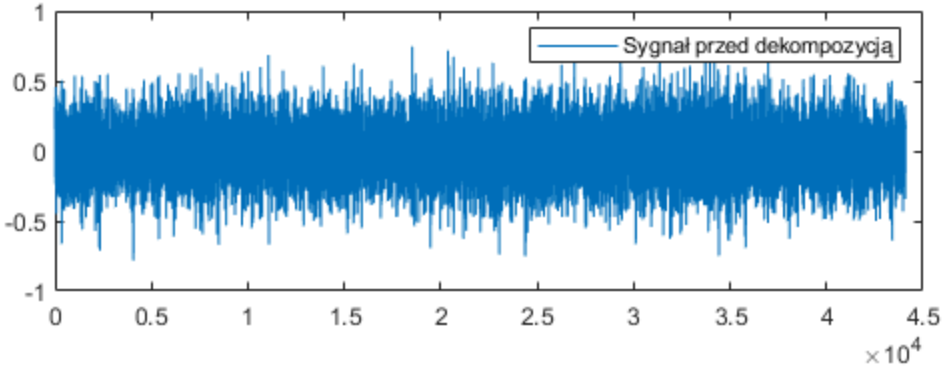
```
[c,l] = wavedec(wiatrak_20, 8, 'bior3.5');
a8_bior = appcoef(c,l,'bior3.5');
fid = fopen('wiatrak_20_a8.txt','w+t','n');
fprintf(fid,'%f\n',abs(a8_bior));
fclose(fid);
plot(a8_bior);
```

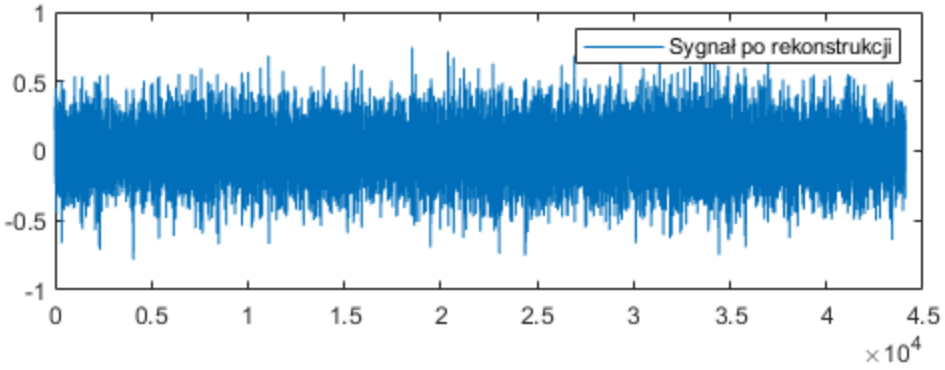


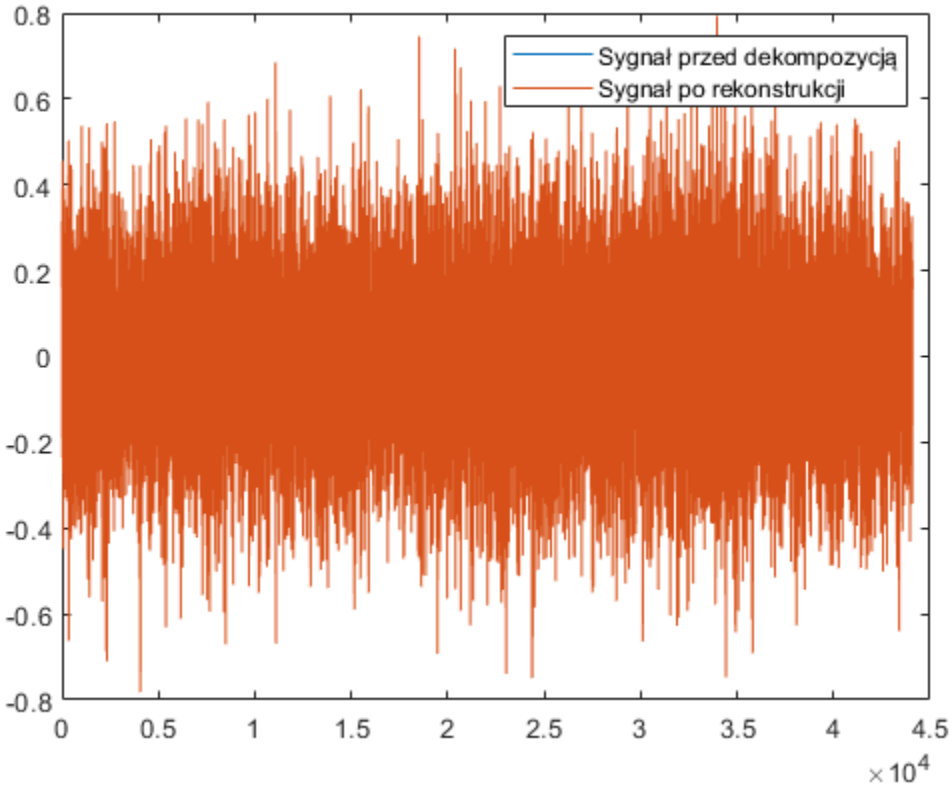
zad7

```
figure
subplot(2,1,1)
plot(wiatrak_20);
legend('Sygna# przed dekompozycj#')
[c,l] = wavedec(wiatrak_20,12, 'coif2');
Rec = waverec(c,l,'coif2');
subplot(2,1,2)
plot(Rec);
legend('Sygna# po rekonstrukcji')

figure
plot(wiatrak_20);
hold on
plot(Rec);
legend('Sygna# przed dekompozycj#','Sygna# po rekonstrukcji')
```


Sygnał przed dekompozycją
1
0.5
0
-0.5
-1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
×10^4

