```
clear all
clc
```

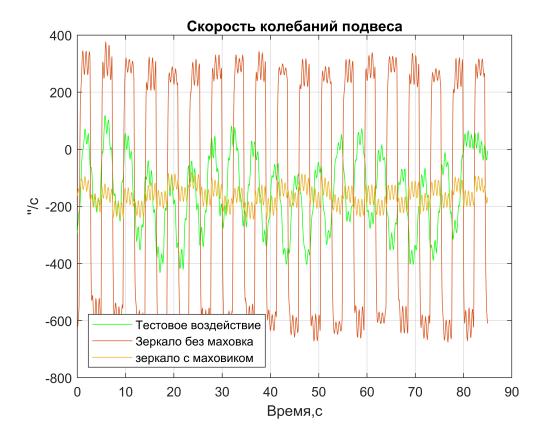
## Загружаем данные из фала

```
%% Set up the Import Options and import the data
opts = delimitedTextImportOptions("NumVariables", 4);
% Specify range and delimiter
opts.DataLines = [1, Inf];
opts.Delimiter = "\t";
% Specify column names and types
opts.VariableNames = ["t1", "v1", "t2", "v2"];
opts.VariableTypes = ["double", "double", "double", "double"];
% Specify file level properties
opts.ExtraColumnsRule = "ignore";
opts.EmptyLineRule = "read";
% Import the data
Miror = readtable("E:\Сканер\ост момент сканер\11_10_23\зеркало.txt", opts);
Stand = readtable("стенд.txt", opts);
TestMom = readtable("TecT5MH.txt", opts);
Scan = readtable("ckah.txt", opts);
%% Clear temporary variables
clear opts
```

```
i = 8500;

TestMomMean = (TestMom.v2(400:i+400));
MirorMean = (Miror.v2(340:i+340));
StandMean = (Stand.v2);
ScanMean = (Scan.v2);
```

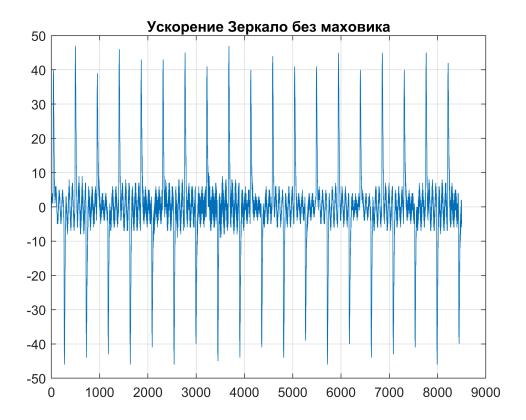
```
t = 0:0.01:10000;
figure
plot(t(1:i),TestMomMean(1:i), "green");
grid on
hold on
plot(t(1:i), MirorMean(1:i));
plot(t(1:i), ScanMean(1:i));
legend('Тестовое воздействие', 'Зеркало без маховка', 'зеркало с маховиком','Location', "southuxlabel("Время,с")
ylabel("''/с")
title("Скорость колебаний подвеса");
```



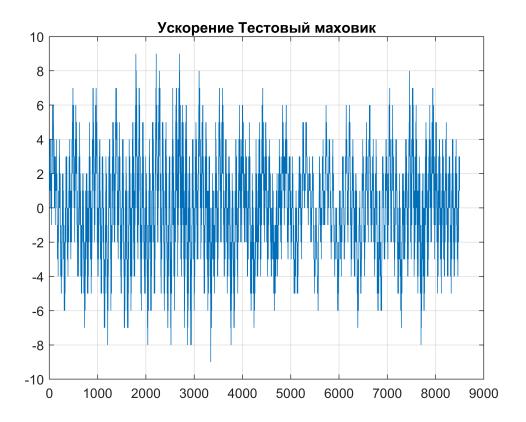
Вычислим производную как разность соседних отсчетов деленные на шащ времен t = 0.01с

```
TestMomAcc = diff(TestMomMean(1:i));
MirorAcc = diff(MirorMean(1:i));
ScanAcc = diff(ScanMean(1:i));

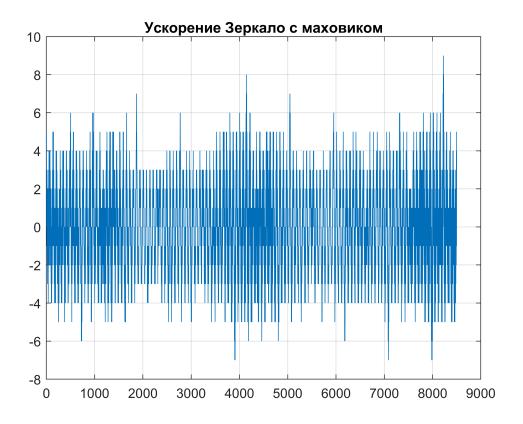
figure
plot(MirorAcc);
grid on
title("Ускорение Зеркало без маховика");
```



```
figure
plot(TestMomAcc);
grid on
title("Ускорение Тестовый маховик");
```

