

WRITING REPORTS in JOURNAL FORMAT for 3.014

For Lab Week 3 of 3.014, reports should be in the format of an **article** for publication in the journal *Physical Review B: Condensed Matter and Materials Physics*. Components of the article are detailed below. To satisfy CI-M requirements, articles should be 8-10 pgs of text, double-spaced (not including figures).

Abstract - Concise description (~150 words or less) of work performed, results and any significant conclusions.

Introduction - General introduction to the problem, motivation, and objective of the current work. Relation to previous work in the field with references. Briefly describe the experiments conducted.

Theory - In some cases, it may be more appropriate to devote a separate section of the paper to theoretical background. Do not include lengthy derivations, however, unless it is a new theoretical result. Reference appropriate sources.

Experimental Procedure - Describe samples and sample preparation methods, experiments performed, data analysis, critical details on instruments used, eg., what model instrument, what settings. Generally, the experimental procedure section should give sufficient detail (or references) for a reader to be able to reproduce the experiment.

Results and Discussion – Results section should present only important results of your work, using a minimum number of figures and tables. Discussion is an interpretation of the results, where one explains trends in the data, possible sources of error, how your results compare to previous work, *etc.* Often these two sections are combined.

Conclusion - Summarize the study and important conclusions from the work. Mention potential future work which could resolve any outstanding questions.

Acknowledgments - It is appropriate to acknowledge persons who helped you with the collecting of data, sample preparations, etc. Acknowledge financial support where appropriate.

References - Follow the reference style used in *Physical Review B*.

Appendices - Appendices may include derivations or tabulated data which you feel the reader should have access to, but are not appropriate for the body of the article.

Figures and Tables – Figures and tables should be placed in the body of manuscript, following their mention in the text. Captions should be typed and numbered in order of appearance. Figure captions should be placed below each figure. Table numbers and headings go at the top of the table.

Equations – Equations should be spaced between text and numbered in order of appearance in the text. See *Physical Review B* for examples.