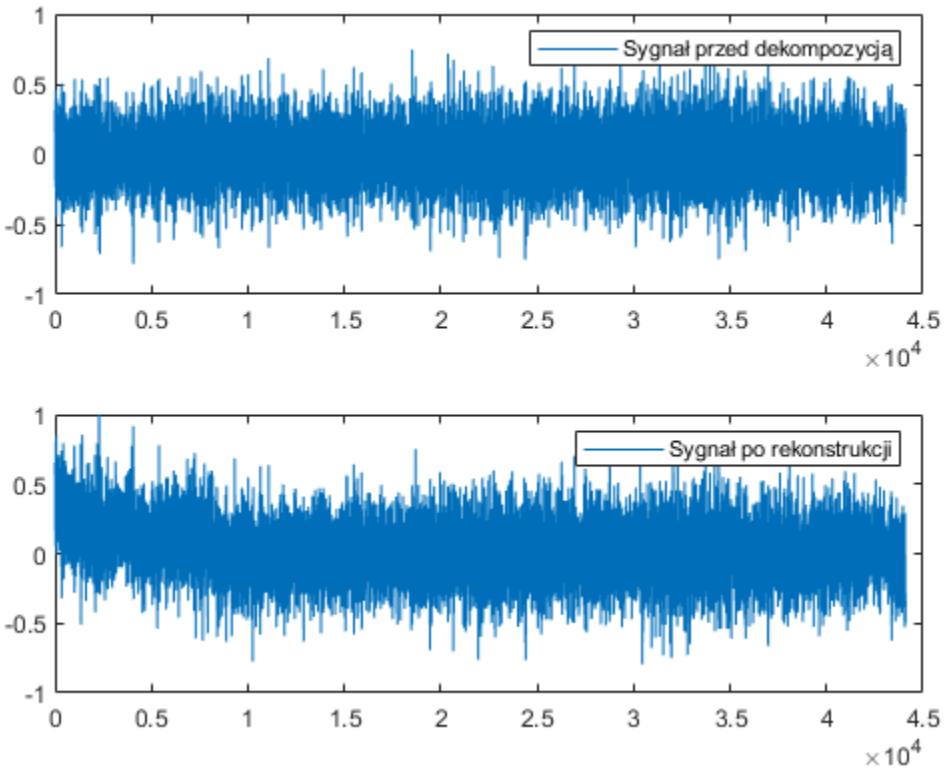

Sygnał po rekonstrukcji
1
0.5
0
-0.5
-1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
×10^4

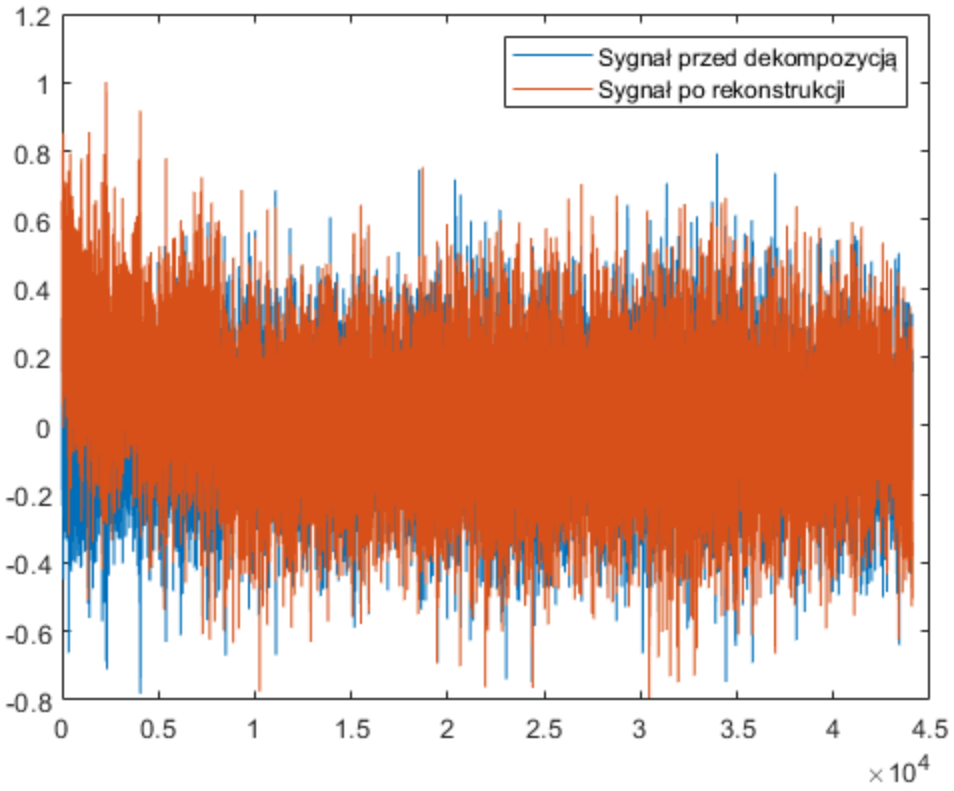

Sygnał przed dekompozycją
Sygnał po rekonstrukcji
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
×10^4

zad8

```
figure
subplot(2,1,1)
plot(wiatrak_20);
legend('Sygna# przed dekompozycj#')
[c,l] = wavedec(wiatrak_20,12, 'coif2');
Rec = waverec(c,l,'haar');
subplot(2,1,2)
plot(Rec);
legend('Sygna# po rekonstrukcji')

figure
plot(wiatrak_20);
[c,l] = wavedec(wiatrak_20,12, 'coif2');
Rec = waverec(c,l,'haar');
hold on
plot(Rec);
legend('Sygna# przed dekompozycj#','Sygna# po rekonstrukcji')
```





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