

LAMPIRAN

A. Script Akuisisi Data

```
%Script to run data acquisition using National Instrument NI 9234  
%Created: Oct 2016, Berli Kamiel
```

```
clear all;  
clc;  
close all;
```

```
tic;
```

```
s = daq.createSession('ni');  
s.DurationInSeconds = 10;  
Dur = s.DurationInSeconds;  
s.Rate = 17066;  
%s.addAnalogInputChannel('cDAQ1Mod1', 'ai0', 'Accelerometer');  
s.addAnalogInputChannel('cDAQ1Mod1', 'ai1', 'Accelerometer');  
%s.addAnalogInputChannel('cDAQ1Mod1', 'ai2', 'Accelerometer');  
%s.addAnalogInputChannel('cDAQ1Mod1', 'ai3', 'Voltage'); %  
Tachometer  
% s.addAnalogInputChannel('cDAQ1Mod2', 'ai0', 'Microphone');  
% s.addAnalogInputChannel('cDAQ1Mod2', 'ai1', 'Microphone');
```

```
%s.Channels(1).Sensitivity = 97.60E-3; %mV/g Type 4507B  
serial:30172  
%s.Channels(2).Sensitivity = 97.60E-3; %mV/g Type 4507B  
serial:30172  
%s.Channels(3).Sensitivity = 99.56E-3; %mV/g Type 4507B  
serial:10984  
%s.Channels(4).Sensitivity = 94.50E-3;  
%s.Channels(5).Sensitivity = 9.40E-3; %mV/Pa Model 130B40  
serial:41741  
%s.Channels(6).Sensitivity = 8.60E-3; %mV/Pa Model 130B40  
serial:41842
```

```
for i=1:20
```

```
data = s.startForeground(); % start recording vibration  
data  
%data_ch1 = data(:,1);  
%data_ch2 = data(:,1);  
%data_ch3 = data(:,3);  
%data_ch4 = data(:,2);  
%data_ch5 = data(:,5);  
%data_ch6 = data(:,6);
```

```
rootname = 'D:\Penelitian\BARu\BantalanLintasanDalam\Barul\';  
% drive tujuan dan nama file  
extension = '.mat';  
% ekstension utk nama file
```

```

namafile =
[rootname, 'NEWSet1_tacho&akselerometerBEARING', num2str(i), extension];
data_all = [data_ch2];
eval(['save ', namafile , ' data_all']);

pause(2)
pesan = ['Acquiring and saving data at loop number: ', num2str(i)];
display(pesan)
end

toc

```

B. Script Analisa data

```

clear
clc
close all

load('D:\Penelitian\Bearing\Cacat_Lintasan_Dalam\Ceps\Set7\NEWSet7
_tacho&akselerolintasandalam15');
y=data_all(:,1); %data Akselerometer
x=data_all(:,2); %data Tachometer
fs=17066; %kecepatan sampling Hz
t=10; %waktu perekaman data (recording time)
L=fs*t; %panjang data (length of signal)

%FFT
NFFT = 2^nextpow2(L); % Next power of 2 from length of y
Y = fft(y,NFFT)/L;
f = fs/2*linsspace(0,1,NFFT/2+1);

%Kecepatan Putar Poros
rpm = tachorpm(x, fs)

%Cepstrum
xm = rceps(y);
T = (0:length(y)-1)/fs;

%Plot Grafik Time Domain
figures
plot(y)
xlims([0 18725])
ylims([-16 16])
title('Bearing Signal')
xlabel('Sampel Data')
ylabel('Amplitudo')

% Plot Grafik Spectrum.
figures
plot(f, 2*abs(Y(1:NFFT/2+1)))
title('Spektrum')
xlabel('Frekuensi (Hz)')
ylabel('Amplitudo (mV)')

% Plot Grafik Cepstrum.

```

```
figures
plot(T,xm)
title('Cepstrum')
xlabel('quefreny (s)')
ylabel('Amplitudo (mV)')
```

C. Hasil Pengecekan Turnitin

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