

## Lab Report Guidelines

Your lab report should be written in the style of a journal article, including sufficient tables, figures, equations, and captions. Reports should have a neat appearance and be concise. It should not be apparent that you have followed a lab manual in performing the experiments. Any physicist should be able to understand the motivation, methods and results without any prior specific knowledge of the experiment.

Use a font size between 10 and 12 pt, and do not use margins less than 0.5 inch. All reports should be about 4-5 including figures and references. Minimum length is approximately 4 pages, ~ 2000 words.

Your lab report will be graded on the inclusion of all sections and relevant content, and also on overall length/completeness, clarity, proper grammar and spelling, inclusion of appropriate figures and captions, appropriate and sufficient references.

I strongly encourage you to use LaTeX, since it is the format of the vast majority of scientific articles. I also strongly encourage you to use Overleaf to write collaboratively. Example templates for journal articles can be found here:

<https://www.latextemplates.com/cat/academic-journals>

<https://www.overleaf.com/latex/templates/aastex-template-for-submissions-to-the-astrophysical-journal/bpkjwktvsqwp>

The required sections of your lab report are:

**Abstract** - summary of the main findings ( ~ 100 words)

**Introduction** - background and motivation on the science, including references

**Experiment** - technical details of the experiment performed and the observations and data taken.

**Results and Discussion** – Description of data analysis methods and appropriate reporting of analyzed results, including sources of error. Discussion of implications of the results, limitation of methodology or analysis techniques.

**Conclusions** – Brief summary of interpretation of results, and comparison with literature data or relevant concepts.

**References** – Organized list of all references cited throughout lab report. Many possible styles, prefer numbered citations throughout with numbered list in references section.

**Lab report due dates can be found on the class webpage. Reports submitted after the deadline will have 20% deducted, with an additional 20% for each week that it is late.**