

LAMPIRAN

1. Script TSA Roda Gigi Normal

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%Script Time Synchronous Averaging (TSA) Roda Gigi Normal

clear all;
clc;
close all;

%Load Data dan Masukkan Input

load('E:\Nitip
Irfan\GearNormal\Set1\Pengambilan_Data_TAGearNormal12.mat');
fs = 25600; %frekuensi
sampling Hz (fs)
fo = 5
x = data_all(:,1);
tacho = data_all(:,2);
L = fs*fo; %panjang data
NFFT = 2^nextpow2(L); %Next power of 2
from length of y
Y = fft(x,NFFT)/L;
f = fs/2*linspace(0,0.422,NFFT/2+1);
Amplitudo = 2*abs(Y(1:NFFT/2+1));
[rpm,t,tp] = tachorpm(tacho,fs);
ta = tsa(x,fs,tp,'NumRotations',5);

L2 = length(ta); %panjang data ke
2(length of signal)
NFFT = 2^nextpow2(L); %Next power of 2
from length of y
Y2 = fft(ta,NFFT)/L;
f = fs/2*linspace(0,0.422,NFFT/2+1);
Amplitudo2 = 2*abs(Y2(1:NFFT/2+1));

%Plot Amplitudo Domain Waktu
figure (1)
plot(x)
title('Domain Waktu Roda Gigi Normal')
axis([0 6355 -5 5])
xlabel('sampel')
ylabel('Amplitudo')

% Plot single-sided amplitudo spectrum.
figure (2)
plot(f,Amplitudo)
title('Spektrum Roda Gigi Normal')
axis([0 1500 0 0.04])
xlabel('Frequency (Hz)')
ylabel('Amplitudo')

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%Plot Amplitudo Domain Waktu Setelah TSA
figure (3)
plot(ta)
title('Domain Waktu Setelah Menggunakan Metode TSA Roda Gigi Kondisi
Normal')
xlabel('sampel')
ylabel('Amplitudo')

% Plot single-sided amplitudo spectrum Setelah TSA.
figure (4)
plot(f,Amplitudo2)
axis([0 1500 0 0.04])
title('Spektrum Setelah Menggunakan Metode TSA Roda Gigi Kondisi
Normal')
xlabel('Frequency (Hz)')
ylabel('Amplitudo')

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2. Script TSA Roda Gigi Rusak Patah Satu Gigi

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%Script Time Synchronous Averaging (TSA) Roda Gigi Rusak

clear all;
clc;
close all;

%Load Data dan Masukkan Input

load('E:\Nitip
Irfan\CacatGear\Set12\Pengambilan_Data_TACacatGear20.mat');
fs = 25600; %frekuensi
sampling Hz (fs)
fo = 5
x = data_all(:,1);
tacho = data_all(:,2);
L = fs*fo; %panjang data
(length of signal)
NFFT = 2^nextpow2(L); %Next power of 2
from length of y
Y = fft(x,NFFT)/L;
f = fs/2*linspace(0,0.422,NFFT/2+1);
Amplitudo = 2*abs(Y(1:NFFT/2+1));
[rpm,t,tp] = tachorpm(tacho,fs);
ta = tsa(x,fs,tp,'NumRotations',5);

L2 = length(ta); %panjang data ke
2(length of signal)
NFFT = 2^nextpow2(L); %Next power of 2
from length of y
Y2 = fft(ta,NFFT)/L;

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f = fs/2*linspace(0,0.422,NFFT/2+1);
Amplitudo2 = 2*abs(Y2(1:NFFT/2+1));

%Plot Amplitudo Domain Waktu
figure (1)
plot(x)
title('Domain Waktu Roda Gigi Kondisi Rusak')
axis([0 6355 -5 5])
xlabel('sampel')
ylabel('Amplitudo')

% Plot single-sided amplitudo spectrum.
figure (2)
plot(f,Amplitudo)
title('Spektrum Roda Gigi Kondisi Rusak')
axis([0 1500 0 0.04])
xlabel('Frequency (Hz)')
ylabel('Amplitudo')

%Plot Amplitudo Domain Waktu Setelah TSA
figure (3)
plot(ta)
title('Domain Waktu Setelah Menggunakan Metode TSA Roda Gigi Kondisi
Rusak')
xlabel('sampel')
ylabel('Amplitudo')

% Plot single-sided amplitudo spectrum Setelah TSA.
figure (4)
plot(f,Amplitudo2)
axis([0 1500 0 0.04])
title('Spektrum Setelah Menggunakan Metode TSA Roda Gigi Kondisi
Rusak')
xlabel('Frequency (Hz)')
ylabel('Amplitudo')

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