CT.2306 : Signal & Systems II

Project Report:

Processing motion signals from a PTZ camera

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isep
École d'ingénieurs du numérique

Abstract

Sum-up of the project

Contents

1 Data Visualization

1) *Loading data*

We first use *load('data-proj.mat')* to load variables from data file. Then using *whos* we can list all variables. We have their name and size. Here is the result :

```
>> whos
  Name        Size                 Bytes  Class

  omega       1x20001             160008  double
  t           1x20001             160008  double
```

Figure 1: Listing variables

2) *Plotting the data*

We can not use the signal as it is. Graphically it is impossible to analyze. Either it is too noisy or the window is too large in order to see enough details of the signal.

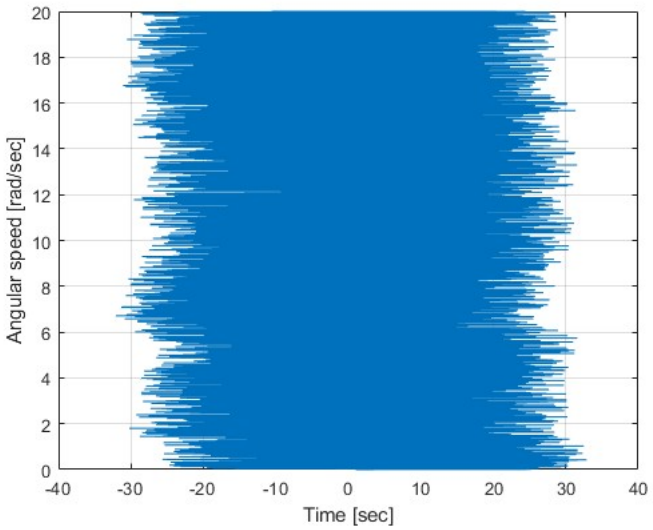

Figure 2: Angular speed as a function of time

2 Analog Filtering

3) *question subject*

4) *question subject*

5) *question subject*

6) *question subject*

7) *question subject*

3 Sampling

8) *question subject*

9) *question subject*

10) *question subject*

11) *question subject*

12) *question subject*

4 Angular position and acceleration

13) *question subject*

14) *question subject*

15) *question subject*

5 Digital filtering

16) *question subject*

17) *question subject*

18) *question subject*