Intermediary Report for the Design of Experiments Project

jean-marie.furbringer@epfl.ch

October 15, 2025

In this intermediary report, we expect students to present their work on modeling the cylinder statistically and theoretically. Te report must be submited in Moodle before Tuesday October 28. at 23:59. The report should be structured in a clear and logical manner, with the following sections included.

1 Introduction

This part is a presentation the problem and the structure of the document.

2 Theoretical Model (Network of Resistors)

Present a corresponding theoretical model of the cylinder.

3 Statistical Model

Present the statistical (empirical) model you have developed to represent the behavior of the cylinder. Clearly define the variables used, the type of statistical analysis performed, and any assumptions made in building the model. Discuss the relevance of the model and how it captures the cylinder behavior. Present your data for the determination of your experimental space.

4 Link Between the Two Models

In this section, you should explore and explain the relationship between the statistical model and the theoretical model. Discuss how the two models

align or differ and what insights can be gained from comparing them. If there are discrepancies, explain possible reasons for them.

5 Next Steps

Outline the next steps of the project. Provide a brief overview of how you intend to approach the measurement phase and what challenges you anticipate.

6 Conclusion

Summarize the work completed so far and any preliminary conclusions. Discuss the progress made and how this intermediary step contributes to the final goal of the project. Mention any unresolved issues or questions that you plan to address in the next phases of the project.

Length of the Report

While the number of pages is flexible, the report should be concise and to the point, with a maximum of 10 pages. Make sure that the report is well-structured and clearly communicates your work, findings, and next steps.