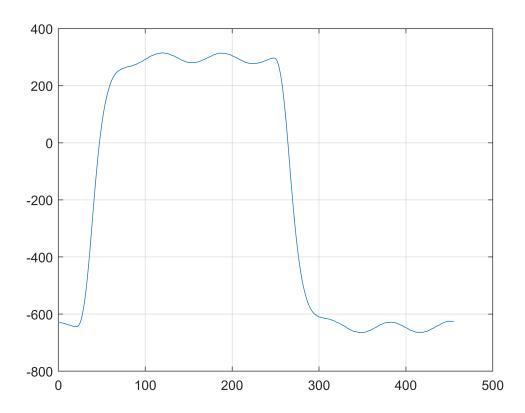


```
figure
plot(ScanAcc);
grid on
title("Ускорение Зеркало с маховиком");
```

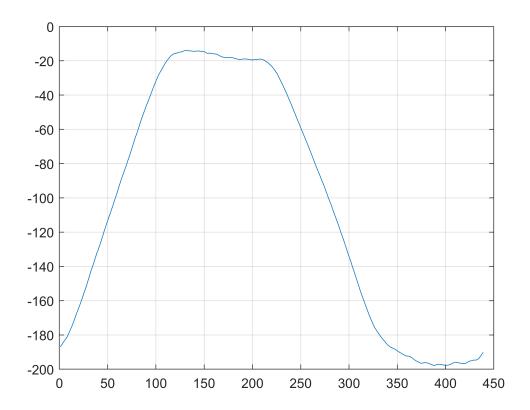


## Усреднение по 15-ти измерениям.

```
nm = 455; % число отсчетов в одном периоде sumMirror = MirorMean(1:nm); for i = 1:17 sumMirror = sumMirror+MirorMean((nm*i)+1 : nm*(i+1)); end plot(sumMirror/17) grid on
```

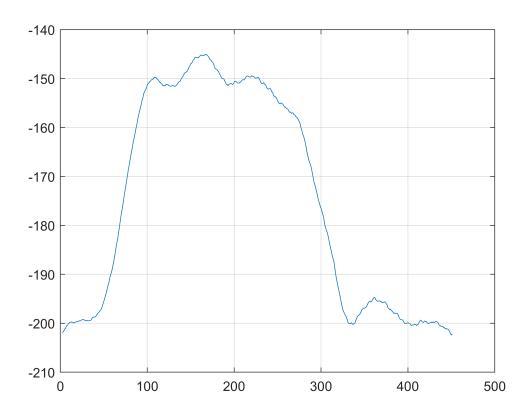


```
nt = 439 ;
sumTest = TestMomMean(1:nt);
for i = 1:10
    sumTest = sumTest + TestMomMean((nt*i)+1 : nt*(i+1));
end
plot(sumTest/17)
grid on
```



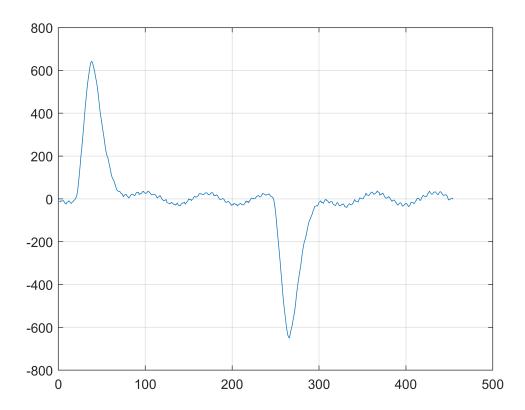
```
ns = 451;
sumScan = ScanMean(1:ns);
for i = 1:17
    sumScan = sumScan+ScanMean((ns*i)+1 : ns*(i+1));
end

plot(sumScan/17)
grid on
```

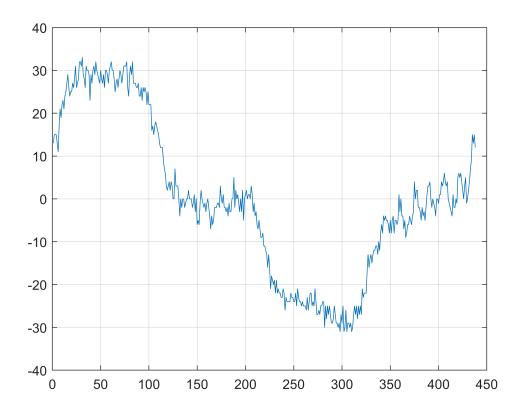


```
Macc = diff(sumMirror);
Tacc = diff(sumTest);
Sacc = diff(sumScan);

plot(Macc);
grid on
```



plot(Tacc);
grid on



```
plot(Sacc);
grid on
```

