The University of British Columbia

Physics 210 Assignment # 8:
TYPESETTING WITH REVTEX4

Tue. 09 Nov. 2010 — finish by Tue. 16 Nov.

This is a "short week" due to the Remembrance Day holiday on Thursday, so we are going to have a "short Assignment" — and one which is mainly in service of your final written Project papers, due in the final week of classes (3 weeks from now).

If you plan to have a career as a Physicist, you will be obliged to publish your work in top journals, which will demand that you prepare it in their standard formats for elegant typesetting. Although some cowardly publishers are now accepting manuscripts in *M$ Word*, beautiful typesetting (especially if it contains any nontrivial mathematics) requires a true typesetting format.

The industry standard, as it were, is TEX, usually in the guise of LATEX or another of its *TEX siblings ("user-friendly" typesetting languages built on TEX). Virtually every `Linux` distribution comes with a full complement of *TEX utilities, all of which are freely available from `http://www.ctan.org/` and other sources. You can also get *TEX free for *Windows*® from (*e.g.*) `http://www.miktex.org/` or other versions. If you are running Linux at home, it is best to use your "package manager" to install *TEX.

You probably will eventually want to submit a paper to an AIP (American Institute of Physics) journal such as *Physical Review Letters* (PRL). In that case you will need to conform to the "REVTEX4 computext" standard. You can read about this (and download various files if needed) at `http://authors.aps.org/` and in particular `http://authors.aps.org/revtex4/`.

So, your mission is to write a "skeleton draft" of your Project paper as a PRL, using LATEX with the REVTEX4 options and conforming to the AIP rules.[1]

It need not be very long or involved, and we certainly do not expect it to be complete, but it should incorporate at least the following:

- Title page with your name and affiliation plus a *very brief* Abstract.
- Outline of your Project as you now envision it.
- At least one page of explanation, with at least one Figure and at least one labelled Equation.
- A Conclusion. (We don't expect a *real* Conclusion already. Make one up!)
- At least one citation of a reference that is *not* a URL, listed in the bibliography at the end.

Your draft source file should be named "`dp-<YourLastName>_<ShortTitle>.tex`" where `<YourLastName>` is (duh!) your last name[2] and `<ShortTitle>` is a *very* short title (I would prefer not to have any blanks or punctuation marks in the file name!) Place this file in your `/home2/phys210/$USER/a08/` directory along with any Figure file(s) or other components.

Then run LATEX on it ("`latex dp-<YourLastName>_<ShortTitle>.tex`") to produce a `dp-<YourLastName>_<ShortTitle>.dvi` file (along with some other files) — you may need to run LATEX twice or even 3 times, depending on what is in your source file.

Finally, use `dvipdf` to convert your `.dvi` file into a PDF file called `dp-<YourLastName>_<ShortTitle>.pdf` and leave the finished product in your `/home2/phys210/$USER/a08/` directory.

[1] You will have to prepare your lab writeups in REVTEX4 if you take PHYS 409, so you might as well learn how now.

[2] If your last name is not unique in PHYS 210, for "disambiguation" you can add your first (and second, if necessary) initial(s) *after* your last name (no spaces!).