

Clear Descriptive Title of the Experiment

First Lastname and (First Lastname partner if any)

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This is a brief summary of the experiment, its objectives and major conclusions. Use no more than 200 words. If someone only read this they would know what you did and why you did it. Include any measured quantities here with errors. For example, We measured $\pi = 3.18 \pm 0.03$. (How and details are in the main report).

INTRODUCTION

Describe the importance of this experiment. Describe the relevant background theory and mention the major relations or formulae[1] you need for data analysis.

$$\begin{aligned} E &= mc^2 \\ &= \hbar\omega = h\nu. \end{aligned}$$

Do not derive them. At the end of the introduction state clearly and concisely the objectives and conclusions of the experiment.

EXPERIMENTAL SETUP AND PROCEDURES

Describe in detail the major apparatus and equipment used in this experiment. Include a figure of the apparatus and list its major components. Describe the operation of the apparatus and present the experimental procedure and instrumentation used for data acquisition. A block diagram of the instrumentation may be very illuminating of the way the data may have been obtained. This should not be a step-by-step recipe, but Using what you write here someone should be able to reproduce your results.

RESULTS

This is the most important section. Only the final results are discussed here not the raw data which are tabulated in one of the Appendices or submitted separately. The experimental results are presented with the accompanied uncertainties. (Explanation of how the uncertainties are derived will be in a separate section on error analysis.) These results should be compared with the available theoretical predictions on the same plot. The results should be presented graphically in scientific plots (e.g., figure. 1) and should also be discussed in the accompanied text.

CONCLUSIONS

This section contains the most important of the results, which ought to be interpreted and explained. Any state-

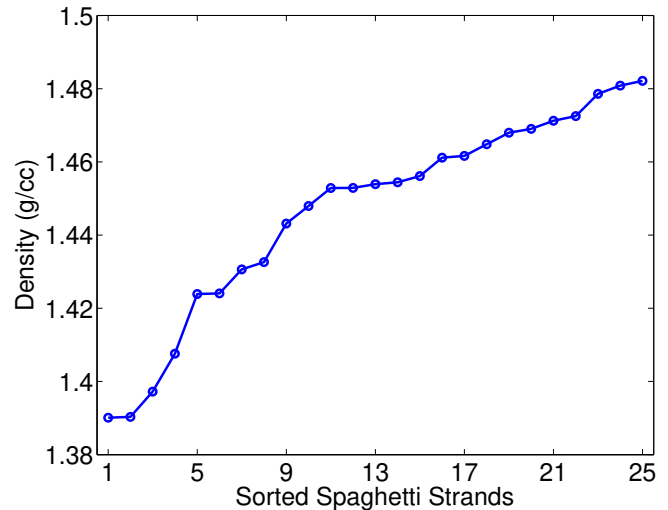


FIG. 1. Figures should be scientifically significant, with labels and units. Captions should be a short summary of the content. For example, measured density of 25 spaghetti strands sorted by density to show the range of non-uniformity.

ment you make here has to be well thought in advance and absolutely justified.

Error Analysis

This section includes a detailed analysis of all error sources for experimental measurements. Include both size of measurement errors and method of estimate. Show how errors propagate to final calculated results. Discuss both accuracy and precision of all measurements. Describe any sources of systematic errors.

Appendix A

This section includes tabulation of all raw data if not submitted separately.

Appendix B

This section includes sample calculations if needed.

Appendix C

This section contains computer programs or links if not submitted separately.

[1] A. Einstein, *Annalen der Physik* **323**, 639 (1905).