Lab 1 Writing Assignment

Figures and Captions

Writing Assignment

In this writing assignment you will create a figure, write a caption for it, and write a paragraph of text to reference and explain the figure. In doing this, you will learn how to create a well-designed figure to clearly and effectively present captured data. You will also learn how to refer to the figure in supporting text by writing a short paragraph to explain the significance of the data and the important takeaways.

Learning Objectives

By the end of this writing assignment you will…

- Learn how to design a clear figure
- Understand what information should be in the figure, figure caption, and text referencing the figure.

Required Resources

☐ Data from Lab 1
☐ Code used to process and plot Lab 1 data
☐ Figure generated from Lab 1

Specifications

Effort

☐ A figure of acceleration plots is present and shows the required traces.
☐ The figure has a caption
☐ There is a paragraph of text explaining the contents of the figure.

Completion

Figure Design

- ☐ Y-axis label is clear and descriptive of the dependent variable
- ☐ X-axis label is clear and descriptive of the independent variable
- ☐ All axis ticks are legible
- ☐ Graph is easily readable (e.g., appropriate fonts, line weights and data markers and not overly cluttered)
- ☐ Legend is present and well-placed if multiple lines are present on the plot (e.g., no on top of any data)
- ☐ Correct units in the labels for both axes (e.g., Distance [m])
- ☐ Data is shown with good level of zoom to highlight the important parts of the captured trace. Beginning and end of the trace is trimmed.
- ☐ Data overlayed well (e.g., all three axes of acceleration measurements are plotted together on the same axes in different colors.)

Caption

- ☐ Contains a figure number.
- ☐ Includes a succinct description of the contents of the figure.
- ☐ Is free of grammar and spelling issues.

Supporting Text

- ☐ Refers to each figure
- ☐ Explains the significance and meaning of the figure.
- ☐ Correct sentence mechanics like cohesion and coherence between sentences and no run-ons.
- ☐ Correct paragraph mechanics like topic sentences and placement at breaks between ideas.
- ☐ Language is not stilted and jargon is kept to a reasonable minimum.

Code

- ☐ Code used to process and plot the captured data is present.
- ☐ Each script file has a descriptive filename (e.g., `acceleration_data_procesor.m`).
- ☐ Filename, author name, author email, and date included at the top of each script file.
- ☐ Each function contains a comment at the top describing its purpose.
- ☐ Script file automatically exports and generated figures or processed data to files.

Comments

Add specific notes here about the assignment and what is yet to be completed.