Your paper should begin with an abstract, a one paragraph summary of the work covered in the article. People often will only read the abstract of a paper, keeping this in mind your abstract should include your major experimental result(s) along with uncertainty.

I. INTRODUCTION

Your paper should start with two or three paragraphs of introduction. This should provide some historical and physics context for your measurement, why it is important and why the reader should continue reading. What is the model you are trying to test?

You will certainly want to make use of references in your introduction and elsewhere throughout the paper. This is done as shown in this sentence [1]. You may also cite more than one source at the same time as is done at the end of this sentence [1,2,3].

This sample document demonstrates proper use of REVTeX 4 (and \LaTeX\ 2e) in manuscripts prepared for submission to APS journals. Further information can be found in the REVTeX 4 documentation included in the distribution or available at \url{http://publish.aps.org/revtex4/}.

II. THE EXPERIMENT

In this section, you will describe the equipment and techniques by which you obtained your data. You may want to include figures or schematics of your experimental setup in the form of \textit{eps} files. For example, consider Figure 1. Pictures can be a valuable way to convey information. However you will have to balance your pictures and text within the four-page constraint on these papers.

By the way, you can refer to other Sections in the paper. For example, the introduction to this paper occurred in Section I.

III. ANALYSIS

In this section you will present your data and describe how it is manipulated to obtain your final result. You will want to start by showing your data in

- a table like Table I
- or else in the form of (or in addition to) a figure.

You probably don’t want a huge table containing all your raw data, but rather a condensation of your processed data. All numbers should be accompanied by uncertainties. Your error propagation will be performed in your “lab notebooks”; No need to reproduce the painful details here.

**TABLE I:** This is the caption of a \LaTeX\ table. Be sure the caption completely describes the entries in the table.

<table>
<thead>
<tr>
<th>Left</th>
<th>Centered</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>100</td>
<td>200</td>
<td>300</td>
</tr>
</tbody>
</table>

*Note a.  
*Note b.

You probably don’t want a huge table containing all your raw data, but rather a condensation of your processed data. All numbers should be accompanied by uncertainties. Your error propagation will be performed in your “lab notebooks”; No need to reproduce the painful details here.

**FIG. 1:** A figure caption. The figure captions are automatically numbered. The caption should, along with the figure itself, be complete and self-contained i.e. the reader shouldn’t have to go to the text to understand what the figure is about.

*Electronic address: belz@physics.utah.edu*
You will likely want to use equations in this section, or elsewhere in your article. For example, see Equation 1 below:

\[ \chi_{+}(p) \lesssim \left[ 2|p|(|p| + p_{z}) \right]^{-1/2} \left( \frac{|p| + p_{z}}{px + ipy} \right) \]  

Consult the LaTex manual for examples of equation formatting. It may start out painfully, but by the time your dissertations are complete you will all be experts :-)

IV. DISCUSSION

Now that you have your result; What of it? Is it what you expected? Does it confirm or refute the model your experiment was supposed to be testing? Try to be quantitative here, using tools like \( \chi^2 \) and \( p \)-value like we discussed in class.

V. CONCLUSION

Should be a one-paragraph summary recapping your major results. It can be a little more in-depth than your abstract, but like the abstract it should be complete for the benefit of the reader who only jumps ahead to the conclusion. This is the way many people read papers!