

# Template Group Reports for 4SC070

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**Abstract**—The abstract goes here. Guideline: five sentences, describing the background, the aim, the method, the results and the conclusion.

## I. INTRODUCTION

**T**HIS file is intended as a demo/template for the group reports for the course 4SC070 Learning Control. It is based on the template for IEEE journal papers using IEEEtran.cls version 1.8b and later. It is strongly recommended to use the sections mentioned in this template, but feel free to add any sections that you think are relevant. For inspiration on writing in a paper format, see <http://toomen.eu/publications.html#journal>.

During the course, each group will write a report using this template. The report discusses the challenge, and your ideas for a learning algorithm that enables small contouring errors with limited actuator inputs.

In the introduction, you introduce the problem. Describe the context, the problem, the approach/solution and the structure of this document. Why should the reader read this work? For the challenge report, add some references to existing approaches/ideas in literature.

## II. PROBLEM FORMULATION

Introduce the problem. This could mean introducing the system and how it is modeled, the idea of contouring errors etc. End with a clear problem formulation for which your developed approach/algorithm in Section III is a solution.

### A. Subsection Heading Here

Subsection text here.

1) Subsubsection Heading Here: Subsubsection text here.

## III. APPROACH

Describe your approach (design) and explain design choices. Consider discussing implementation aspects if relevant.

## IV. EXPERIMENTAL RESULTS

Present and discuss your experimental results. To add figures, see the code for Figure 1 and the code provided in Appendix A. Figures should be positioned at the top of the page.

## V. CONCLUSION

What did your work reveal? What does this mean for the reader? Make sure it connects with your introduction. Additionally, add recommendation for future work/research.

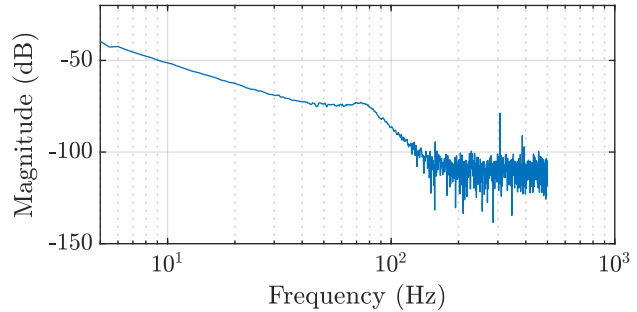


Fig. 1: Magnitude plot of the frequency response function of the system. Add explanatory text of the figure here, such that the figures are readable as a comic book.

## APPENDIX A MATLAB CODE

Any relevant pieces of Matlab code may be added in the appendices. We have provided some code to help you export an open figure from Matlab in PDF format. The use of either PDF or EPS format for your figures is recommended. Before creating a figure, set the interpreter to  $\LaTeX$ .

```
1 set(groot, ...,
   'defaultAxesTickLabelInterpreter','latex');
2 set(groot, 'defaultLegendInterpreter','latex');
3 set(groot, 'defaulttextInterpreter','latex');
```

Then, set the width of the figure equal to that of the columns in this template and save the figure in PDF format.

```
1 fig = get(groot, 'CurrentFigure');
2
3 set(fig, 'PaperUnits', 'centimeters');
4 set(fig, 'Units', 'centimeters');
5
6 x_width=8.85;           %x_width of the ...
   figure, set at template column width
7 y_width=0.5*x_width;    %y_width of the ...
   figure, free to choose
8
9 set(fig, 'PaperPosition', [0 0 x_width ...
   y_width]);
10 set(fig, 'PaperSize', [x_width y_width]);
11 set(fig, 'InnerPosition', [0 0 x_width ...
   y_width]);
12 set(gca, 'FontSize', 9)
13
14 saveas(fig, 'filename', 'pdf');    %save the ...
   figure as pdf
```

## APPENDIX B

APPENDIX SUBTITLE GOES HERE.

Appendix B text goes here.

## REFERENCES

- [1] H. Kopka and P. W. Daly, *A Guide to L<sup>A</sup>T<sub>E</sub>X*, 3rd ed. Harlow, England: Addison-Wesley, 1999.