Report Checklist

T.A. Marriage

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1 General Points

- Does the writing aim at the intended audiences? Specifically, does the text meet the following requirements? (1) The text is written so that a physics major undergraduate that does not know about the lab can understand the relevance, basic setup and results. (2) There are enough details are given so that an advanced lab class mate could reproduce your measurements and compare their results to yours?

- Can someone inspect the abstract, introduction, figures (with captions), and conclusion and get the gist of what was done?

- Are figures and tables used in effective ways to convey complicated ideas from the text? Common uses of figures are a schematic of the experimental apparatus and a plot of data with model fits. A common use of a table is to give numerical values that are too numerous to list cleanly in the writing and not so numerous that they take up lots of space: reduced data and errors are good candidates for tables.

2 Important Details

- Does the writing have correct grammar and is the text reasonably formated?

- Are all figures annotated properly between labels and captions? Specifically

  - Do all plot axes have labels?
  - Are the labels in figures comparable size to the text (i.e., not too small)?

- Do figure captions provide more than just clarifications of the figure. Do they provide a "take-away" message that is essential to the experiment?

- Do significant figures in numerical results reflect the associated error?

- Are all physical quantities given with units (including in table headers, plot labels etc)?

3 Abstract

- Is the experiment summarized succinctly?

- Is a numerical measured result given with error?

4 Introduction

- Is the relevance of the topic to our understanding of the physical world established?

- What is the history of this topic? Are important works cited?

- Is there any pedagogical/recent work related to your measurement? Is the work cited?

- Is there a concise summary of your experiment and how it fits in the context of previous work?

5 Theory

Note this section may not be needed if the phenomenon under study is self explanatory. For example, when we measure the speed of light there is no explanation needed beyond what is given in the introduction.

- Is the physical phenomenon under investigation clearly and succinctly described?

- Are all relevant formulas given (to be referenced later in results section)?

6 Experiment Apparatus

- Is the experimental apparatus clearly and succinctly described?

- Are key experimental parameters identified?

- Are all key equations describing the apparatus given?

7 Data

- Are specific experimental parameters, under which the data were taken, given?

- Are datasets intended to facilitate systematic error checks described?

- Is the initial reduction of data, including error estimation, described clearly and succinctly?

- Are the resulting data and errors provided?

8 Results

- Is the physical model described referencing appropriate equations in the Theory and/or Experiment Apparatus sections?

- Is the method for computing best estimate of physical model parameters with errors described?

- Are the resulting physical model parameters with errors given?

- Are the effects of systematics considered on the results?

9 Conclusion

- Is the experiment summarized with main "take-away" results emphasized?

- Are any major deficiencies in the experiment addressed?

References

[1] Are all references cleanly/consistently formatted?