

CT.2306 : Signal & Systems II

Project Report:

Processing motion signals from a PTZ camera



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Abstract

Sum-up of the project

Contents

1	Data Visualization	2
2	Analog Filtering	2
3	Sampling	3
4	Angular position and acceleration	3
5	Digital filtering	3

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.

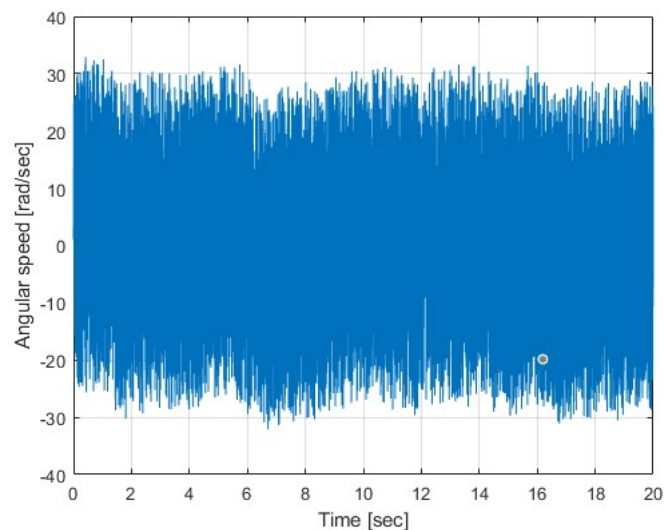


Figure 2: Angular speed as a function of time

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*
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- 18) *question subject*