2PEM-100A

PRACTICE 3_2

Display one of the variables with changed frequency

More information:

- https://2pem100a.blogspot.com/

More examples:

- https://github.com/vasanza/Matlab_Code/tree/Electrical-Systems-Simulation
- https://github.com/avbazurt/Simulacion_Sistemas_Electricos

Dataset:

- http://ieee-dataport.org/8630

Technical information

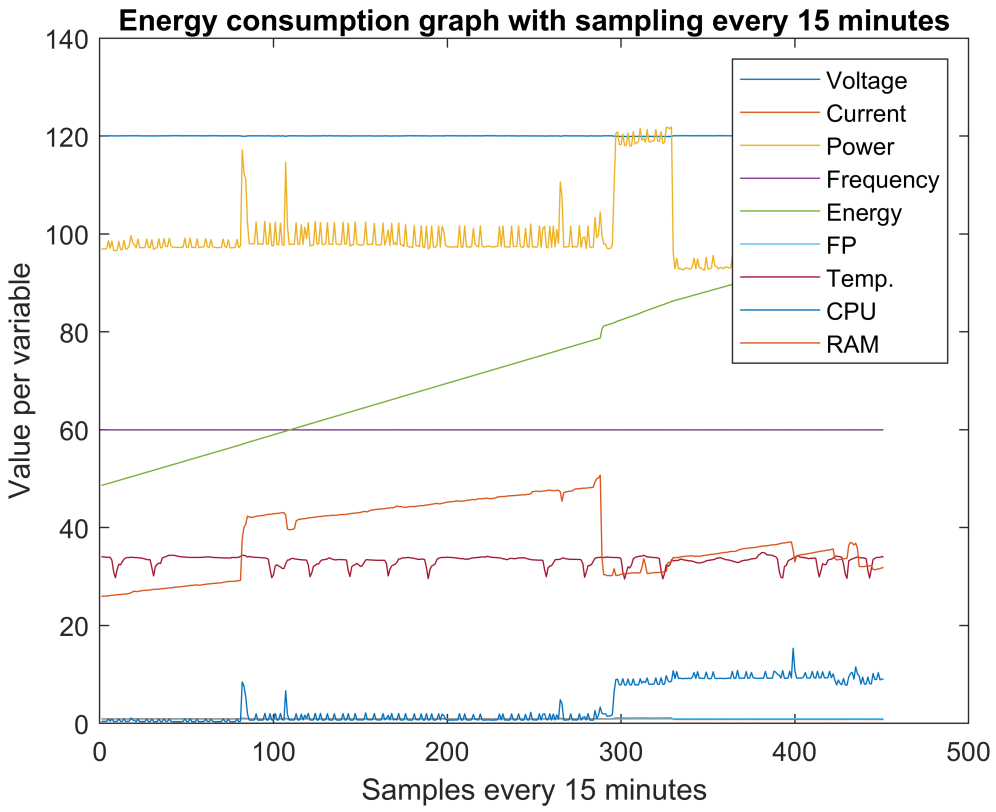
- Sampling frequency: 4Hz (250mSeg)

1- Loading a .mat file with 1sample sampling rate / 15min = 1sample / 900seg

Data (451x9), donde 451x15min=6765min/60min=112.75horas/24=4.69dias

```
clear;%borra el worskpace
clc;%borra el comand windiw
path=fullfile('./datamean.mat');
data=load(path);
data=struct2cell(data);
data=data{1,1};%table
plot(data);%datos originales
title('Energy consumption graph with sampling every 15 minutes');
legend('Voltage','Current','Power','Frequency','Energy','FP','Temp.','CPU','RAM');

xlabel('Samples every 15 minutes');
ylabel('Value per variable');
```



Example 4: Working with one of the variables

```
prompt = 'Select one of the variables (1-9)';
x = input(prompt) %columna para seleccionar la variable
```

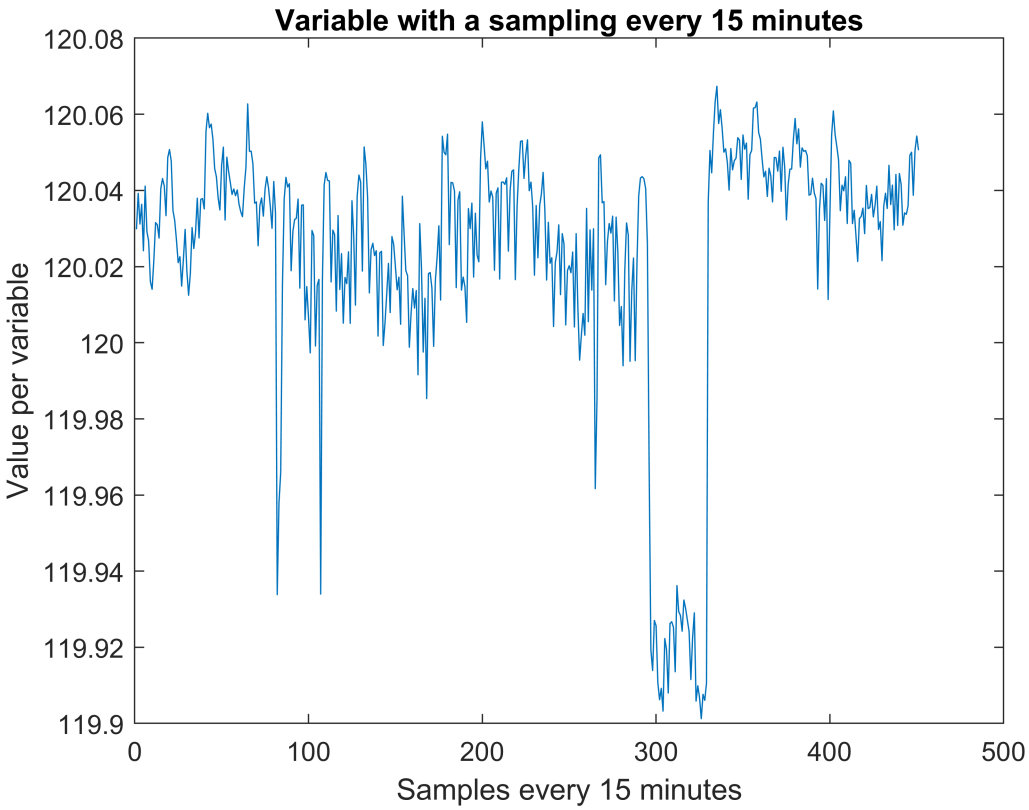
```
x = 1
```

```
variable=data(:,x);
datastats(variable)
```

```
ans = struct with fields:
       num: 451
       max: 120.0674
       min: 119.9012
      mean: 120.0236
    median: 120.0337
     range: 0.1661
       std: 0.0345
```

```
plot(variable);%datos originales
title('Variable with a sampling every 15 minutes');
%legend('Voltage','Current','Power','Frequency','Energy','FP','Temp.','CPU','RAM');

xlabel('Samples every 15 minutes');
ylabel('Value per variable');
```


Variable with a sampling every 15 minutes
120.08
120.06
120.04
120.02
120
119.98
119.96
119.94
119.92
119.9
Value per variable
0
100
200
300
400
500
Samples every 15 minutes