PHYS 310
Scientific Papers II

You will be writing your second paper soon, and in preparation, your assignment is to read a paper that we have selected from Physical Review, one of the premier research journals. The audience for this paper is *not* undergraduate physics majors, so you won't understand as many details as you did in your first reading assignment, but we're asking you to read it to get a better sense of the components of a real research paper, as well as the style. We have selected a paper from the January 2011 issue of *Physical Review A*:

W. Williams, et al., Phys. Rev. A, **83**, 012512 (2011).

Here's your assignment for next Tuesday.

1. Obtain a copy of the paper.

2. In your first pass through the paper, read **only** the following elements:

   - the title,
   - the abstract,
   - the introduction,
   - the figure captions (while looking at the figures) and table captions, and
   - the conclusion.

   You should read these elements several times, perhaps jumping between elements as you develop a better understanding. There will be many details that you don't understand at this point, but that's ok. What you should be developing is a sense of the "big picture."

3. After your initial (limited) reading of the paper, write a short paragraph or two answering the following questions:

   - Is this an experimental or theoretical paper?
   - What did they measure?
   - Why did they measure it?

- What did they conclude?
- How did they measure it? What fraction of the paper is devoted to a discussion of this?

Bring your answers to class on Tuesday.

4. Read the text in the body of the paper, sections II & III. We do not want you to try to understand the details here, but we do want you to see what kind of information is included, and how it is discussed. Look back at your answers to the questions posed above. Which answers might have to be modified after a thorough reading of these sections? We will discuss your reactions class on Tuesday.